

**The Social Construction and Control of Medical Errors:
A new frontier for medical/managerial relations?**

Justin J. Waring
BA (Hons.) MSc

Submitted to the University of Nottingham
For the degree of Doctor of Philosophy

July 2004



Acknowledgements

This thesis represents more than just the doctoral process; it is the culmination of an educational process and, hopefully, a stage within an academic career. I believe it is therefore necessary to acknowledge those who have been supportive, influential and indispensable beyond the last three years.

From my time at the University of Liverpool, I would like to thank John Lansley for his encouragement and panegyrics that have assisted me through the post-graduate process. From Aston University an enormous debt of gratitude is owed to Carol Borrill and Michael West for providing me with an invaluable opportunity. I would also like to acknowledge Judy Scully who is a good friend, colleague and mentor. From the University of Nottingham I would like to acknowledge Alan Aldridge and Alison Haigh for their support during the doctoral process. Special thanks are required for Julia Evetts and Nick Manning who in their supervisory role have provided me with essential guidance, constructive-criticism, and encouragement. It is also necessary to acknowledge the assistance, openness and support of the hospital and its staff that are the focus of this study, especially the Medical Director and the Deputy Director of Corporate Affairs.

Outside the academic process I would like to acknowledge all those friends who have been important in maintaining my sanity and providing me with ample opportunities for non-academic pursuits! Special mention is needed for Matt Padley

whose enduring commitment to pool-playing, dancing, drinking, thinking and friendship have been essential.

Finally I want to thank my family. I don't know what I would do without Amanda Crompton who has turned my life around with her love, support and patience: you are wonderful. As for my mother and father it would never be possible to show how important they have been, but the best I can hope to do is dedicate this work to their love and support over the last twenty-eight years.

Justin Waring

Summer 2003

Abstract

This thesis explores changes in medical professional work and regulation in the context of emerging 'patient safety' health policies. The study engages with three components of this policy. First, to what extent is the concept of error promoted in theory and policy being taken up within managerial practice and is this coterminous with the medical interpretation and construction of error? Second, how do medical professionals regard the introduction of new reporting systems to collect information about errors in their work? Third, what new organisational systems are being developed to analyse and control errors and how do these diverge with those approaches advocated and practiced by medical professionals? It has been estimated that one in ten of all inpatient admissions experience some form of error in the delivery of care, totalling 850'000 events a year. Given such findings a new policy framework is being developed to improve 'patient safety' in the NHS. Following the Human Factors approach a new error management system is being introduced that consists of incident reporting procedures for the collection of information about errors, matched by techniques to identify the "root causes", and promote organisational change. Of importance for this thesis is the impact of policy on established forms of medical regulation. Through predominantly qualitative research techniques, this study has been carried out within a single NHS hospital case-study involving medical and managerial occupational groups. The empirical findings suggest, firstly, that the medical construction of error is indeed divergent from that advocated in policy and practiced in management and leads to distinct trajectories

for the control of error. Secondly, medical professionals are generally disinclined to participate in managerial forms of incident reporting, and where such a system is in place there is a high degree of localised professional leadership. Thirdly, it was found that alongside new managerial systems for the control of errors, there were also a range of professional-led systems embedded within medical work and the local organisation of the hospital that had precedence of other centralised hospital systems. In consequence, the ability of managerial systems to penetrate the working environment of medicine was negligible. In conclusion, it is argued that while this policy could appear to challenge the basis of medical professional regulation the social, cultural and structural context of medical work is adapting to maintain a high degree of medical control and resist managerial encroachment.

Contents

ACKNOWLEDGEMENTS	1
ABSTRACT	3
<hr/>	
1. INTRODUCTION	8
<hr/>	
THE STUDY	8
THE CONTEXT	10
THE THEORETICAL FRAMEWORK	13
QUALIFICATIONS	16
OUTLINE OF THE THESIS	17
2. MEDICINE, MANAGEMENT AND HEALTH SERVICE QUALITY	22
<hr/>	
INTRODUCTION	22
MEDICAL PROFESSIONALISM AND THE REGULATION OF QUALITY	24
MANAGERIALISM AND ORGANISATIONAL PERFORMANCE	46
CONCLUSION: PROFESSIONALISM AND THE MANAGEMENT OF QUALITY	63
3. THE 'PATIENT SAFETY' POLICY AGENDA	67
<hr/>	
INTRODUCTION	67
THE SCALE OF MEDICAL MISTAKES	68
THEORIES OF ERROR AND ERROR MANAGEMENT	70
THE POLICY FRAMEWORK AND THE NATIONAL SYSTEM	84
CONCLUSION: A NEW MANAGERIAL AGENDA?	98
4. DE-CONSTRUCTING 'PATIENT SAFETY'	101
<hr/>	
INTRODUCTION	101
THE CONCEPT OF ERROR	103
STRUCTURES AND CULTURES OF ORGANISATIONAL CONTROL	129
CONCLUSION: DISCOURSES, CULTURES AND STRUCTURES OF CONTROL?	154
5. THE RESEARCH	158
<hr/>	
INTRODUCTION	158
THE RESEARCH QUESTIONS	161
INITIAL CONSIDERATIONS ON THE RESEARCH PROCESS	162
SELECTION: THE HOSPITAL	174
SELECTION: PARTICIPANTS	181

ETHICAL CONSIDERATIONS	191
DATA COLLECTION: OBSERVATIONS	194
DATA COLLECTION: INTERVIEWS	200
DATA COLLECTION: DOCUMENTARY SOURCES	206
DATA MANAGEMENT AND ANALYSIS	208
WRITING THE THESIS	222
CONCLUSION	224
<u>6. THE CONSTRUCTION OF MEDICAL ERRORS</u>	<u>227</u>
INTRODUCTION	227
HUMAN FACTORS IN HOSPITAL MANAGEMENT	230
DOCTORS IN SEARCH OF CAUSALITY AND CERTAINTY	237
DOCTORS DEALING WITH UNCERTAINTY	260
DISCUSSION: THE MEDICAL CONSTRUCTION OF ERROR	276
<u>7. THE MEDICAL REPORTING OF ADVERSE EVENTS</u>	<u>280</u>
INTRODUCTION	280
INCIDENT REPORTING IN THE HOSPITAL	283
PRACTICAL BARRIERS TO MEDICAL REPORTING	301
THE PERCEIVED PURPOSE OF REPORTING	309
THE DIFFERENTIAL CONSTRUCTION OF ERROR AND ADVERSE EVENTS	317
MEDICAL CULTURE, PROFESSIONALISM AND REPORTING	327
DISCUSSION: A CULTURE OF REPORTING IN MEDICINE?	338
<u>8. THE MANAGEMENT AND CONTROL OF MEDICAL ERRORS</u>	<u>342</u>
INTRODUCTION	342
THE HOSPITAL MANAGEMENT OF CLINICAL RISKS AND ERRORS	344
THE DIRECTORATE CONTROL OF MEDICAL ERRORS	364
ATTITUDES TOWARDS THE MANAGEMENT OF ERRORS AND CLINICAL RISKS	386
DISCUSSION: THE MANAGEMENT OR CONTROL OF MEDICAL ERRORS	401
<u>9. CONCLUSION: THE SOCIAL CONSTRUCTION AND CONTROL OF MEDICAL ERRORS</u>	<u>405</u>
INTRODUCTION	405
THE QUESTIONS	406
THE FINDINGS	412
A POLICY IN QUESTION	419
MEDICAL PROFESSIONALISM AND THE MANAGEMENT OF MEDICAL ERRORS	421

APPENDIX 1. LIST OF CODES	432
APPENDIX 2. THE HOSPITAL INCIDENT REPORTING FORM	434
REFERENCES	437

1. Introduction

“First, do no harm”

(Hippocrates c400BC)

“To err is human”

(Pope 1711, line 525)

The study

This thesis is concerned with understanding the organisational and occupational control of health service quality, transitions in the relationship between medical and managerial groups in the National Health Service (NHS) and the extent to which medical professional regulation is changing. The focus of this study is the health policy agenda that aims to secure ‘patient safety’ through establishing new systems for the management of errors in health care. This research attempts to de-construct this new policy framework and explore the potential changes in medical work. This study is developed along three interrelated lines.

The first is concerned with the conceptualisation of error promoted in prevailing theory and policy. This can be interpreted as reflecting a particular discourse for the management of errors that induces specific forms of social action. However, it is argued that policy fails to consider the alternate conceptual and interpretative basis

of error: especially the constructions of error by medical professionals that encourage divergent forms of social action. In this way, the thesis is concerned with exploring how different discourses of error provide the basis of social power for the control of health service quality.

The second theme of the study is the promotion of incident reporting as a mechanism for gathering information about errors. This is a core feature of policy for enabling organisations to learn about mistakes and develop systems for their management. However, it is argued that such a managerial approach represents a form of organisational surveillance external to the medical profession. Furthermore, it is argued that policy fails to account for the theoretical debates surrounding organisational culture in its promotion of 'cultural change'. Specifically, it fails to consider the emergent and interactional aspects of work culture that can be resistant to cultural change strategies.

Finally, the thesis anticipates that alongside forms of culture management, the new policy framework will also rely upon structured bureaucratic systems in the collection, analysis and utilisation of error data to promote safer organisational systems. However, questions have to be asked about the character of these new management structures, the extent to which they will engage with established occupational systems for the management of quality, and whether this new approach will penetrate and regulate medical work.

The context

From a statistical perspective it has been calculated that the rate of fatal error in health care exceeds travelling by aeroplane, train, automobile or motorcycle and going into hospital is more dangerous than rock climbing or bungee jumping (Patient Safety Training 2003). In fact it has been estimated that one in every ten hospital patients experiences some kind of error, and over one in every ten of these dies (Department of Health 2000). That means that over one in every one hundred hospital patients will die not from their disease, but from mistakes in the care delivery process. Health service errors are potentially the fourth-biggest killer in England and Wales today (Moore 2000). Such statistical data should not be accepted on face value and questions should be asked of the methods and the merits of “retrospective case review” (the common method of establishing error rates), yet these figures do portray an alarming picture and since the early 1990s international studies of health service error have consistently revealed this pattern. In the NHS it is estimated that 850’000 people experience some form of health service error and the cost to the tax payer is estimated to be over £2billion in extra care, not to mention litigation expenses (Department of Health 2000).

One of the major consequences of this ‘problem’ is the further pressure placed upon the ‘negotiated relationship’ between the State, the public and the medical profession (Salter 2000) as the ‘trust’ between the doctor, the patient and government is seemingly eroded by scandals, discrepancies and unfilled expectations in health care

quality (Donaldson 1999). It is not surprising therefore that health policy has started to address the issue of “patient safety”. In the influential report *An Organisation with a Memory* (Department of Health 2000) an ‘expert group’ described the problem of errors in health care and produced a series of recommendations. Much of the theoretical context for this work was drawn from the experiences of the aviation and nuclear industries where error management and Human Factors have had a major impact on quality improvement. These recommendations were subsequently developed and policies have introduced the National System for Learning from Adverse Events and Near Misses (Since the initial submission of this thesis this system has now been re-branded as the National Reporting and Learning System (National Patient Safety Agency 2003). This change is not reflected in this work but the term National System is typically used to refer to the policy framework). This ‘National System’ comprises procedures for reporting errors and analysing their causes in line with the influential psychological and managerial Human Factors theories

The underlying feature of this policy framework is the commitment to Human Factors theory, where errors are seen as being the product of individual action but also poorly designed organisational systems that enable mistakes to occur. In this way, it is accepted that individuals will make mistakes, but it is suggested that organisational systems should be developed to limit the opportunities for error. Such an approach has been adopted for understanding the Herald of Free Enterprise disaster at Zeebrugge (Department of Transport 1987), the Ladbroke Grove rail

disaster (Cullen 2001) and also the inappropriate administration of the drug vincristine at the Queen's Medical Centre, Nottingham (Toft 2001). In the NHS this new approach to error management is building on previous forms of risk management and can be interpreted as extending managerial responsibilities for quality improvement. Specifically, it requires all hospital staff to report errors experienced in their work to managers responsible for promoting and coordinating the analysis of their 'root causes' and through understanding these underlying causes organisational change can be initiated.

Of theoretical and empirical interest in this thesis are the implications that this policy could have for medical professional and managerial relations in the NHS. It has been well documented that changes in the management of the health service have altered the character of medical work and some have argued that such changes have challenged the power of the medical profession or restricted medical autonomy (Alford 1975, Cox 1991, Elston 1991, Harrison 1999). Despite the developments in health service management there has been little concerted attempt to systematically manage clinical performance. Many of the policies developed in this regard, such as Medical Audit or even clinical governance, have been concerned with promoting greater medical transparency and formality for improving specific aspects of established professional practice. In consequence, it could be argued that the features of medical professionalism associated with regulation and clinical freedom have not been directly challenged by managerialism. However, the new system for the management of health service errors may provide new opportunities for the

management of clinical performance. Specifically, it represents a particular expertise about error that resides outside medical professional work and is associated with contemporary management theory. It also includes forms of cultural and structural control, in the form of mandatory reporting and management-led analysis and change, that offer to modify and crosscut existing patterns of medical work. In consequence, the policy can be interpreted as presenting new opportunities for managerial action that could alter the regulatory character of medical professionalism. Through empirical research this thesis de-constructs the patient safety policy agenda and explores three potential domains of managerialism that could transform medical professionalism.

The theoretical framework

The broad theoretical framework for this thesis is made up of the intersecting theories of medical professionalism, managerialism and organisational control within the context of health policy and service change. In addition to sociological theories, the thesis also engages with other theoretical perspectives that are central to 'patient safety', in particular the Human Factors approach to safety management. As a particular model of quality improvement this also draws on a range of perspectives, including cognitive and social psychology, ergonomics, management and process theories. In this thesis it is argued that these represent a zeitgeist for the control of errors and offer to transform the medical/managerial relations. Alternatively, these prevailing theories are themselves de-constructed in this thesis by drawing on a range of other socio-cultural theoretical perspectives. Given this

complex theoretical context it is not possible to identify one predominant theoretical framework for this study, rather it has been guided by an eclectic assortment of perspectives that have informed the analysis of policy and the development of empirical research. In consequence, the theoretical framework for this thesis can be described as 'pragmatic pluralism' or a 'mosaic' that avoids the constraints of abiding by a single theoretical perspective (Watson 1997).

In the first instance the study has broad concern with medical professionalism and managerialism, and despite recognising the range of theoretical accounts of the professions, this work has been primarily informed by neo-Weberian accounts of professionalism, especially those that emphasise social closure and the occupational attributes associated with autonomy and self-regulation (e.g. Freidson 1970, 2000). Complementing these occupational theories, attention has also been given organisational and managerial theorists with particular emphasis on forms of control and compliance through 'role and rule' structures and ideological cultures (e.g. Etzioni 1970, Parker 2000, Weber 1970). Of particular interest here are those theories that deal with the conflicting and localised character of organisational control and compliance. Furthermore, these have been enhanced with reference to models of social power, in particular the work of Foucault (1980). These theoretical frameworks are developed through the analysis and de-construction of policy and provide the theoretical context for this study.

Through bringing together these different theoretical perspectives the research has purposively attempted to avoid reductionist tendencies associated with adopting a narrow theoretical framework. Instead it has aimed to widen the scope of the study to more adequately engage with the occupational and organisational changes in the context of a particular policy development. Implicit within this work is the idea that the social world is given social reality through perception, interpretation and meaning and these constructions are important for informing social action and control (e.g. Berger and Luckman 1991, Weber 1992 Foucault 1980). Furthermore, it is conceived that such interpretation and action is shaped by cultural, discursive and structural influences that are themselves the product of shared meaning and practice (e.g. Archer 1995). However, it is important not to over-extend the logic of the constructionist approach and neglect the ontological aspects of the social world, in consequence, the theoretical framework for this thesis has also been developed with consideration of critical realist theories (e.g. Bhaskar 1998). In this way the ontology of the social world is accepted but of analytical importance are the epistemological facets that make the world 'real' for social actors and groups.

This theoretical field is therefore pluralistic (Watson 1997) and has been developed with specific reference to policy and established works in the field of medical professionalism, organisational control, and social constructionism. This framework is developed over the proceeding four chapters where it is argued that, as an alternative to Human Factors, patient safety health policies can be empirically examined in relation to their impact of medical/managerial relations along the

dimensions of social meaning, occupational cultures and organisational structures. Through engaging with these different aspects of medical professional work and management issues of power, control and compliance can be appreciated.

Qualifications

It is necessary to provide some qualifications or disclaimers about the research; to say what this thesis is not exploring. Initially, it is important to emphasise that while the patient safety health policy will have consequences for all health service staff, the focus of this study is on the medical profession and the work of hospital managers in relation to medical professionals. It is not directly concerned with other occupational groups, who may be dealing with similar changes in their work. The reasons behind this selection reside in the demands of conducting a manageable doctoral research project and also the theoretical interest in medical/managerial relations. In terms of the medical profession, the research is not addressing any of the teaching aspects of medical work or the internal hierarchies of medicine. It is believed that by including multiple levels of the profession, i.e. consultants, registrars, house officers, and trainees that too many complicating factors would have to be considered, such as the interrelationships between grades. In order to minimise such complications the primarily focus of this work is on the relationships between managers and consultant level doctors. Furthermore, it is believed that these groups are more established in the hospital, i.e. not on rotation, and would therefore have more developed relationships within the organisation.

It is also worth saying something about error. It is recognised that errors can be both positive or negative, and minor or catastrophic. One of the key issues in this research is to appreciate the social domains and interactions in which such classifications develop and errors are controlled. However, the study is *not* looking at major or scandalous errors, such as those that attract enormous media attention, as it is believed that the impact of such events on hospital staff, whilst being interesting, would potentially inhibit doctoral research, for example there could be legal complications. In consequence the research is concerned with the “routine” or “everyday” errors that occur in medical work, and the way in which these are given meaning and controlled.

Outline of the thesis

The plan of this thesis is as follows. Chapter two reviews the established theories and debates surrounding medical and managerial relations in the NHS. Here accounts of medical professional work are outlined with specific focus on the concepts of medical autonomy and self-regulation that are commonly used to characterise professional status. These are then developed to explore the forms of regulation that relate to quality control in medicine. Following this a broad overview is given of the developments in Public Sector Management as applied to the health service. It has been argued that these developments have challenged medical “power” and have limited the scope of professional autonomy and self-regulation.

Although it is suggested that the impact of these managerial developments is debatable, it is proposed that recent developments in the management of health service quality have indeed established a pattern of increased bureaucratic control in medical work. This is the general theoretical context of the thesis.

In chapter three, consideration is given to the specific “problem” of health service errors. International and national findings are used to indicate the perceived scale of mistakes and the impact on human life. Building on these findings it is shown how definitions of error vary, yet certain prevailing and underlying theoretical assumptions about error and error management predominate. The chapter then shows how these have been influential in the formulation of policy before describing the proposed National System for Learning from Adverse Events and Near Misses. Here specific attention is given to three interrelated features of this system. The first is the conceptualisation of error, the second is the promotion of incident reporting, and the third is the analysis of incident data and the management of change. It is argued that this policy could constitute a new development in the relationship between medical and managerial groups within the NHS.

In chapter four this policy is de-constructed and theoretically scrutinized. This serves two broad purposes, the first is to critique the assumptions on which policy is based, but in so doing it is shown how other theories are of relevance to research on errors and medical/managerial relations. Here sociological works are discussed to reveal alternate accounts of medical error and drawing from theories of risk a constructivist

approach is put forward to guide this study. Policy is also questioned in terms of its organisational and occupational changes with various accounts of management, culture and control considered. Specific attention is given to different theoretical perspectives on organisational culture to suggest that the notion of cultural change advocated in policy is questionable whilst proposing that the study of medical culture can reveal important social factors relevant to occupational control. These theories of organisational structure and culture are used to inform the study's focus on medical regulation and hospital management. Building on the previous chapter and these theoretical contributions, this chapter concludes with empirical 'research questions' suggesting that the policy can be interpreted as representing new forms of discursive, cultural and structural control in the regulation of medical work.

Chapter five provides an account of the research process. It is shown that within the broad context of qualitative research, observations and interviews have provided the main source of empirical data. The fieldwork was conducted within a single hospital case study and a range of managerial and medical occupational groups participated. This data was used to empirically address the debates and questions developed in the thesis and to identify unanticipated emergent findings.

Chapter six provides an account of the social construction of medical errors. Here the data is used to show how health service managers have adopted the prevailing conceptualisation of error found in theory and policy, where it represents a new 'logic' or expertise for the interpretation and control of errors. Conversely it was

found that medical professionals interpret errors with reference to different assumptions and priorities. In particular, doctors seem to make sense of errors in terms of the technical medical knowledge that underpins their professional work, but also with reference to other social and cultural factors that arise from the perceived uncertainties and complexity of medical work. These findings are used to criticise realist accounts of error and suggest that the construction of error promotes specific forms of social action, and in this case medical action that does not accord with the expectations of policy.

In chapter seven it is shown how the hospital is adapting its systems to promote more rigorous forms of incident reporting, in line with the National System. Attention is given to the character of these systems where it was found that the hospital had established a general reporting system across the organisation. However, it was also found that there were localised programmes for gathering information about errors that were often distinct from the activities of 'corporate' management. Underlying these differences it is shown how important medical beliefs, assumptions and norms represent barriers to participation in reporting and could be interpreted as resistant to the managerial evaluation of medical work. Not only does this demonstrate the obstacles of establishing a unified approach, but it also questions the notion of cultural change found in prevailing theory and policy.

Chapter eight provides a description of the various forms of error and risk management within the hospital. Initially, attention is given to the hospital-wide

approach that builds upon systems of incident reporting. Here it is shown that the hospital is trying to develop its organisational and management arrangements in accordance with policy. However, it was found that despite centralised “corporate” systems, professionals at the directorate level of the hospital are working with alternate forms of quality control and error management. This includes systems similar to the National System but also those based upon established professional regulatory mechanisms. These differences are then explored in terms of the culture of medicine, where it is shown there is an overriding preference for forms of professional control and at best the adaptation of new managerial system *within* medical practice.

Finally, chapter nine reviews the potential impact of the policy on medical/managerial relations. Here the three main empirical components of the thesis are discussed individually, and brought together to question the assumptions of policy and assess the impact on medical professional regulation. In this chapter the debates and questions developed in chapters two, three and four are further explored, but it is argued that the impact on medical work is potentially less than expected in the light of the empirical findings.

2. Medicine, management and health service quality

Introduction

“Professional associations are not the only repositories of knowledge, but they are the repositories of a special kind of knowledge; and the establishment of proper relations between them and the democratic State is, today, one of the urgent problems affecting the future of social services. These groups represent, by the nature of the interests that unite them, forces resistant to social change, and sometimes resistant, therefore, to needed changes in social services.” (Titmuss 1963: 27-8).

Richard Titmuss made these important observations in 1951, early in the life of the post war Welfare State. More recently, at the 1999 Labour Party Conference Tony Blair made reference to the “forces of conservatism” that held back public sector reform. It seems that the ‘problematic’ relationship between professional groups and the state is neither new nor resolved. For health care the relationship between the medical profession and the state has been historically littered with ‘flashpoints’, negotiations and trade-offs as politically driven changes have required re-establishing the “proper relations” between the state and the profession. Klein (1991) and Foot (1997) highlight the antagonism and conflict between Bevan and the medical profession in the years leading up to the creation of the NHS, where one senior civil servant claimed that “dealing with the doctors is even worse than negotiating with the French” (cited in Hennessey 1990: 421). Moving on, in the

1960s Enoch Powell (1966) identified an institutional conflict between the medical profession and state with the inability of government to control and direct expenditure due to medical dominance in resource allocation. In the 1970s Crossman described the NHS as one of “...the most autocratic, self-perpetuating, oligarchies since the Persian Empire.” (cited in Battistella and Chester 1973). The political desire for change has frequently required re-negotiating relations with the medical profession. One of the most significant developments in this regard has been the rise of managerialism within the service over the last twenty years. This has shifted the broader concern with professional/state relations to the more localised relationship between medical and managerial groups within the service.

This chapter provides the general theoretical context for this thesis. In particular it addresses the issues and debates pertinent to medical/managerial relations in the NHS. The chapter therefore draws on accounts of both professionalism and public sector management and demonstrates their divergence in the promotion of health service quality. Initially, attention is given to the sociological study of medical professionalism with specific consideration given to the notion of autonomy and the regulation of quality. The chapter then provides an account of managerialism in the NHS, with specific attention given to the wider context of New Public Management, the relationship between management and medicine, and the specific forms of quality improvement associated with managerial groups. These different occupational histories, expertise, organisational roles and relationships frame the empirical focus of this thesis.

Medical professionalism and the regulation of quality

The sociology of the professions

The sociology of the professions has evolved from identifying the “traits” of professionalism (Carr-Saunders and Wilson 1933, Goode 1960, Wilensky 1964), to understanding the relationship between social status and social function (Parsons 1951, Johnson 1972), to explaining how expert knowledge can provide occupational control over labour (Freidson 1970), to how professionalism represents a political strategy for acquiring status and market closure (Larson 1978) or how professionals are losing status and control (Haug 1973, Oppenheimer 1973). Some examples include Goode’s (1960) view that professionalism is characterised by the two core traits of prolonged specialised training in an abstract body of knowledge and a collective service orientation. On these pillars it is suggested that other attributes of professionalism are located, such as the ability of a profession to determine the standards of education and knowledge, to control professional entry, and to establish the norms of practice. From a more theoretical perspective Parsons’ (1951) functionalist account indicates that the special position of professionals within the social system reflects the vital services they provide for social stability. Conversely, other theorists have attempted to demonstrate the importance of professional work to ‘capitalist’ society, for example, Johnson (1972) suggests that professionalism has emerged to manage the uncertainties of capitalism, and Navarro (1978) argues that

the medical profession provides a social control function through reformulating social and collective health problems as individual health needs. For others professionalism and the process of professionalisation represent a form of occupational and market control (Larson 1978, Freidson 1970), where professional status enables particular occupational groups to acquire exclusivity in their work. This is often typically associated with the perceived social value of particular forms of expert knowledge and changes in the economic character of society (Larson 1978, Foucault 1973). Building on this perspective it is often suggested that professionals have considerable power and influence in the organisation of welfare services as their expert knowledge provides the basis of policy and service delivery (Wilding 1982). More recently, Freidson (2000) has attempted to show that professionalism is a 'third logic' for the organisation and delivery of expert services; an alternative to market or bureaucratic forms of control.

The sociology of the *medical profession* reflects many of these different positions from the historical formation of the profession and the significant role of expert knowledge, through to market closure, authority in health care delivery and the relationship between doctor and patient (Morgan et al. 1985). Within these different perspectives the concepts of 'autonomy' and 'self-regulation' can be identified as characteristic features of medical professionalism and important traits of professional power and status. Equally they have been interpreted as sites on which managerial encroachment can be understood.

Medical professional autonomy and regulation

Annandale (1998) suggests that the work of Eliot Freidson (1970, 1994, 2001) has become the “lens” through which discussion of the medical profession is refracted. Although his work has been appraised and re-applied widely, it remains an important reference point for understanding the medical profession within organised health care. As well as providing an account of the relationship between expert knowledge and occupational control, most recently as a ‘third logic’ between market forces and bureaucratic rule, his work makes important contributions to the concepts of professional “autonomy” and “regulation”. For Freidson (1970) these professional characteristics, although legitimised by the state, are ultimately the product of expert knowledge. He makes the case that medical work is reliant upon extensive training, expert judgement and complex decision-making and only those occupational groups in possession of the appropriate expertise can work in the medical interests of the patient (note medical not health). It follows therefore that non-medical groups cannot legitimately provide medical services as they do not possess the required knowledge. Moreover these non-medical groups cannot legitimately evaluate or interfere in medical work because they do possess this necessary knowledge. Medical autonomy is the concept used to describe the ability of medical practitioners to exercise their expertise, judgement and decision-making with little external control, while the idea of self-regulation accounts for the inability of other occupational groups to legitimately assess and evaluate medical work.

“The profession is the sole source of competence to recognise deviant performance and to regulate itself in general. Its autonomy is justified and tested by self-regulation” (Freidson 1970: 137).

However, it is worth noting that these ideas remain questionable beyond the ideal typical and Freidson (1970) has made some important qualifications to these concepts. Firstly, he used autonomy to primarily describe the technical aspects of medical practice associated with the application of expertise. In consequence, while medical practice may be associated with other occupational features, such as authority in the division of labour, autonomy is explicitly developed to refer to the technical application of expertise. Secondly, Freidson was not absolute about the capacity of medicine to self-regulate and act autonomously. He shows that professional formation relied upon the social and political endorsement of medical knowledge. In Britain he suggests that it was through political “persuasion” and “negotiation”, enshrined in the Medical Act of 1858 and licensure that professional leaders were able to secure and reproduce the legitimate basis of their work. It has been pointed out elsewhere that this process was also concerned with securing the internal and external boundaries of medical work and monopoly (Larkin 1995, Waddington 1991).

“Clearly, professional autonomy is not absolute; the state has ultimate sovereignty over all and grants conditional autonomy to some” (Freidson 1970: 24).

Thirdly, Freidson reinforces the non-absolute basis of autonomy with specific reference to the organisational features of the NHS. Here he shows that the structure of health care limits and directs many of the non-technical aspects of medical work, while framing technical autonomy within clinics, wards, contracted rotas and shifts. For example, NHS consultants are salaried employees and function within a politically controlled and directed service, while the resources that fund their work are tightly managed and controlled. In consequence, while doctors may act 'autonomously' or with 'clinical freedom' with the patient this is contingent upon the wider organisation of health services and the approval of the state.

Nevertheless, recognising these qualifications, Freidson maintained that medical professionals retained the technical ability to practice with little external control or interference. In consequence the application and appraisal of medical expertise remained largely free from external control.

“So long as a profession is free of the technical evaluation and control of other occupations in the division of labour, its lack of ultimate freedom from the state, and even its lack of control over the socio-economic terms of work do not significantly change its essential character as a profession” (Freidson 1970: 25).

Domains of medical autonomy

Despite Freidson's qualifications, the concepts of medical autonomy and self-regulation have been elaborated to describe the domains of influence, control and power associated with medicine in health care and society. Three such examples are discussed here to demonstrate the manner in which autonomy has been applied within the study of medicine.

Ovretveit (1985) suggested that Freidson's (1970) definition of autonomy was too narrow because it focused primarily on the practitioner level of technical care; and as an alternative he developed a three dimensional model of autonomy. At the "national" level he believed that medical autonomy is demonstrated in the ability of professional associations to influence health policy. At the "local" level is the potential for medical practitioners to self-manage work, control resources and plan services autonomously. While "clinical" autonomy is used to refer to the technical freedom of doctors with their patients. Through this classification he shows how professions allied to medicine, such as physiotherapy, have gained greater autonomy and status at the expense of medical autonomy.

Elston (1991) has also developed a three dimensional reclassification of medical autonomy in her analysis of health service changes in the late 1980s. Similarly she suggests that medical professionals have "political" autonomy through influence in policy, while doctors have "economic" autonomy in terms of shaping resource allocation, and again doctors have "clinical" autonomy when interacting with

patients. This conceptualisation of autonomy was used to account for the extent of medical de-professionalisation as a result of health service management and contracting.

Similarly, Harrison (1999, 2000 with Ahmad) has used the concept of autonomy to account for the changes in medical professionalism brought about by increased managerialism in the NHS. Like Ovretviet (1985) and Elston (1991), he highlights three social dimensions, the macro, meso and micro, and highlights the relationships between these domains and medical autonomy. At the micro level medical control and autonomy is manifest in clinical freedom and the absence of external control over medical work. At the meso level medical autonomy is demonstrated by the corporatist relationship with the state and the organisation of health services, while at the macro level, medical autonomy is found in the specialised knowledge, or the bio-medical model, which informs policy. Therefore while clinical autonomy itself is found at the micro level, it is intractably linked to the macro and meso levels. For Harrison (1999) three features of the UK health sector demonstrate the importance of this autonomy. First is the commitment to clinical autonomy in policy documents throughout the life of the NHS. Second, the service is structured and organised to support and facilitate clinical autonomy. Third the practice of management has traditionally been concerned with supporting and facilitating autonomous clinical activity.

The dimensions of professional activity highlighted by the likes of Ovretveit (1985), Elston (1991) and Harrison (1999) show the influence of the medical profession at various social, political and organisational dimensions. These different aspects of medical professionalism have been explored in great depth, from accounts of medical knowledge and power (Armstrong 1997, Foucault 1971, 1973, Turner 1995), to the study of medical influence in the policy process (Fox 1988, Klein 1991), to the examination of medical work and the division of health care labour (Annandale 1998, Freidson 1970). Caution is needed, however, in the over-application of autonomy as a meaningful sociological concept for understanding medical work (Evetts 2002, Waring 2002). It is important to consider the earlier remarks on Freidson's (1970, 1994) observation that autonomy is primarily technical and bounded within systems that are influenced by other political and social forces (Rhodes 1997).

“I deliberately take issue with the common assumption that professions were ever, anywhere, free and independent” (plenary address at the *Conference on Regulating Expertise*, Paris 1994).

Autonomy refers to the technical application of medical expertise with minimal external interference or direction. Although the profession may have power and influence at other social levels of health care, and this may buttress clinical freedom, it is important not to over-extend the concept of autonomy to those areas that do not centre on the technical application of expert knowledge. Harrison's (Harrison and

Ahmad 2000, Davies and Harrison 2003) discussion of 'clinical autonomy' refers to four components of such technical control. The first refers to control over 'diagnosis and treatment' or the tests, examinations, procedures and treatments. The second is control over the 'evaluation of care' where judgements are made about appropriateness. The third is control over the 'nature and volume of the medical tasks' or the extent to which the doctor can establish their own work patterns and priorities. The fourth is the contractual 'independence' or the extent to which doctors can pursue other occupational activities.

Of particular importance in this research are the technical aspects of 'diagnosis and treatment' and 'evaluation of care'. It will be shortly argued that despite the rhetoric of 'relative autonomy' and 'empowerment', contemporary management changes have been interpreted as challenging these aspects of medical autonomy. Furthermore, despite the 'state-sanctioned' and 'bounded' character of technical autonomy recent policies can also be interpreted as further engaging and inhibiting this medical autonomy.

Regulating medical work

Intractably connected to the control of expert knowledge and autonomy is the professional capacity for self-regulation. In general, regulation can be seen as the relationship where one group or organisation has legitimacy to evaluate, control or modify the behaviour of another (Pfeffer and Salancik 1978). It typically refers to

accountability and the responsible discharge of duties or standards of work. It is often claimed, however, that professionals, unlike other occupational groups, have the ability to self-regulate their work because other groups cannot sufficiently evaluate the technical discharge of their acquired expertise (Freidson 1970).

Nevertheless, it is necessary to consider that regulation is more complex and interdependent than the notion of 'self-regulation' would imply. Moran and Wood (1993) suggest that regulation is a common social activity for the exchange of goods and services. It includes the regulation of market entry (who can provide goods and services), the regulation of competitive practices (on what basis can providers compete with each other), the regulation of market structure (how provision is organised), and the regulation of payment. Moran and Wood describe three ways in which regulation can be socially ordered. "Independent self-regulation" refers to a situation where providers control the conditions for market entry, competitive prices and can even shape the marketplace for services. "State-sanctioned regulation" refers to a situation whereby regulation may exist within the hands of a select occupational group but this is endorsed and sometimes monitored by the state. They suggest that this form of regulation is increasingly common, for example in the financial markets, and represents the increased legal and political basis of regulation. Finally, "direct regulation" refers to a situation of direct state control whereby authority resides within legislative parameters and regulation is carried out by particular public sector, or quasi-public sector bodies.

It is important to show that the notion of professional “self-regulation”, like autonomy, is not an absolute concept (Evetts 2002). Salter (2000) describes the form of occupational governance typical of the medical profession since the mid-1900s as “state-sanctioned self-regulation”. He suggests that the relationship, enshrined by the Medical Act of 1858 and the creation of the GMC, represented a necessary bargain between a “triangle of forces”. The first corner of the triangle comprises the demands of *civil society* for acceptable standards of health care. The second corner represents the needs of *the state* to provide health care to society and control service resources. The final corner represents *the profession*, which has gained legitimacy, status and monopoly through engaging in this relationship. It is the mutual benefits acquired through this relationship that has provided an important feature of health policy and medical professionalism throughout this century (Salter 2000).

The character of medical regulation is therefore shaped by the historical and political context of medical professionalisation and health policy development. It has been suggested that in the mid-nineteenth century there was a need to resolve the problems of medical over-crowding, over provision, competition, overlapping boundaries, increased demand for services and the increased social importance of the market for social exchange (Larson 1978, Waddington 1991). The manner of regulation enshrined by the Medical Act of 1858 provided a basis for controlling market entry, securing market closure and formalising professional boundaries (Larkin 1995). These changes established the state endorsement of medical knowledge, approved the provision of medical care and sanctioned internal

professional systems to control the quality of care and the conduct of practitioners. The regulation of the medical profession has remained under license from the state, in the form of the General Medical Council (GMC) and Royal Colleges. This has been termed the *regulatory bargain* between the state and the profession (Stacey 2000). It is important to emphasise that while predominantly in the “hands” of the profession (the internal), this regulatory system remains sanctioned by the state (the external) (Irvine and Irvine 1997). It is therefore important to avoid simplistic references to self-regulation and instead it is useful to conceptualise the regulatory relationship as “acquired” (Evetts 2002) or “state sanctioned” (Moran and Wood 1993). Moreover, in their study on medical regulation Allsop and Mulcahy (1996) elaborate upon these ideas by suggesting the regulatory mechanism can be both “formal” and “informal”. For this thesis it is necessary to give more attention to the formal and informal features of medical regulation and highlight features of internal occupational control within the context of external legitimacy.

Formal regulation

The GMC represents the main state-sanctioned formal professional body responsible for the regulation of medical work; ensuring medical accountability to the state and the public. Irvine (1999) has identified four main regulatory functions of the GMC that reflect the common features of regulation (Allsop and Mulcahy 1996, Moran and Wood 1993). These include keeping a Medical Register of accredited, licensed and competent doctors; working with teaching institutions in the development of

training curriculum; setting standards of medical practice; and investigating and dealing with suspected dysfunctional doctors. In terms of regulating medical standards the main function of the GMC is therefore the licensure of qualified practitioners and the removal of the right to practice for those who breach established codes of conduct or standards (Irvine and Irvine 1997). This system is primarily concerned with market entry through training and licensure, and secondly with market exit when licensure is revoked or the doctor “struck off” in serious and proven cases of misconduct or malpractice (Irvine 1999). Accordingly Allsop and Mulcahy (1996) characterise the regulatory role of the GMC as concerned with assuring competence to practice and tackling “bad apples”.

Despite the political and sanctioned basis of this regulatory arrangement, Stacey (2000) suggests that the GMC exemplifies the ethos of professional self-regulation, because there has been little government interference in its history. Furthermore, what is possibly more interesting is the minimal role of the GMC in the day-to-day practice of medicine.

“The GMC does not concern itself with the performance of doctors as a whole, but it focuses on the very small number of complaints that reach the disciplinary stage and are charged with unprofessional conduct” (Hughes et al 1997: 307).

As such the GMC reinforces the notion of self-regulation, as its formal procedures are primarily important at the beginning of a medical career and potentially at the end following poor practice. It has a minimal role in the routine regulation of medical work and as a meaningful regulatory mechanism (Stacey 1992). In consequence, the formal regulation of medical work relies on the informal aspects of daily practice and peer groups.

Although not explicitly recognised as a regulatory body, it is also worth mentioning the role of the Royal Colleges and other professional Societies as devices for promoting standards in medical work (Allsop and Mulcahy 1996). These bodies assist in the development of training criteria and the assessment of medical standards within specialised areas of medicine. They have an important role in career development and ensuring standards. To gain entry to these groups or Fellowship it is necessary to demonstrate the acquisition of specialised knowledge, experience and ability. Although actually external to the formal regulatory systems of medicine (Irvine 1997), these bodies work closely with the GMC in the development of specialised educational curricula and in recognising professional standards at senior occupational levels. They can be interpreted as a further system for market entry and maintaining standards of medical practice primarily through encouraging good practice and providing support in areas where performance may be sub-standard.

A significant feature of these professional bodies is development and support of Confidential Enquiries for exploring issues of quality and promoting professional

improvements. These enquiries represent important devices for improving standards and raising performance through assessing the quality of medical care on an aggregated and anonymous basis. Originally centred on maternal deaths, but now including areas of medicine such as peri-operative care, these programmes represent the mandatory collection of information concerning deaths following care in order to promote professional learning and the development of guidance (Department of Health 2000, Donaldson 1999). Interestingly they demonstrate the capacity of the medical profession to seek out new ways of assessing and evaluating performance whilst remaining committed to the principles of self-regulation. However, it may also be the case that the profession has adopted such devices in order to prevent other political driven reforms in health care that may undermine the basis of professional regulation (Evetts 2002).

The informal mechanisms in medical practice

Within the formal regulatory procedures of medicine are important and complimentary informal practices that, unlike the function of the GMC, have more relevance in the day to day work of doctors. In particular, peer groups are central to the informal regulation of medical performance, where small “chats” and discussions act as a mechanism for quality control, and where professional respect and collegiality are pivotal. Due to the limits of formal regulatory systems to consistently penetrate the day-to-day aspects of medical work, it can be argued that individual practitioners have responsibility for maintaining standards and are

themselves the guardians of professional conduct (Allsop and Mulcahy 1996, Dent 1995). However, these cultural and regulatory practices are consistently identified as limiting the capacity of risk management strategies, as with the Bristol Royal Infirmary (Kennedy 2001, Klein 1998, Moore 2000).

Rosenthal (1995, 1999) has explored the day to day mechanisms for regulating medical quality, highlighting a range of informal and quasi-formal features that are premised on the idea that only those from within the profession can effectively recognise and deal with medical problems. She draws attention to a style of informal regulation known as the “quiet chat”, which normally involves close colleagues and senior medical representative from within the hospital talking with the “problem doctor” in order to discuss their concern and promote self-awareness. Rosenthal identifies a difference between the “little stick” talk that conveys friendly concern and the “big stick” talk that implies more official action may proceed. These chats are premised on the idea that the doctor will be responsible in improving their own performance. Another form of informal control is termed “protective support” where colleagues take on some of the workload and responsibility of the “problem doctor”. She found that this technique has been known to carry on for several years until the burden of extra work among peers becomes too great. Rosenthal also highlights a quasi-formal mechanism of regulation unique to the NHS. The “three wise men” approach involves the appointment of three senior consultants for the informal investigation of problem doctors, acting as an unusual link to the more formal role of the GMC (Rosenthal 1995). Rosenthal’s work demonstrates the informal

mechanisms of regulation that operate alongside and within the formal and state-sanctioned systems. It is these day to day practices that seemingly reinforce the idea of self-regulation.

Within the modern NHS there are other mechanisms for quality control that, although formal and structured within the organisation of health care, provide opportunities for professional peers working within the same speciality or area to come together and discuss examples of practice. Peer review, case conferences, morbidity and mortality conferences and more recently medical audit illustrate other localised and internal mechanism for the regulation quality. These can include routine reviews of patient charts to verify performance, specific reviews of particular concerns, such as readmissions, infections or substandard care or the sharing of details about complicated or unique cases. Arluke (1977) has examined the role of 'death rounds' as a mechanism for reviewing medical performance. He suggests that professionals adopt particular strategies and rituals for mitigating potential problems or poor outcomes, which include de-emphasising professional competence and highlighting the complexity of the case. Common to all these forms of informal professional regulation is the central role of collegiality and peer review which reinforces the notion of self-regulation.

Serious questions have been asked about the ability of these systems to effectively regulate medicine and maintain public and political trust (Gladstone 2000, Irvine 1999, Moore 2000). Moore (2000) and Leape (1999) argue that a feature of

medicine is the pursuit for, and myth of, perfection. These writers suggest that when things do go wrong in medical work a “blame mentality” arises due to the desire for perfection. Furthermore, it has been argued that a common response is for professionals to “close ranks” with a “conspiracy of silence” (Moore 2000). This was identified at the Bristol Royal Infirmary where a small group of lead clinicians held an “imbalance of power” and prevented the problems of infant mortality from being openly addressed (Kennedy 2001). These quasi-formal customs of professional quality control are therefore a key component in the regulation of medicine and can serve to exclude non-medical groups thereby perpetuating the idea of self-regulation.

Trust and developments in professional regulation

Although the formal and informal systems of medical regulation are premised on state-recognition they can also be characterised by a trust arrangement between the state, the professional and its practitioners. Specifically, there is trust in the ability of the profession and its professionals to ensure the appropriate levels of performance and to deal with problem issues. Although the concept of trust is open to theoretical debate (Hollis1998), it remains an implicit feature of the regulation of medical practice and is central to the social accommodation of uncertainty and risk (Luhmann 1991).

As suggested above, however, there are significant reservations about the capacity of these regulatory devices to secure expected levels of care and in consequence the risk of health care has risen to the fore of policy. Irvine (1999) suggests that the GMC has been unable to maintain public trust citing five prominent criticisms. First the unwillingness to demonstrate medical competence; second the failure to protect patients from problem doctors; third dissatisfaction with the paternalistic attitude of some doctors; fourth the slow and unrepresentative mechanisms of regulation; and fifth the lack of openness and transparency about professional procedures.

The recognition of these problems has necessitated changes in the regulatory character of medicine. One substantial development has been Medical Audit which was introduced to formalise the previously uncoordinated processes of peer review.

It was defined as

“...a systematic, critical analysis of the quality of medical care, including the procedures used for diagnosis and treatment, the use of resources, and the resulting outcome for the patient” (Department of Health 1989).

Audit represents an explicit attempt to define the standards of medical work, gather systematic information about performance, compare performance amongst peer groups and identify deficiencies (Walshe 1999). Although professionals desired a voluntary, confidential, internal and educational approach (Harrison and Pollitt 1995), the implemented system was compulsory and involved the collection and

analysis of performance data. This prompted some professionals to argue that it reduced their clinical freedom, yet the actual format remained predominantly based within the established systems of medical work (Dent 1995).

“The medical profession has so far been largely successful in its attempts to shape and control medical audit for its own interests” (Harrison and Pollitt 1995: 104).

Another development from within the medical profession has been the introduction of re-certification or revalidation (Irvine and Irvine 1997). This represents a more continuous approach to regulation, as opposed to market entry and exit, where licensure is periodically assessed and re-validated throughout the professional career. The main attributes of revalidation are the production of a performance portfolio of practice, annual appraisal and periodic review by the GMC (General Medical Council 2000).

More recently, there have been renewed attempts by the government and the profession to restate the basis of medical regulation and strengthen the basis of medical quality control. The consultation document *Supporting Doctors, Protecting Patients* (Department of Health 1999) centred on modernising the “privileged” basis of self-regulation. This included making the GMC more transparent, accountable, targeted, consistent and proportional. Importantly, these changes were envisaged within the context of health care reform since 1997 and the implementation

document *Assuring the Quality of Medical Practice* (Department of Health 2001c) further outlined these proposals and showed how professional self-regulation must fit within the current quality agenda of the NHS, such as clinical governance. These changes are addressed shortly, but it is important to note that the notion of medical regulation is now explicitly linked to compliance with other reforms of the service. Furthermore, the ‘patient safety’ health policy agenda currently being developed in the NHS implicitly reflects a concern, or lack of trust, with the capacity of professional regulatory systems to effectively deal with errors in the delivery of medical services.

The rising prominence of distrust and scepticism in the NHS can be regarded as one of the principal forces driving change in the regulation of medicine and the improvement of health care quality. As suggested above the triangular relationship between the State, the profession and civil society is held together by reciprocation and trust (Salter 2000), it can be argued therefore that the inability of the profession to sufficiently restore this trust and the increased political necessity to improve service quality and acquire public trust is driving the quality agenda of the NHS. The errors and mistakes that occur in health care delivery symbolise the inabilities and limitations of current regulatory systems and the ‘patient safety’ agenda is central to the restoration of trust in the NHS. This policy programme represents the empirical site for this work.

Regulation in question

Caution has to be taken with overstating the potency of any regulatory system as they can be misapplied or abused in several ways. Ashworth et al (2002) suggest that there are some common sets of problems for regulation. The first includes “resistance by regulatees” where those being regulated undermine the process in order to maintain their own organisational status. The second is “ritualistic compliance” when regulatees ‘go through the motions’ or ‘pay lip service’ to the regulatory process but do not fully conform to the expectations. The third, “regulatory capture”, highlights the problem of regulators becoming too close to the regulated and not being able to conduct the regulation with from an external perspective. And the fourth, “performance ambiguity” refers to the difficulty of defining performance and the inability of regulators to actually understand the standards of work. Ashworth et al (2002) suggest several explanations for why regulation can be inhibited in these ways and of relevance here, they highlight professional groups as being able to undermine regulatory systems because of their claims to ‘autonomy’, their preference for established internal regulation, their insistence on high levels of representation within the regulatory process and their ability to define the basis on which performance is assessed.

When considering changes in medical professional regulation it is therefore necessary to explore the ways in which occupational changes may appear to reveal conformity to new regulatory parameters, but actually masks resistance to change or the maintenance of pre-existing regulatory arrangements. Given the symbolic and

practical importance of (sanctioned) self-regulation to medical work it is likely that any possible changes will be met by a myriad of occupational responses, both conforming and resisting policy expectations.

Managerialism and organisational performance

One of the most substantial and analysed changes in the organisation of the NHS has been the rise of managerialism. This has often been discussed in terms of limiting or challenging aspects of medical professionalism or power. In this section attention is given to the developments in public sector management and the rise of managerialism in the NHS, with more detailed consideration given to the management of quality. It is argued that these represent alternatives to professionalism for the organisation and delivery of public and health care services, and in consequence offer significant challenges to medicine. However, like the discussion of medical autonomy and regulation it is important not to overstate the impact of these managerial developments and their capacity to limit medical status.

New Public Management

One of the most significant developments in the public sector over the past fifteen to twenty years has been the attempt to reform the public sector in line with the principles of the private sector with new regimes of management (Hoggett 1991,

Hood 1991, Hughes et al. 1997). This is typically associated with New Right theories of public sector accountability and ideological preference for market mechanisms. These changes have been described in terms of New Public Management (NPM) (Carter 1991, Hoggett 1991, 1996, Hood 1991).

Several common themes underpin NPM as a style of organisational control in the public sector (Hood 1991, Hughes et al. 1992). First, there is concern with service organisation in terms of processes (efficiency) opposed to outcomes (effectiveness). Second, management is focussed on reducing expenditure and controlling costs. Third, greater use of private sector practices and mantra, for example the “excellence” movement (Peters and Waterman 1983), characterised by meeting targets, cultural change, and devolved freedom to managers. Fourth, the transformation of the public sector from a bureaucratic model to a fragmented structure with quasi-autonomous units. Fifth, a shift from traditional forms of public sector regulation, associated with professionalism, to more centralised techniques of performance assessment and monitoring.

Hood (1991) suggests that as a doctrine, rather than a fad, NPM is based upon organisational principles that replace traditional bureaucratic and professional systems. Hoggett (1991, 1996) describes the changes as post-bureaucratic, where strong central government control is implemented through devolved strategic management, which is distinct from professional hierarchies and where the will of central government is implemented through managers accorded “freedom within

boundaries” (Hoggett 1996). Here strict rule structures are substituted for cultural conformity, “relative autonomy” and empowerment; while performance measures direct and assess the extent of local conformity (Carter 1991).

Walshe (2002) has argued that an important consequence of the changes in public sector management is the proliferation of complimentary “third party” regulatory agencies, reflective of the “regulatory state” or “audit society” (Power 1997). He points out that despite the Conservative governments commitment to de-regulation (Gamble 1992), between 1979 and 1997 a range of new bodies were created to oversee the performance of the public sector, but importantly remained outside the realm of service provision, for example the Audit Commission and the Health and Safety Executive. He points out that as well as representing “new ways to get things done” (Walshe 2002: 968), these agencies also provide distance between politicians and difficult decisions. A significant commentator on the changing character of regulation is Power (1997) who has described an “audit explosion” during the 1980s and 1990s. He points to the growing number of regulatory agencies that inspect the performance of the public sector and public interest, and suggests that this is associated with changes in NPM and the growing demand for “verification” as the state withdraws from direct responsibility for service provision. In line with the ideas of devolved freedom he notes that regulation has become internalised within roles, but with transparent accountability for state approval.

Managers and doctors in the NHS

Managerial changes in the NHS are associated with these wider developments in public sector management, in particular the political concern for greater political and consumer accountability and the efficient use of resources (Ham 1992). To contextualise their impact on the health service and the medical profession, an interesting comparison can be found with Alford's (1975) examination of power within the US health care system. He found that doctors represented a dominant group that directly or indirectly controlled how services operated, premised on their professional status. In contrast he found that hospital organisation was increasingly being administered by "corporate rationalizers" or managers whose work "contradicts and challenges some fundamental interests of professional monopolies" (Alford 1975: 15). To improve service efficiency these managers were seen as "challenging" the dominant position of medicine and had ideologically little regard for medical values. Of interest here is the extent to which managerial changes in the NHS have transformed the character of medical professionalism. As Fuchs (1974: 56) argued:

"...it is impossible to understand the problems of medical services without understanding the physician. And it is impossible to make significant changes in the medical field without changing physician behaviour"

Accepting the corporatist organisation of health care in the 1970s, (Department of Health and Social Security 1972), the first significant development in health service

management occurred following the recommendations of Griffiths' *NHS Management Inquiry* (Department of Health and Social Security 1983). This report reflected the wider political and organisational changes of the era associated with the demands for efficiency and Thatcherite ideology (James 1994). It made explicit comparisons with the private sector and suggested that the NHS was burdened by excessive consultation, corporate planning and incoherent leadership. It suggested that the service, which had recently been given a 'clean bill of health' (Merrison 1979), required organisational and cultural change, replacing inept leadership with a new managerial role that could "draw together" responsibilities "at different levels of the organisation, for planning, implementation and control of performance" (Department of Health and Social Security 1983: 11). General Managers, it was argued, would take the initiative in local service planning, avoiding protracted decision-making and delivering necessary organisational changes and efficiencies.

It has been suggested that the authority of general managers appeared to challenge the orthodox working arrangements of the service as they represented "countervailing powers" (Cox 1991) to those already established in the service. The main function of these new organisational actors centred on making performance improvements, cost-savings, efficiencies and streamlining (Cox 1991). To support these duties systems of performance measurement were also introduced to enable benchmarking, comparison, and enabling central government to assess improvements (Scrivens 1988, Carter 1991). This reflected many of the features of NPM as it represented a devolved mechanism through which central government

could achieve desired change or secure “local conformity to ministerial goals” (Flynn 1992: 107). Harrison (1988) believes that the 1980s saw the end of “diplomatic management” in the NHS as general managers represented a new politically inspired organisational group that was radically different from the traditional administrative culture. As such it has been argued that General Management, like the Alford’s (1975) “corporate rationalizers” represented a major challenge to the established position of the medical profession (Cox 1991). Elston (1991: 68) believes that the management reforms:

“...cut a swathe across established lines of professional responsibility and clinical freedom”.

However, it is necessary not to overstate the impact of General Management on medical work. It is important to return to the earlier observations where it was suggested that medical influence has always been bound within organisational systems. While it may be the case that general management introduced new duties to re-organise and manage services the impact on the medical profession was limited, especially in the technical areas of medical work (Harrison and Pollitt 1995, Strong and Robinson 1990). Doctors were frequently “immune” to management decision-making because the focus of managerial activity was often external to medical work (Flynn 1992). It was therefore the non-medical occupational groups that were more accessible to management control, such as ancillary and support services. Moreover, Lapsey (1994) believes that managers were risk averse and did not possess the

knowledge or inclination to challenge medical working patterns. He argues that general management and the associated performance measurement practices represented two “false revolutions” in the NHS given that these changes were directed at the non-technical aspects of service organisation and did not directly challenge the aspects of medicine that are premised on expert knowledge. In essence the illegitimacy of management in these areas ensured that doctors retained important features of their professional status.

While the management reforms in the 1980s did not necessarily change the character of medical professionalism directly, they did represent a transition on which further policies have been based. Enthoven (1985) suggested that although General Management had made important and necessary changes in service organisation, it was ultimately a limited policy because professionals retained the ability to shape service planning and delivery. He highlighted the problems of organisational inflexibility and “gridlock” and the benefits of adopting market structures. *Working for Patients* (Department of Health 1989) endorsed this view and set out plans for an internal market in the NHS that would deliver efficiency, responsible use of resources and enhanced patient choice. In essence the purchaser/provider split replaced the bureaucratic and integrated funding model by substituting global budgets with contracts for specific packages or transactions of care (see Bartlett and Harrison 1993, Bartlett and Le Grand 1993, Ham 1992, Ham 1997). With the internal market, the structural interests of the medical profession faced several new challenges (Flynn 1992). Building on the general management reforms, the co-

ordination and operation of the internal market relied heavily on managerial and accounting processes to formulate competitive contracts. This shifted a great deal of the responsibility for service planning and organisation towards market forces and management practice. Consequently, the control of the non-technical aspects of medical work shifted significantly into non-medical hands. Hunter (1994: 6) argued that the reforms:

“...can be seen as an attempt to secure a shift in the balance of power between doctors and managers in favour of the latter”.

Flynn (1992: 101) believes that these changes were clear political attempts to regulate medical activity “premised on the rational-economic and calculative approaches to efficiency”, reflective of the “challenging” managerialism found in the US (Alford 1975). Harrison (1999) describes the changes as both continuity and change. He identifies several important changes *within* the profession, for example, the increased structural abilities of GPs to influence service delivery, and the emergence of managerial responsibilities for local medical leaders, such as Medical Director (Hunter 1994, Tremblay 1998). On the other hand, he saw continuity in terms of the medical profession’s ability to carry out their work with relative freedom from managerial interference, given that managerial attention was largely focussed on economic and contracting issues, not directly medical work. Nevertheless, the structural position of medicine within the organisation of health service was significantly altered by these changes (Alaszewski 1995, Cox 1991,

Elston 1991, Flynn 1992), further shifting the organisational, occupational and technical features of medical work.

As reforms, General Management and the Internal Market have had a longstanding influence on health service organisation. The impact on medical professionalism remains open to question. In terms of medical autonomy it can be seen that at the level of policy, organisation, and economics the influence of medicine may be reduced. It remains important, however, to appreciate that these dimensions of medical professionalism were always bound up with organisational systems and networks through which action was mediated. These changes may represent the diminution of medical authority in particular areas of health service organisation as new actors have acquired more responsibilities; yet the technical basis of medical work remains largely unchallenged. This is because management activity was directed at other aspects of service organisation, and importantly had little legitimacy to engage with medical expertise. This reinforces the view managers and politicians cannot feasibly replace medical expertise (Owen 1976, Freidson 1970) and therefore the core basis of professional status, if not the environment in which it is practiced, persisted largely intact.

The management of organisational quality

For this thesis an important consideration within the changing character of public sector management is the shift from professional forms of quality control to more

managerial forms of quality assurance. From a management and organisational theory perspective these changes reflect the rejection of Fordist and Taylorist methods of control and “end-of-line” inspection and key developments in global management theory and practice, including the adoption of the ‘excellence movement’ (Peters and Waterman 1983), culture management and new techniques of quality assurance (Allen 1989, Drummond 1992, Reason 1999, Taylor 1970).

Deming’s (1986) significant contribution to the quality movement centres of the incorporation of quality throughout the entire organisational process rather than at a post-production stage. He suggested that organisations should work towards quality in what they “plan”, “do”, “check”, and in their “action” (the PDCA cycle) (Rosanser 1991). Like Deming, Juran (1988) identified factors associated with successful quality improvement that could be embraced within management practice. He also puts forward the concept of the “quality trilogy” that involves ‘top-level’ management driving forward improvement, through “quality planning” (or understanding quality from the perspective of the customer); “quality control” (evaluating products against the expectations of customers); and “quality improvement” (identifying problems and promoting change) (Juran 1989).

The general principle behind these models of quality improvement is the commitment to quality throughout the production process and calculating and managing improved quality (Wilkinson et al 1998). By the 1970s such techniques had been successfully implemented in post-war Japan and were being adopted

within Western business to improve global competitiveness (Drummond 1992). They are a feature of contemporary management philosophy and practice, representing a transition from “quality control” to “quality assurance” (Reason 1999).

Quality assurance has increasingly influenced management practice over the last twenty years, including the public sector (Drummond 1992). Possibly the most celebrated model is Total Quality Management (TQM) (Wilkinson et al 1998). Although there are varying definitions of TQM, Wilkinson et al (1998) suggest that there are a number of basic principles. The first is ‘customer orientation’ or satisfying the consumer. The second is termed ‘process orientation’ and revolves around dividing organisational processes into a “quality chain” where each link has a responsibility for meeting the customer’s notion of quality. Finally, the organisation must strive for ‘continuous improvement’ through encouraging employees within the ‘quality chain’ to innovate and experiment with new techniques. TQM has become a popular feature of private sector enterprise, and over the last two decades it has had an impact on the public sector.

The management of health service quality and risks

Pollitt (1993: 161) suggests that quality programmes, such as TQM, represent are “a kind of religious cult” that have become increasingly popular in the public sector. For Close (1997) the evolution of quality management in the NHS has been

influenced by seven factors. The first includes the *political* drive for increased effectiveness in the delivery of care, encapsulated within the purchaser/provider split and devices such as the Patient's Charter. The second is the increased role of *external audits* and performance measures in promoting quality. The third is *international* guidance from the World Health Organisation that stipulates the measurement of quality within health services. The fourth comprises changes in the *education* and training of NHS staff to promote quality. The fifth includes changes in *professional* regulation, such as Medical Audit. The sixth is the role of *consumer* associations, pressure groups and the media in questioning quality levels in the service. And finally, the influence of *expert theory* and management practice associated with quality assurance.

At the time of the internal market reforms, the Department of Health supported proposals from Health Authorities to implement forms of TQM (Pollitt 1993). Since that time hospitals have experimented with various forms of quality assurance and service improvement (Hart 1997). Within this context of quality assurance and TQM one important concern is the management of organisational risks (Hansson 2000). This is particularly relevant in this thesis because risk management provides the organisational context in which the emerging patient safety policy is being developed and implemented (Department of Health 2000).

Prior to the 1980s the control of clinical risks in the NHS can be regarded as implicit and non-managerial. All professionals are involved, to some degree, in calculating

and absorbing risks in their work (Hughes 1951), but the control of risk resides in the technical basis of work whereby expertise informs decision-making. In the context of quality assurance, however, the control of risk becomes explicit, systematic and guided by managerial theory. Importantly risk management is guided by expertise that originates outside the knowledge of the professional making the decision.

Clements (1995) suggests that risk management can be broadly defined as the reduction of harm to an organisation through the identification and elimination of risks. Dickson (1995) and Wilson (1999) suggest that clinical risk management or “strategic risk modification” typically consists of two components: the collection information about risks and then the adjustment of services to control these threats. There are numerous ways in which these tasks can be fulfilled, but Dickson (1995) argues that a systematic method of risk identification is the introduction of an incident reporting system, which involves recording actual and potential risks encounter in work processes. Such systems have existed in the NHS since 1955 when guidance required the reporting of all accidents, and more recently have been associated with the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) since 1985 (Health and Safety Executive 1998, 2001). However, despite the existence of such systems, the growth of more rigorous risk management is frequently associated with litigation and risk pressures in the health services and the schemes introduced to control them.

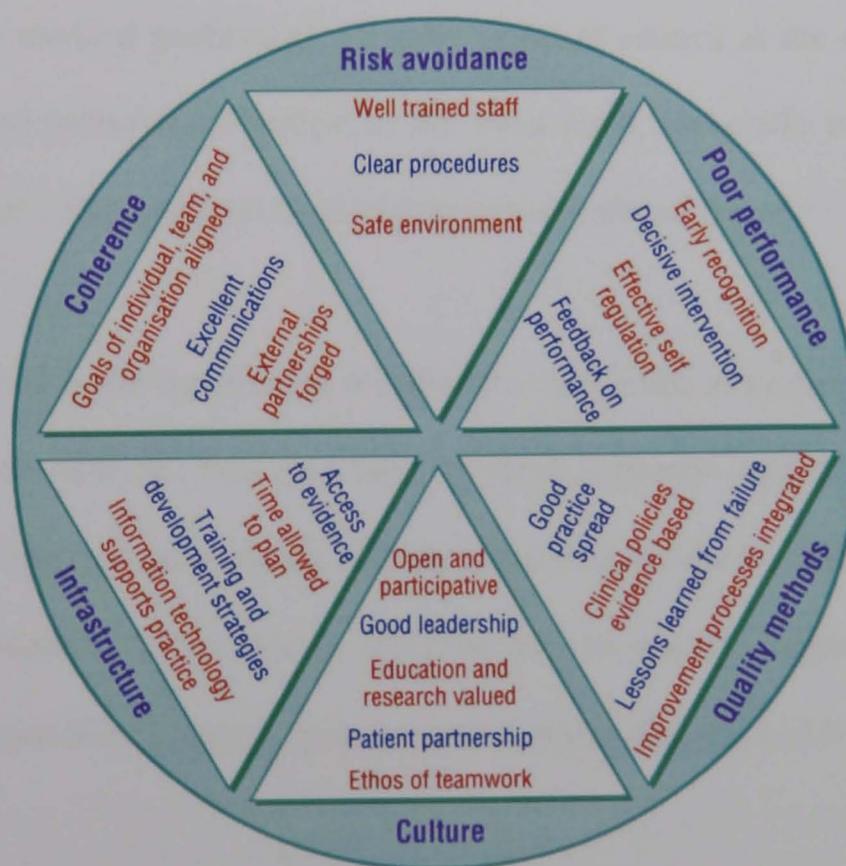
The increasing pressure of litigation and the introduction of the Clinical Negligence Scheme for Trusts (CNST) to manage the financial cost of litigation have certainly prompted more rigorous forms of risk management in the NHS. The number of litigation claims has risen dramatically during the 1990s (Marquand and Miller 1997, Wilson and Tingle 1999) and in 1999 it was estimated that there was a potential liability of £2.4million (Department of Health 2000). In 1994 CNST was introduced to provide hospital Trusts with financial support in litigation cases. In essence it acts as an insurance fund that charges a premium to cover some of the cost of litigation. Importantly, to participate within CNST and to reduce premium costs hospitals have to meet certain “standards” for quality improvement (CNST 2000): in a similar way that a burglar alarm can reduce home insurance. These standards have included more systematic forms of education, risk management and incident reporting. Although voluntary, by 1999 Dineen and Walshe (1999a, 1999b) found that virtually all hospital trusts (96.4%) were members of CNST and had therefore developed, in some form, systems of risk management and incident reporting.

Risk management has therefore become an established approach to quality improvement within the NHS. For this study, the developments in risk management are particularly important because, as it will be shown, the current policy context for patient safety is premised upon many of the procedures put in place in response to RIDDOR and CNST. Furthermore, these methods of quality improvement are of interest because they are predominantly implemented and coordinated by managerial groups.

Missing pages are unavailable

(1999) show that it draws on tried and tested managerial and professional techniques of quality improvement. For example, it builds on professional schemes such as 'clinical audit'; whilst it is also influenced by techniques of 'quality assurance' and management theories of proactive 'systems re-engineering'. Clinical governance therefore represents the coming together of both established professional forms of internal regulation and external managerial techniques for quality assurance.

Figure 2.1. The integration of clinical governance. (source: Scally and Donaldson 1998).



Of interest is the way in which this unification or responsibility for quality will necessitate a re-negotiation of the relationship between managers and medical professionals (Dewar 1998). In particular the establishment of accountability relationships that enable senior managers with overall responsibility for quality to engage with the performance of professionals and take action when necessary (Dewar 1998).

Conclusion: professionalism and the management of quality

Hughes and McGuire (1992) suggest that the “settlement” of 1948 secured a strong position for the medical profession, whereby political control at the national level was tempered by professional control at the local level, especially in the form of “clinical freedom”. This political relationship was articulated Bevan:

“I conceive it the function of the Minister of Health to provide the medical profession with the best and most modern apparatus and to enable them freely to use it, in accordance with their training, for the benefit of the people of the country. Every doctor must be free to use that apparatus without interference from secular organisations” (cited in Hughes and McGuire 1992: 92).

The political settlement for the NHS has had a longstanding impact on the organisation of the service and major reforms have necessitated a re-negotiation of

the relationship between the state and the profession (Titmuss 1963). What is important for this research is the extent that health service reform alters the features of professionalism associated with 'autonomy' and 'regulation'. One of the major developments in the NHS over the last twenty years has been the rise of managerialism. Although it has been argued that managers have challenged medical autonomy, it is important not to overstate occupational change. In particular, it is necessary to avoid the view that medical autonomy has been wholesale eroded by management. Although increased managerialism has certainly brought about new forms of organisational responsibility and authority eroding aspects of medical influence, the core feature of technical autonomy (Freidson 1970) has remained largely in the hands of medical practitioners.

Important for this study are changes in the management of the health service quality. Over the last ten years there have been several incidents and scandals that have called into question the capacity of medicine to regulate its work appropriately. In consequence, managerial forms of quality improvement, such as TQM and risk management, have been increasingly adopted within management practice. What is interesting is the extent to which progressions in the quality agenda, including clinical governance and the new patient safety agenda, are offering to transform the relationship between medical and managerial groups. This is because these new managerial duties focus on both non-technical and technical aspects of medical work and potentially engage with diagnosis and treatment, and the evaluation of care. On the one hand this may involve new forms of external and direct regulation of

medical work; on the other hand it may involve new forms of surveillance and governmentality that lead to doctors monitoring their work in accordance with managerial and political expectations.

This chapter has therefore outlined the broad theoretical context for this research. This can be summarised as the changing character of medical professionalism centred on the relationship between medical and managerial groups in the management of medical errors as a threat to service quality. The following chapter provides an account of the specific policy developments patient safety. This policy is then critically de-constructed and it is asked whether it will bring about a transition in the character of medical regulation including a re-negotiation of the “proper relations” between the state and the profession. Over the following two chapters attention is therefore given to the various theoretical perspectives that engage with the changing character of medical/managerial relations in the context of error management. It is not possible, however, to identify a single theoretical framework; instead a range of divergent approaches is taken to facilitate a more thorough study the different facets of the patient safety policy and its consequences for medical/managerial relations in the NHS. This includes the constructive and discursive dimensions of medical error, where the occupational interpretation and meaning relates to particular strategies for organisational control. In addition to these epistemological considerations attention is given to the cultural and structural dimensions of medical work and error management in terms of their capacity for promoting or resisting changes in quality improvement and occupational change.

These distinct theoretical fields are 'pragmatically' (Watson 1997) amalgamated in the study of medical professionalism and managerialism in the context of patient safety health policies.

3. The ‘Patient Safety’ Policy Agenda

Introduction

It is now apparent that mistakes in the delivery of health care are a major threat to health service quality. Research in the United State of America, Australia, and the United Kingdom has demonstrated this ‘problem’ and called for new methods of quality improvement. In England and Wales the NHS response comprises a reporting system to learn about the volume and character of errors and managerial systems to promote organisational learning and change. Importantly, this policy framework builds on past experiences in health service management, including forms of quality improvement and clinical risk management, and is couched within the clinical governance framework. As a mechanism of quality improvement it is therefore argued that this new facet of quality improvement has the potential to provide a new frontier for medical/managerial relations in the NHS, specifically around the regulation of medical mistakes.

This chapter provides an account of this patient safety policy agenda. It commences with a review of national and international research findings that demonstrate the level of errors in the respective health care systems. Attention then turns to a discussion of the theoretical foundations on which policy is based. The application of these ideas is described through an overview of the ‘patient safety’ framework,

with specific attention given to three interrelated issues. The first is the concept of error operationalised in policy that provides the basis on which managerial and professional action is to be based. The second and more tangible aspect of the policy is the introduction of an incident reporting system to enable individual hospitals and the NHS at large to learn from mistakes and share lessons. The third component is the way in which hospital systems are being developed to analyse incidents and promote organisational change. Of importance within this discussion is the application of specific managerial theories and extension of management roles to promote organisational quality.

The scale of medical mistakes

One of the first major pieces of research on the extent and character of health service errors was the landmark Harvard Medical Practice Study (Brennan et al 1991, Leape et al 1991). This research involved a retrospective chart review of hospital inpatient records in the New York State region for the year 1984. From their random sample of case notes the expert panel was able to identify, with significant statistical reliability, 98'609 adverse events from 2'671'863 cases: an adverse event rate of 3.69%. It was also estimated that 69% of these were caused by error and in terms of patient harm 56.8% experienced minimal disability with complete recovery, 13.7% experienced considerable disability with eventual recovery, 2.6% resulted in permanent disability and 13.6% led to death. Extrapolating these figures for the

entire USA it was calculated that potentially 98'000 people are killed every year by adverse health care events.

“The burden of iatrogenic injury was thus large” (Brennan and Leape 1991: 373)

It has been suggested that this research is likely to significantly underestimate the level of errors (O'Neil et al 1993). It takes no account of errors that did not lead to some form of disability and methodologically the analysis is based on the information recorded in patient notes, not unrecorded events (O'Neil et al 1993). Further research using alternative techniques, including self-reporting and observation, suggest that the actual level of error may well exceed the findings of the Harvard study (Andrews 1997, Bates et al. 1995).

Similar results have been found in Australia (Wilson et al 1995, Wolff and Bourke 2000) and in England and Wales (Department of Health 2000, Vincent et al 2001) suggesting that this problem is not necessarily a feature of a particular organisational or funding system, but is more deep-seated within the delivery of health care. The scale of adverse events in the NHS has been estimated by the expert report *An Organisation with a Memory* (Department of Health 2000). Like the Harvard study, it was shown that 10% of inpatient admissions experience some form of adverse event totalling 850'000 events a year. In addition to the human cost, it was also estimated that the financial cost of these adverse events is £2billion a year in further

care: not to mention the additional costs of litigation. Vincent et al. (2001) have reinforced these NHS figures through a retrospective case review, which found that 10.8% of patients admitted to hospital experience an adverse event or 11.7% if multiple events to a single patient are taken into consideration. Importantly, they estimate that about half of these are preventable.

These levels of error are indeed startling. Put in the context of the other major threats to health their significance becomes even more dramatic. Official figures for 1999 show that the major 'killers' in England and Wales were coronary heart disease and stroke (218,062), all cancers (133,749), lung cancer (29,406) and breast cancer (11,548). However, it is estimated that adverse events equate to potentially 40,000 deaths a year (Moore 2000). These findings have been extrapolated to suggest that 'going into hospital' is potentially more dangerous than flying in an aeroplane, driving a car or motorcycle or even mountain climbing, and the number of deaths per year could be represented by two large passenger aircraft crashing every week (Patient Safety Training 2003). Given the scale of errors in the delivery of health care it is not surprising that health policy is now endeavouring to systematically address this problem.

Theories of error and error management

Before moving on to outline the patient safety health policies that have emerged to address this problem, attention is given to the theoretical and empirical context on

which policies are premised. Reflecting the three main lines of enquiry in this study, attention is given to the concept of error, the principles and implementation of incident reporting and the function of error management.

The concept of “error” in health service research

Although empirical research has demonstrated the ‘problem’ of errors in health care, of interest in this thesis is the way in which ‘error’ is defined and employed in research and the implications that this has for policy recommendations. Sandars and Esmail (2001) and Walshe (2000) have highlighted a range of definitions that have been employed within health service research. Examples include McLamb and Huntley’s (1967) “any response to medical care in the hospital that is unintended, undesirable and harmful to the person”; Craddick and Bader’s (1983) “untoward patient events which, under optimal conditions, are not a natural consequence of the patient’s disease or treatment”; and the Harvard Medical Practice Study’s (Brennan and Leape 1991) “an unintended injury caused by medical management rather than by the disease process”; Walshe’s (1998) own definition consists of “an untoward or undesirable occurrence in the healthcare process which has or potentially has some negative impact on patient or patients and results or may result from some part of the healthcare process”. Such definitions can also be joined by the likes of Vincent et al. (1998: 1154) who refer to “incidents in which a patient is unintentionally harmed by medical treatment”; or Leape (1999) who refers to an “unintended act”, either by

omission or commission, or an act that does not achieve its intended outcome that leads to a negative patient outcome.

Although these definitions vary, there are some common themes. The first is what Walshe (2000) terms “negativity” in that an event has an undesirable and detrimental impact upon the healthcare process or the patient. The second is “patient involvement/impact” referring to the crucial involvement of the patient as the focal point of the negative impact, as opposed to wider risk management terminology that could include financial damage. The third feature is “causation” and suggests that the negative patient event is the consequence of some kind of action or inaction.

Walshe’s (2000) analysis captures the predominant characteristics that seem to underpin the various definitions of error. However, it is how the concepts have been used and what they fail to fully acknowledge that makes them sociologically interesting. Much of the prevailing terminology tends to shy away from the word “error” and adopts variations of “adverse event” or “incident”. The reasons are not explicit but it is possible that a rejection of the word “error” in favour of “adverse event” may avoid unwanted associations with individual responsibility and blame that are seen as unhelpful for improving patient safety (Wilson and Haraden 2001). Another interesting feature is the way these definitions have been used to inform research, and in doing so they reflect the philosophical foundations of these studies. In particular there tends to be little recognition of the interpretative, subjective or constructive domains of error; how the definition of error implicitly moulds research

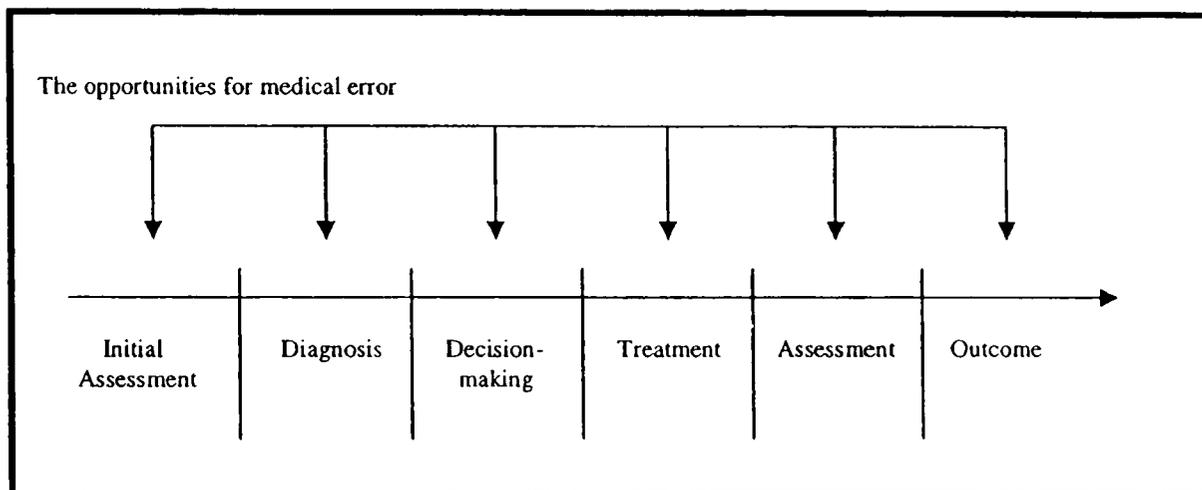
findings through reflecting particular assumptions, ideologies or discourses; or alternatively how health service staff may make sense of errors along different lines. This theme is explored in the following chapter.

Technical typologies of error

Another contribution to the conceptualisation of error goes beyond a general definition of negativity and causality, to specify technical types of error. This has been achieved in a number of areas of health care, for example, taxonomies of drug errors, errors in primary care or accidents in obstetrics (Dean et al. 2002, Drife 1993, Dovey et al. 2002). These accounts vary from studying the frequency and types of mistake to more theoretical discussions of the care pathway. Neale (1995) has provided an interesting illustration of the different stages of medical work from which he identified a range of types of medical error. Specifically he refers to the technical aspects of work associated with diagnosis, treatment procedures, drug treatment and general patient management. From this he highlights error types such as 'misdiagnosis', where there is misinterpretation of information, unfamiliarity with the disease, or poor reasoning that leads to an incorrect diagnosis. He also shows that patient safety can be compromised through the procedures of medicine where specific diagnostic tests or treatments harm the patient either as a side-effect or through poor practice, such as drug errors. In this way, Neale (1995) highlights the opportunities for error within the technical components of medical work. Such a model could include many stages where different "windows of opportunities" and

“types” of error could occur (see figure 3.1) and in consequence provide some form of technical definition of error.

Figure 3.1 An outline of the phases of medical work and the opportunities for error



Neale’s (1995) account of medical error also reveals an underlying assumption about the character of error. He suggests that these different types of medical “misadventure” can be brought about by “unforced errors”, including lapses in memory, “mistakes” in diagnosis or “violations” of established protocols. In addition he suggests that there can be an “organisational predisposition” to error, where there is insufficient training that leads to unfamiliarity, high workloads that can distort or adversely influence performance, and poor interactions within teamwork activities. In this way, Neale is reflecting certain assumptions about medical mistakes that appear ‘common sense’ and stemming from the actual work of doctors. Moreover he develops these ideas with particular reference to psychological theories, specifically the Human Factors approach, which has been increasingly endorsed in policy and

professional literature (Berwick and Leape, Reason 2000, Vincent et al 1998, Vincent and Reason 1999).

Psychological and human factors approaches to error

The study of accidents and errors has traditionally been associated with the theoretical developments in cognitive and social psychology, which provide explanations for why individuals and groups make mistakes. These psychological theories have been enhanced by the principles of ergonomics and organisational theory to advance a theory of individual error that considers the systems of human behaviour and interaction. Importantly these theories now shape contemporary management practice and current health policies (Department of Health 2001, Reason 2000).

From a psychological perspective, errors occur at the level of individual behaviour due to cognitive and mental aberrations. For example, when the routines of behaviour and processes of decision-making lapse, become fractured or disjointed. Rasmussen and Jensen (1974) classify human performance in three ways demonstrating the different ways mistakes can arise due to cognition, decision-making and action. The first type of performance is *skill-based* and is associated with pre-stored codes and patterns of behaviour. The second is *rule-based* and relies upon instructions that guide action. The third is *knowledge-based* and relies upon the acquisition of knowledge and experience to direct action. Within this cognitive

framework problems with action arise through either 'errors', which involve lapses or deficiencies with rule and skill based action, or 'mistakes' that are associated with the knowledge base. "Errors" can include *slips* where there is a break in the psychological processes associated with routine action, such as a "descriptive" slip where an appropriate action is carried out on the wrong object or an "associate activation error" where an action associated with one object is carried out on another, e.g. answering the telephone when the doorbell rings. Alternatively "mistakes" are associated with knowledge-based processes and can include "biased memory" when behaviour relies upon rules that have been followed many times before but are inappropriate for novel situations; or "coning of attention" where action is based upon insufficient information. Such mistakes normally occur where previous rules and routines are insufficient and when the individual is placed under considerable pressure.

This cognitive approach has a great deal to offer for conceptualising medical errors. It can be expected that doctors rely upon a whole range of mental schemata, instructions and knowledge-based processes in their work. Errors can therefore occur along any of these dimensions, for example, slips can occur when there are multiple competing demands and routine behaviour becomes complicated. Furthermore, medical practice is associated with the acquisition of expert knowledge and experience and mistakes may therefore occur in novel situations where this knowledge cannot fully account for a particular disease or where practitioners rely on previously tried and tested procedures that may be inappropriate.

Social psychologists have advanced these cognitive theories through incorporating the principles of ergonomics and organisational theory, by examining the interface between behaviour and systems. Most notable is Reason's (1995, 1999, 2000, Vincent and Reason 1999) contribution to the *human factors* approach. Reason (1999: 71) defines human error as "the failure of planned actions to achieve their desired ends- without the intervention of some unforeseen event". He develops Rasmussen and Jensen's (1974) work suggesting that along with errors (slips and lapses) and mistakes, there are also violations. These include 'routine violations' associated with cutting corners; 'optimising violations' which refer to motivational causes, such as thrill; and 'necessary violations' where organisational support is lacking.

His most significant contribution to the conceptualisation of error is through his analysis of the relationship between individuals and complex social systems where a distinction is made between *active* and *latent* errors. The former refers to the individual event or mistake: the unsafe act or failure to act that results in a mistake. The latter draws attention to the unsafe human and organisational systems that create, enable or exacerbate an active error. Reason (1999) argues that although individuals are prone to make mistakes, they do not intend to make them; it therefore becomes necessary to appreciate the "upstream" decisions and systemic factors that enable mistakes or fail to control mistakes. This can include poorly designed working arrangements, poor defence and early-warning mechanisms, or an over-

reliance on automation. In this way, organisations are characterised as possessing a range of systems that offer opportunities for error, and when a specific arrangement of interactions exists the opportunity becomes more likely. Analytical attention is directed not just at the 'front line' individual but also the chain of decisions and systems within the organisation.

The theory of error management

Building on these psychological theories of error a specific approach to error management has become increasingly popular in private and public enterprise; associated with the wider transition from Fordist quality control to quality assurance (Drummond 1992, Reason 1999). Accordingly it is suggested that the entire production process should feature a series of defensive barriers that can protect against accidents and also alert the organisation to potential dangers.

Reason (1999) argues that to promote organisational quality it is necessary to develop safer organisational systems and mechanisms to learn from mistakes. As shown above this approach rests on the distinction between "active" and "latent" errors. It is argued that given that individuals do not intend to make mistakes, and psychological precursors to mistake are difficult to control, e.g. tiredness or stress, it is necessary to focus on the systemic or latent factors (Vincent and Reason 1999). He suggests that error management consists of two components. The first is "error reduction" and centres on developing systems to limit the occurrence of mistake.

The second is “error containment” and is concerned with limiting the impact of mistakes when they occur. For error management to be effective it therefore needs to detect and understand the threats to organisational safety, and then introduce the necessary defensive mechanisms. Not only is this approach similar to wider models of quality assurance, but it also reflects the core characteristics of risk management discussed in the previous chapter.

For Reason (1999, 2000) error management requires the introduction of measures to discover, consider and safeguard against the latent factors that enable, facilitate or exacerbate active errors. Furthermore, given that mistakes can never be fully eradicated it is important for an organisation to continually seek out and manage potential errors. Pivotal within the Human Factors approach therefore is the introduction of information and analysis systems that can detect errors, analyse the systemic or latent features and promote organisational change. For Reason this involves the promotion of an error reporting and management system, whereby all organisational actors who experience error or potential error report the specific and contextual details to an organisational unit responsible for safety. Although this approach may appear to shift the responsibility of error “upstream” within the organisation, it also enables the organisation to appreciate the ways in which defensive mechanisms fail (Reason 1993).

For incident reporting and systemic learning to be possible Reason (1999) believes it is necessary to acquire the active participation of all organisational actors and this

requires overcoming several potential barriers. First it is necessary to foster and adopt an organisation culture that is not plagued by blame but instead values openness and learning. He argues that the Western Culture is characterised by the ideals of freedom and it is this “illusion” that cultivates a culture of blame because individuals feel they have to be accountable for their autonomous actions. However, blame encourages people to conceal their mistakes and seek out individual remedies, but in doing so this prevents organisations from learning and adopting safer working practices. Important therefore is the need to accept that individuals will make mistakes and look to the wider contributing factors. Reason believes it is necessary to foster a “just culture” where the individual becomes the “victim” rather than the “villain”.

“We must design systems that acknowledge human fallibility, recognise its variation, and are forgiving of unsafe acts” (Reason 1993: 13).

Secondly, it is necessary to foster a “reporting culture” whereby actors openly and honestly relay information about errors that they have experienced. Here he identifies five factors that promote such a culture and overcome the disincentives to reporting. These include indemnity against disciplinary action as far as reasonably possible; confidentiality or de-identification; the separation of the agency for collecting and analysing information and those with the authority to punish; rapid and useful feedback; and ease of making a report. Through adopting these practices it is believed that organisational actors will be more inclined to report

mistakes they encounter and eventually this will lead to a safer organisational culture.

Reason's model of error management therefore advocates a culture of quality that drives forward action, a culture that has respect for potential breaches in system defences, a culture that is open and collects information about mistakes, a culture of reporting, a 'no blame' culture, a flexible culture that enables change, and a culture of learning. With these cultural characteristics in place Reasons (1999, 2000) suggests that it is possible for organisations to appreciate not just the active errors but also the latent systemic factors.

Fundamentally Reason (1999) believes that this "safety" culture can be "engineered". Here he suggests that an 'organisational culture' is something that an organisation "has", it is a property of the organisation, like the structures of accountability or finance and it is open to managerial manipulation. Reason acknowledges the contested notion of organisational culture, but firmly endorses the view that organisational leaders can foster cultural changes within organisations. However, as it will be discussed in the following chapter there are some major criticisms of this theory of culture that are central to this thesis.

This Human Factors approach to understanding accidents and mistakes has been applied widely. For example, with the sinking of the Herald of Free Enterprise at Zeebrugge individual blame was superseded by the failures of the parent company,

which was described as “infected with the disease of sloppiness” (Department of Transport, 1987). More recently the Ladbroke Grove Rail Inquiry, whilst recognising the role of the train drivers, stated that “there was a lamentable failure on the part of Railtrack to respond to recommendations” and make line improvements (Cullen 2001). This approach has also become commonplace in the aviation industry where pilots and cabin staff are expected to report problematic events and threats to safety (O’Leary 2002).

In the field of health care, the Human Factors approach has been increasingly endorsed in academic study over the last ten years (e.g. Vincent 1993, 1997), while more recently it has been adopted within large-scale public inquiries and health policies. For example, the Toft Report (Toft 2001) analysed the fatal misapplication of the drug vincristine and identified a chain of events that precipitated the act of drug administration. The Bristol Inquiry (Kennedy 2001) was also influenced by these ideas, suggesting the wider organisational cultures and relationships were crucial in masking the events surrounding infant mortality. The application of the Human Factors approach to health care highlights a range of factors that can negatively influence clinical practice and increase the chance of error (Vincent et al. 1998). Vincent and Reason (1999) identify “task”, “team”, “situational” and “organisational” factors that can contribute to the risk of error. The control of these risks may involve standardising work “tasks”, improving “teamwork”, alleviating “situational” factors such as workload and stress, and appreciating the wider

systemic contribution found with the “organisation”. In the delivery of health care this could include understanding a range of factors:

- The institutional context – the economic and regulatory context of the service;
- Organisational and management factors – financial constraints, policy objectives and cultural practice;
- Work environment – staffing levels, skill mix, work load and support;
- Team factors – communication, supervision and structure
- Individual factors – knowledge, skill, and motivation;
- Task factors – clarity of the task and the use of protocols;
- Patient characteristics – complexity and severity of condition, communication, social factors and personality.

(Vincent et al 1998: 1155)

As well as representing a new approach to error management, the Human Factors approach is reflective of the wider transition towards quality assurance and risk management. Vincent et al (1998: 1154) describe it as “a hybrid discipline that focuses on the human component within complex socio-technical systems”. The practical application of error management centres on gathering information about mistakes and risks to safety in order for the organisation to learn from its experiences and promote safer systems, ultimately improving quality. Importantly, this theoretical approach is now a foundation to current health policies.

The Policy Framework and the National System

Despite advances in the health service quality agenda, associated with both increased quality management and clinical risk management; it has been argued that there remains insufficient information about and control of health service errors (Department of Health 2000). In the NHS there has been a long history of collecting information about performance, such as the complaints system, information from litigation investigations, performance measures, official enquiries, the Confidential Enquiries, and more recently risk management mechanisms. Although these provide a great deal of information about the quality of services, they remain problematic in providing a systematic mechanism for dealing with health service errors (Donaldson 1999, Walshe 1999b). Walshe (1999b) suggests that these various sources of information suffer from a lack of co-ordination and in consequence he advocates the introduction of a more robust information system for understanding the causes of error and making organisational change (Department of Health 2000).

In response to the empirical data about NHS errors, matched by growing public and political concern, a new approach to patient safety is currently being developed within the service. Three important policy documents have provided the context for policy formulation and implementation. Firstly, the expert report *An Organisation with a Memory* (Department of Health 2000) mirrored the US report *To Err is Human* (Kohn et al 2000), by estimating the scale of mistakes in the service, identifying the weaknesses of existing systems and proposing a series of changes.

The recommendations made in this report were explicitly influenced by the Human Factors approach and advocated the introduction of an error management system, consisting of an incident reporting and error analysis scheme. The government's response, *Building a Safer NHS for Patients* (Department of Health 2001a) endorsed these recommendations and outlined the introduction of a new policy framework. At the national level this is spearheaded by the creation of a new quasi-autonomous special health authority, the National Patient Safety Agency (NPSA), which has responsibility to provide national leadership and education, co-ordinating quality improvement, and directing change and policy implementation. At the primary and secondary levels of the NHS a new localised system of error management is to be adopted, initially called the National System for Learning from Adverse Events and Near Misses, but now known as the National Reporting and Learning System. The policy describes this as a mandatory adverse event reporting system for the collection of information about errors, the development of systems for the analysis of mistakes and the promotion of management procedures to support organisational change. Within this system it is expected that high profile events will be reported nationally to the NPSA and local procedures should be in place to manage threats to patient safety (Department of Health 2000, 2001a, 2001b). Subsequently, the Department of Health and the NPSA have published the guidance document, *Doing Less Harm* (DH 2001b), which provides further detail for the implementation and operation of this National System, including ten requirements for local execution. These provide more specific and technical guidance for managing the implementation of this new National System.

Three main features of this policy framework are of interest in this study:

- The conceptualisation of “error”;
- The implementation and organisation of incident reporting;
- The analysis and management of errors.

These three components represent the backbone to the National System. Furthermore, it can be argued that there is a sequential relationship between these stages where the success of one element or stage is dependant on the former. These three components will now be explored in greater detail drawing on the available policy documentation.

Errors and adverse events in policy

It was shown earlier that there are several common assumptions underlying the various definitions of error (Walshe 2000) and there has been a significant contribution made by psychological theory. Within policy the definition of error has reflected many of these ideas, with a focus on the patient, negativity and causation, along with consideration given to the active and latent distinction. Furthermore, as the various policy documents have been published the concept of error has evolved from the theoretical to the practical with specific types of error identified. Important in this research is the conceptualisation of error promoted in policy and the way in which it underpins the emerging system of error management. The document *Doing*

Less Harm (Department of Health 2001b) recognised the importance of providing a consistent and workable definition of error that provides NHS staff with an indication of the events that require reporting. In the context of the National System it is therefore necessary to appreciate how the concept of error reflects particular theoretical assumptions and advocates specific forms of action.

An Organisation with a Memory (Department of Health 2000) provided the first major national review of errors in the NHS. In order to carry out its research and develop any recommendations one of its primary tasks was to define the meaning of error. Interestingly, the document makes a distinction between the terms “error” and “adverse event”. The former is described as (Department of Health 2000: xii):

“[T]he failure to complete a planned action as intended, or the use of an incorrect plan of action to achieve a given aim”.

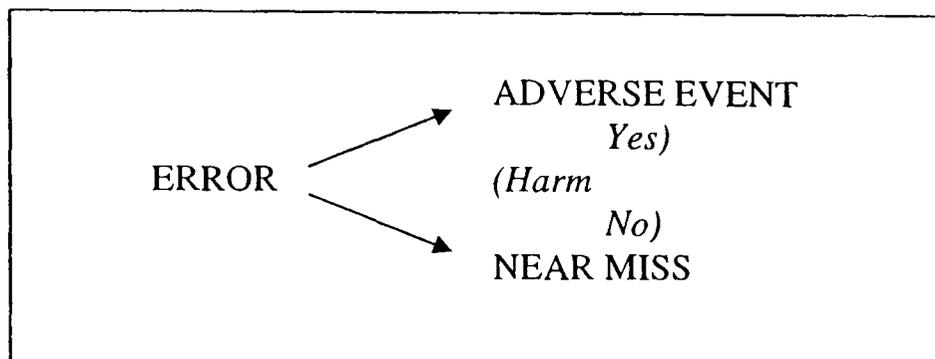
While the latter is characterised as:

“[A]n event or omission arising during clinical care and causing physical or psychological injury to a patient”.

The distinction between these definitions is located in the consequence of action; taking the inappropriate action or inaction is an ‘error’, but if this results in a negative patient outcome then it is termed an ‘adverse event’. Provision is also made

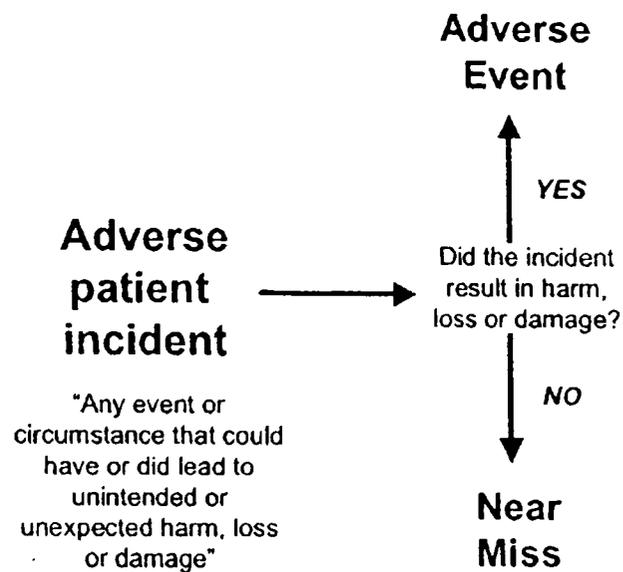
for occasions when a negative outcome does not follow: a “near miss”. For this policy document an error is something that precedes an adverse event or a near miss, which are themselves defined by the extent of harm (see figure 3.2).

Figure 3.2. The conceptualisation of error in policy



These definitions have subsequently been developed through the policy document *Doing Less Harm* (Department of Health 2001b: 13). Here the concept of error is re-defined as an ‘adverse patient incident’, with near miss and adverse event flowing from the variable impact on patient health (figure 3.3). Now the term ‘error’ rarely appears in health policy, reinforcing the view that it has unproductive connotations for the current reforms of the service (Wilson and Haraden 2001). In this elaborated definition there is again a distinction between the primary event and the consequent “adverse event” or “near miss”. Nevertheless, all these terms are implicitly concerned with the conceptualisation of error, even if it has been re-defined for political reasons.

Figure 3.3. A further conceptualisation of error in policy (source Department of Health 2001b).



In order to facilitate the assimilation of these terms within hospital management the guidance document *Doing Less Harm* provides further conceptual clarity through detailing specific examples of adverse events in different health care settings. For example, some “general” examples include:

- Delay in diagnosis, wrong diagnosis or incorrect patient assessment;
- Administration of wrong drug or incorrect quantity of the right drug;
- Defective medical devices.

Examples relevant to “acute” services include:

- Removal of wrong kidney;
- Patient known to be allergic to penicillin but notes not checked and patient not questioned. Patient suffers respiratory arrest.

- Blood specimen obtained for cross matching from the wrong patients. Subsequent transfusion of the right patient results in massive reaction.

This represents an attempt to move beyond an abstract definition towards the creation of some form of typology, for example, diagnosis errors, drug errors, or communication errors, and serves to further define the character and nature of “error” in technical terms.

Some important characteristics underpin the policy conceptualisation of error or adverse event. First, is an implicit rejection of the word “error” in favour of more technical and politically correct terms such as “adverse event”. Second is the implicit endorsement of psychological and human factors theories blended with the technical aspects of health care delivery. These features can be seen as serving two important functions, first they enable a concept of error that accounts for individual behaviour but also systemic factors such as teamwork, reflecting the prevailing theories of error management. Second, by conceptualising error in this way it assists in the promotion of cultural change, by emphasising organisational responsibilities as well as individual, and therefore promoting the idea of a “just” culture that is required to encourage incident reporting.

Incident reporting

One of the major recommendations of *An Organisation with a Memory*, was the introduction of a mandatory incident reporting scheme to enable the collection of information about hospital adverse events and near misses. It was conceived that this would build upon existing hospital systems associated with clinical risk management, but also include clear standardised definitions of the information required, have specified reporting procedures, be supported through computer software and be comprehensive in coverage. To facilitate reporting the policy also argued that it is necessary to make cultural change in the service, to instil a “reporting culture” whereby professionals see reporting as a positive and blame-free aspect of their work. Again this policy recommendation reflects the prevailing Human Factors approach to error management (Reason 2000).

Building a Safer NHS for Patients reinforced these recommendations and specified that the National System should be concerned with “identifying, gathering information on, recording and reporting adverse events and near misses” (Department of Health 2001a: 34). It was suggested that this information should relate to issues of:

- What happened? (description, harm, people/equipment involved)
- Where did it happen?
- When did it happen?
- How did it happen? (the immediate causes)

- What action was taken or proposed?
- What impact did the event have?
- What factors did or could have minimised the impact?

(Department of Health 2001a: 37).

Like Reason's (1999) discussion of organisational culture, this document also suggests that the culture of NHS hospitals and professionals should be modified in order to encourage and facilitate reporting.

“A pre-requisite for achieving a successful approach to reducing risk and enhancing patient safety is to create a health service whose culture and behaviour reflects a strong commitment to providing high and ever improving standards of care and a service that meets the needs and expectations of patients and the public” (Department of Health 2001a: 17).

Within policy the promotion of a “reporting culture” is based upon strong managerial and medical leadership whereby a new environment and culture should be created to secure open and honest reporting. A key aspect of this is the emphasis on the blame-free and non-punitive qualities of the new system. It is also recognised that there are other barriers to reporting, including a lack of awareness of its function, a confusion about the process of reporting, the burden of workload, the extent of paperwork, fears of retribution, the assumption that it is somebody else's responsibility, and the lack of feedback. It is presumed that managerial effort should

be directed at tackling such barriers and problems in an attempt to promote a culture of reporting. However, beyond outlining these barriers to reporting and the overwhelming need to change organisational culture, there remains no specific detail as to what is meant by cultural change or how it should be implemented, other than referring to raising awareness or demonstrating the utility of incident data. It can only be expected that further documentation will be published in the future to develop the implementation of this policy.

The analysis and management of change

In line with more general forms of risk management, the collection of incident reports is not an end in itself, but provides the organisation with ability to recognise its risks to quality, understand their causes and promote change. *An Organisation with a Memory* (Department of Health 2000) recommended that a “single overall system for analysing and disseminating lessons” should be introduced throughout the NHS. It suggested that mandatory incident reports should be analysed in such a way that the common characteristics across incidents can be appreciated and the underlying factors can be ascertained. Again these changes are to be introduced within the wider context of cultural change, with policy claiming that it is necessary not just to develop a culture of openness and honest, but also a safety culture that embraces learning and is flexible to service change.

Building a Safer NHS for Patients (Department of Health 2001a) further outlined how the analysis of incident data should be implemented within the health service:

“The key to successful learning from adverse events is meaningful analysis at both local and national levels to establish patterns, trends and causal factors” (Department of Health 2001a: 38).

It appears that the role of local hospital leaders is to collect incident reports, ascertain where particular errors are occurring and reoccurring, and based upon the frequency and importance of these patterns focus their efforts to understand the factors that are producing these trends. Here the Human Factors approach becomes pivotal as it is suggested that the philosophy of “root causes analysis” should be applied to uncover the latent errors within the organisational systems that facilitate, exacerbate or fail to protect against these frequent episodes. Despite a lack of specific detail it is suggested that the general features of root causes analysis include:

- Determination of the human and other factors most directly associated with an event, and the process and systems related to its occurrence;
- Analysis of the underlying systems and processes through a series of ‘why’ questions to determine where redesign might reduce risk;
- Identification of risk points and their potential contribution to the event;

- Determination of the potential improvements in process or systems that would tend to decrease the likelihood of such events in the future, or a determination, after analysis, that no such improvement opportunities exist.

(Department of Health 2001a: 39).

Through understanding the patterns of errors and more importantly their underlying causes policy suggests that service providers will be able to target action to avoid future risks. In recognition of high profile problems in the NHS, *Building a Safer NHS for Patients* outlined four areas for “targeted” improvement. These include a reduction to zero of patients being harmed through spinal injections, as with the case at Queen’s Medical Centre, Nottingham (Toft 2001); a reduction by 25% of incidents of harm in obstetrics and gynaecology, by 2005; a reduction of 40% in the number of errors involving prescribed drugs, by 2005; and a reduction to zero of the number of mental health patients committing suicide through hanging from non-collapsible beds or shower curtain rails (Department of Health 2001a: 45). This appears to reflect the current trend for measurement and targeting in the public sector, as managerial action is directed through targets and political accountability secured through performance assessment (Power 1997).

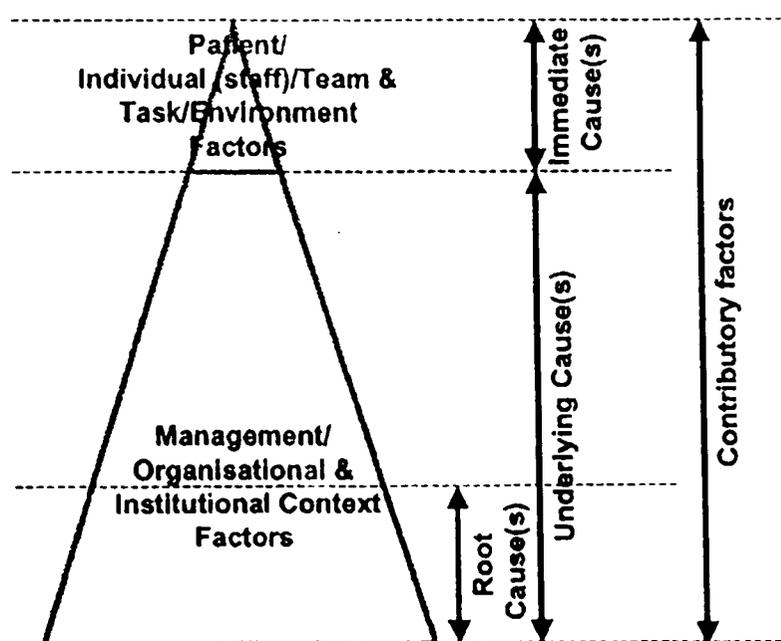
Doing Less Harm (Department of Health 2001b) provides greater clarity about the processes of implementing incident analysis and management. In particular Requirement 4 states that reported incidents should be graded in terms of the actual impact on patient health and the potential future risk to patients and the organisation.

To facilitate analysis the policy proposes a matrix for grading risk. This has two scales, one for “severity” and one for “frequency”, each of which is assessed on a scale from one to four or low to high. The resultant cross-referenced grading is then colour-coded: low risks (green), two medium risks (yellow and orange) and high (red) risks. Through grading reported incidents in this way, it is expected that a designated risk manager can then ascertain the need for further investigations, root cause analysis and national communications. Incidents that are rated as low risk (low severity/low frequency) require minimal further investigation as it is presumed that the risk of further harm is negligible and resources can be better directed elsewhere. Instead this information should be used to develop trend analysis across the organisation and identify patterns that may have underlying organisational or systemic factors. Incidents that are graded yellow, orange and red promote further managerial attention, on the assumption that they represent more serious risks to either the patient or the organisation. Requirement 5 states that where these more risky incidents occur it is necessary to conduct local investigation to ascertain the causes and promote an improvement strategy.

The guidance on ‘root cause’ investigation is explicitly developed from the Human Factors approach. It states that investigations should identify the reasons for substandard performance; identify underlying failures within management systems; make recommendations; and develop improvement strategies. This includes collecting evidence about the events through the use of observations, interviews and documentation; assemble this information and compare it to relevant standards and

guidelines. In terms of implementing “root cause analysis” it is suggested that it is essential that the principles and practices of this approach are understood fully. It defines this process as “a structured investigation that aims to identify the true causes of a problem, and the actions necessary to eliminate it” (Department of Health 2001b: 37). The proposed system of root cause analysis appears to reinforce the ideas of Reason (1999, 2000) and directs the relevant organisational investigator to explore the contribution that management systems have in influencing the “sharp end” of medical work (figure 3.4). In this way, through understanding the underlying, systemic or “upstream” causes of error, the organisation is able to develop and implement new organisational processes and defensive mechanisms that can promote safer working practices.

Figure 3.4. Policy model of root cause analysis (Department of Health 2001b: 39).



Importantly, the guidance also specifies that this process should be co-ordinated by somebody with status and knowledge within the organisation. This is so they will be able to understand work processes, liaise with staff effectively and have the authority to implement change. It also suggests that this should be a senior manager or clinician, although assistance should be sought from the relevant local managers and experts. This raises issues about the expertise required to investigate incident and also the responsibility and authority to make service changes.

Conclusion: a new managerial agenda?

The National System for Learning from Adverse Events and Near Misses is explicitly based upon the theories of error management developed from the Human Factors approach. As such it relies upon a particular formulation of 'error' that on the one hand accounts for individual psychology and behaviour, and on the other hand recognises the underlying patterns of organisational behaviour and processes. As well as reflecting the active and latent distinction, health service research and policy have also identified specific types of health care error in both individual practice and hospital systems. It is also expected that the National System will build upon previous experiences in clinical risk management in order to introduce a new incident reporting system. Here it is presumed that hospital managers and leaders will instigate cultural modification or "engineering" in order to secure reporting. The National System also advocates 'root cause analysis' to enable hospital staff to

understand the latent and systemic causes of error. These three features of policy represent a sequential process: it is expected that only through understanding what constitutes an error will hospital staff be able to report one; whilst it is also presumed that only when professionals appreciate the relevance of reporting and do not regard it as a punitive process will they report; it is only when people report that hospitals will gather the necessary information about error; and it is only when this information is available that the underlying causes can be understood and change promoted.

Although this policy has been formulated to tackle the 'problem' of health service errors, of interest for this study are the implications that the National System may have on medical/managerial relations in the NHS. It represents a significant development within the quality agenda as forms of quality assurance are augmented with psychological theories of error management. Furthermore, as a mechanism for promoting organisational quality, the National System builds upon previous managerial experiences in quality assurance and clinical risk management. The system therefore represents a new approach to the control of quality that is predominantly located within management practice as opposed to medical regulatory practices. This can be demonstrated along the three themes that have been highlighted in this chapter. The first is the concept of error that underpins the National System, which is based upon particular theories that are distinct from medical knowledge; the second is the introduction of a managerial reporting system to monitor lapses in performance and efforts to create a reporting culture; and the

third comprises new structural lines of accountability and responsibility brought about by a managerial-led incident reporting and root causes analysis. Together these represent a particular narrative about error and error management that build upon psychological theory and management practice, but crucially they also diverges from established occupational assumptions and techniques for quality control in health care. The following chapter therefore questions and de-constructs these three components of policy and develops a theoretical context in which the impact of policy on medical/managerial relations can be assessed.

4. De-constructing 'Patient Safety'

Introduction

In the previous chapter it was shown how a new policy framework is being developed in the NHS to address the problem of health service errors. It was also shown how this policy is premised upon a specific theoretical approach to the conceptualisation of error and its management, associated with the Human Factors approach. Furthermore it is argued that while the National System is likely to build upon previous experiences in clinical risk management, it could also represent a new frontier or challenge to medical/managerial relations in the NHS.

This chapter is concerned with unpicking and de-constructing the National System and its theoretical foundations in order to elaborate the potential changes in medical/managerial relations. With reference to various sociological theories it questions the concept of error promoted in policy and the implications for cultural and organisational change. The chapter identifies locations or domains in which medical/managerial relations may be changing.

The chapter argues that rather than conceptualising error in realist theoretical terms it is possible to build appreciate the role of discourses and culture in the social construction of error. In this way the social meaning of error can be interpreted as a

locus of organisational power as different social groups come to define and then control errors. It is also argued that the idea of cultural change can also represent a site for organisational control as management strategies represent ideological or hegemonic devices for securing occupational compliance, whilst equally divergent cultures can be seen as resistant forms of social power. Complementing the cultural dimension it is also argued that structural forms of organisational control are introduced by the National System, in the form of systematic incident reporting, root cause analysis and managed change, which could represent dimensions of control and power in the NHS.

Initially, the chapter proceeds with a review of the sociological literature that relates to the study of error. These reveal the importance of culture, social interactions, and social structures in the social conceptualisation of error. Building on these contributions, theories of risk are used to develop a basis on which the social meaning of error can be empirically studied and the domains of organisational power explored; in particular highlighting a distinction between realist and constructionist approaches. The chapter then moves on to question the cultural and structural forms of control introduced by the National System. Here theories of organisational control are reviewed, from Weberian notions of bureaucracy to more recent accounts of cultural change and post-bureaucratic organisation. As well as illustrating theoretical problems with the prevailing notions of 'error' and 'cultural change', the chapter identifies the sites of power associated with policy that could provide new challenges or constraints on medical professional autonomy and self-regulation.

The concept of error

The term 'error' commonly makes some kind of reference to unexpected or undesired outcome. Two further rudimentary points can also be made about the concept of error. The first is that it can be used to describe both action and inaction. Secondly an error refers to both process and outcome, i.e. an error in action may or may not lead to an error in outcome, but equally, an appropriate action may lead to an error in outcome due to other considerations. However, error remains a highly political, contentious and problematic concept.

The last chapter showed that there certain theories of error have had a major impact upon health policy. It is the contention of this thesis that the bulk of health service research, theory and policy represent a prevailing conceptualisation or theoretical zeitgeist of medical error. This can be found in the way in which the most prominent definitions share several important characteristics (Walshe 2000), and are influenced by psychological and pseudo-scientific theories of error management that conceive error as something technical and tangible. An error is, therefore, seen as a real event that can be monitored and evaluated, whether by researchers or managers.

Surprisingly, there has been comparatively little sociological writing on errors or mistakes. In her work on accidents, Green (1992, 1997) suggests that the study of accidents is marginal to mainstream sociology because it falls outside the

conventional concern for understanding rational behaviour or social facts; accidents, she suggests, are events that remain where no rational or moral explanation can be found. Nevertheless the available sociological studies of errors reveal important features about the social character of mistakes, such as the role of social interaction, knowledge and culture, and therefore provide an important contribution that is often overlooked in the prevailing orthodox of theory and policy.

Sociological theories of error, work and organisations

Initially, it is worth exploring Everett Hughes' (1951) analysis of *Mistakes at work*. He makes the point that all human work runs a chance or risk of mistake. In consequences, he suggests that special social relationships develop in the "reduction and absorption of the risk of failure" (p.322) where social norms and expectations develop to accommodate mistakes when they occur. In terms of these social relationships he makes particular reference to those that develop between lay groups and specialised groups; where the lay person delegates the risk of mistake to the specialist in order to relieve themselves of risk and responsibility. This is based on the assumption that the specialist by the nature of their experience will run less of a risk of error. A simple example could be with home improvements and the different absorption of risk through either DIY or hiring a specialist. In such an example, if work is completed badly then the DIYist has nobody to blame other than themselves, whereas with the specialist it is expected that the work will meet agreed standards with certain financial and legal guarantees.

The social relationships surrounding knowledge and expertise are therefore important considerations for the absorption of the risk of error. Not only do these structure the relationship between the lay and the specialist, but also implicitly shape the definition of mistake. Hughes suggests that different social groups will have variable expectations of acceptable and unacceptable work. When the lay delegate risk to an expert, mistakes are likely to be seen more severely, than if the risk had been run by the lay person. The specialist, however, may argue that it is only they that have the skills to perform the work and equally only they have the knowledge to be able to define a mistake. Hughes suggests that this leads to specialists developing symbolic rituals to facilitate the identification of mistakes and also to contain social exposure; while they also develop collective rationales and defence mechanisms to control their own psychological, moral and financial risks.

Hughes' work shows how the meaning of error is negotiated within particular social relationship, and provides a useful contribution for a sociological approach to the study of medical errors. In the first instance, he shows that error, and the risk of an error, can be located within social relationships that are characterised by specialised knowledge. In the case of health care, doctors represent specialists who offer to take on the duty of providing care. From this perspective it is possible to see how definitions of mistake can be contested and open to different interpretations. The lay interpretation may not benefit from specialised medical knowledge (Calnan 1987), while medical professionals can argue that it is only they who can define the quality

of their work. As shown previously, this is a central tenet of traditional sociological theories on medical regulation (Freidson 1970). Interestingly however, Hughes (1951) acknowledges that for health care, the definition of mistake remains problematic because “health is, after all, a relative matter” (p.323).

A more recent contribution to the sociology of errors, mistakes and disasters has been made by Diane Vaughan (1999). Her work has developed from studies of the sociology of deviance and organisational theories of high-risk industry and technology (Perrow 1984). She argues that “the sociology of mistakes is in its infancy” (Vaughan 1999: 284) and in consequence there is a real conceptual and theoretical void for the sociological analysis of organisational errors and mistakes. Her examination of disasters, most notably the Challenger Shuttle disaster, follows from Merton’s (1970) work on bureaucratic dysfunction. Like Parsons (1951), Vaughan suggests that formal organisations seek to attain a degree of conformity in ‘goal-driven’ social action. In an attempt to develop a new conceptual language and framework, she proposes that “organisational deviance” occurs when this conformity is not achieved, and such situations are predisposed to result in organisational “dark sides”. These she defines as ‘mistakes’, ‘misconduct’ or ‘disasters’ with the appropriate classification depending on the normative standards that have been violated, the groups that have been harmed, the extent of the harm, and the social response to the harm. With this new conceptual language she advances an explanatory model of error that relates cognition and individual action, to the role of teams, system process, organisational structures and the wider environment or

structures of society. Importantly, rather than focussing on individual psychology she provides a framework to account for the social context in which a dysfunction occurs. Although this bears similarities with prevailing theory, it is fair to argue that Vaughan's work identifies the *social factors* as opposed to the *human factors* that relate to error.

Although recognition is given to the work of Reason (1997), West (2000) adopts Vaughan's model of error in her study of health care errors, in which she identifies four social and cultural features of health service organisation that can promote organisation deviance or "dark sides". Firstly, the 'division of labour' and rigid demarcations between occupational roles, expertise and responsibility can run counter to the desired objectives of action. Secondly, the 'homophilic' character of health care leads to work groups communicating predominantly with like-minded peers, resulting in fewer challenges to working practices and enabling problematic activities to go undetected. Thirdly, problems in the delivery of health care are not adequately addressed because there tends to be a 'diffusion of responsibility' where problems are seen as somebody else's responsibility. Finally, there can be 'goal displacement' where multiple and competing priorities can relocate the focus of action towards activities that may be more prone to mistake or less concerned with quality.

From this perspective it can be seen that traditional sociological theories, such as those associated with Parson (1970) and Merton (1970) can indeed be developed

within a more contemporary framework. The significance of these works here is two-fold. The first is to advance a sociological theory of errors, the second with showing that the prevailing theories of social psychological may neglect important social and cultural factors that are relevant to understanding errors.

Health care organisations and iatrogenesis

A profound contribution to the study of medical error is Illich's (1976) prominent attack on the medical profession. Here medical errors are analysed in the wider context of medical professionalism and the institutionalisation of medical knowledge. His main argument is that medicine has been largely ineffective in its contribution to the decline of infectious diseases (see also McKeown 1979); furthermore because of the social dependence on this ineffective knowledge many of the health problems facing contemporary society are medically produced. He argues that the level and character of *iatrogenic* or "doctor-inflicted injuries" within health care is alarming: stemming from the drug dependencies and side-effects, to mistakes in the delivery of care, to unnecessary and dangerous procedures.

"Among the murderous institutional torts, only modern malnutrition injures more people than iatrogenic disease in its various manifestations" (Illich 1976: 26).

Illich suggests that medical errors should be checked or controlled through external mechanisms, such as litigation proceeding, but he argues that medical professionals have the ability to define and re-define the threatening qualities of their work, through re-conceptualising medical faults as “random human error” or “system breakdown” (p.30). In consequence, doctors have the ability to deflect blame and responsibility. Illich provides an account of medical error that reveals the importance of institutionalised knowledge and the capacity of doctors to redefine problems in way that deflects responsibility. It is the acceptance of medical expertise throughout society that ensures any negative features of medicine are overlooked and de-problematized.

The social construction and control of surgical errors

One of the most important contributions to the sociological study of medical errors has been made by Bosk (1979). His work is immensely important in this thesis, not only does it represent a substantial exploration of medical errors, but it also highlights the socially contingent, negotiated and constructed character of error, particularly on the “shop floor”. His ethnographic research explored how surgical trainees and their supervisors (attendings) recognised, discussed and constructed a shared meaning of error through the course of their work and education. He also found that the different constructions or ‘types’ of error correlated to specific social control and socialisation rituals in surgical training, demonstrating the link between

social meaning and action. These types included 'technical', 'judgement' and 'normative' errors.

Technical errors involve mistakes in performance related to the technical procedures of delivering health care; commonly associated with the complex nature of medical training and not abiding by the established practices of surgery. *Judgement errors* centre on decision-making processes, where the trainee decides upon what is otherwise considered the wrong course of action or misdiagnosis. These mistakes are characterised by incomplete knowledge and the "trial and error" character of surgical training associated with the acquiring expertise and experience. *Normative errors* however, centre on individual personality characteristics and inappropriate behaviour, such as poor bedside manner or failing to communicate with patients and peers.

An important feature of Bosk's work was to understand how these different constructs of error function in the surgical training process. Specifically, how social control rituals and practices were premised on the social meaning of error negotiated and established between attendings and their trainees. Generally, he found that 'judgement' and 'technical' mistakes served as valuable lessons within the training process. They provided an opportunity to assess the skills and abilities of the trainee; identifying areas for extra training and improvement. Through case conferences and ward rounds, these were in essence "forgiven" but "remembered". Importantly, however, if a clinician had acted inappropriately with a client or had failed to draw

attention to a mistake then this 'normative' error elicited a social response that was not centred on the learning process, but symbolised something negative about the character of the trainee that could potentially damage their relationship with the supervisor. The philosophy behind medical training was to encourage trainees to gain clinical exposure without excessive supervision and as such mistakes become a "regrettable but inevitable part of the baptism under fire that is house officer training" (Bosk 1986: 466). The construction of errors was therefore central to the learning processes of surgery providing a basis for the development and maintenance of social control rituals that serve to protect professional standards and boundaries.

Not only does Bosk's research reveal the negotiated and constructed social realm of error, but it also illustrated more about the informal regulatory features of medical work. Such a perspective can also be seen in Arluke's (1977) discussion of symbolic control rituals in surgical work, in particular the role of the surgical 'death rounds' (the review of fatalities in surgery) in maintaining professional status. Arluke found that these social processes served to normalise mistakes and maintain the authority of medical professionalism. Through his ethnographic research he found that surgeons talked about patient mortality in a way that enabled the social meaning of sub-standard surgical performance to be reconstructed. Specifically, surgeons tended to make sense of death by de-emphasising the importance of the fatality and its relationship with surgical performance, and instead the social processes centred on

the uniqueness of the disease, learning and containment. In this way issues of professional competence were substituted for physiological complexity.

These ethnographic studies demonstrate that the meaning of error is variable, unstable and constructed through localised social processes. The concept of error can therefore be modified in line with particular cultural and professional assumptions and norms to facilitate social practices and control rituals.

How doctors understand mistakes

Another contribution to the study of medical errors has been made through Rosenthal's (1995, 1999) study of "problem doctors". Developing the works of Bosk (1979) and Freidson (1970) she identifies several themes that characterise the medical understanding of error that are related to problems in medical knowledge and the demands of professionalism.

Rosenthal (1995, 1999) reports the doctors frequently find it difficult to define the boundaries between avoidable and unavoidable mistakes in their work, and generally medical practice was characterised as uncertainty and risk-laden. In consequence, she found that when doctors talked about mistakes there was a tendency to emphasise the complexity and "permanent uncertainty" of medical work, which served to explain and even mitigate questionable performance. Given this uncertainty, it was also found that doctors accepted a certain level of mistakes in

their work, which she characterises as “necessary fallibility”, or the acceptance of imperfection. To accommodate the inevitability of error Rosenthal found that the doctors exhibited a strong bond of collegiality and “shared vulnerability”. This provided them with a high degree of empathy, understanding and togetherness that was important for dealing with the psychological and professional costs of mistakes. Like Bosk it was found that such cultural characteristics were vital in the professional control of mistakes underpinning the way doctors expressed a “strong impulse” (p.21) to be “understanding” and “forgive” whilst avoiding confrontation. It could be interpreted that this tacit norm of “non-criticism” not only serves to reinforce occupational closure, but it also reinforces feelings of secrecy and conspiracy that have undermined the trust in the profession. Nevertheless, it was also found that the capacity for collegial acceptance had its boundaries and “egregious errors” associated with gross misconduct, consistent misadventure or the inability to learn from mistakes, were not readily accepted by peers. Rosenthal (1995) suggests that underlying all of these findings is the assumption that only medical professionals can assess medical mistakes. The exclusivity of medical knowledge and experience, therefore, ensures that non-professionals do not have the legitimacy to evaluate medical performance reinforcing the notion of self-regulation (Freidson 1970).

Rosenthal’s work has made an important contribution to the study of medical errors highlighting a range of important socio-cultural facets of medical work that characterise the way doctors understand mistakes. These norms and practices serve

to accommodate and even mitigate sub-standard performance, in ways that have been criticised by the like of the Bristol Inquiry as they function to conceal third-party exposure (Kennedy 2002).

Medical errors and medical uncertainty

Central to Rosenthal's work (1995, 1999) is the recognition and management of uncertainty in medical practice and highlights the work of René Fox (1975, 2000). Fox (1975, 2000) questions the supposed scientific certainty of medical knowledge and suggests that it is characterised by "gaps", inconsistencies and uncertainties. These uncertainties are pivotal to the issue of error (Hughes 1951), as important cultural and professional strategies develop to accommodate these gaps and also control the errors that also arise from them.

Fox describes three types of uncertainty that characterise medical work including the difficulty in managing the vast knowledge and skills of modern medicine; the uncertainties that stem from gaps and inconsistencies in scientific knowledge; and the problems associated with individuals variations in skill and ability. She shows that particular socialisation processes have developed in medical training and work to facilitate the control of these uncertainties, for example, the intellectualisation of knowledge and uncertainty, particularly through defining medical knowledge problems in scientific terms, and a detached attitude towards uncertainty, whereby it is regarded as a "constant presence" but remains shrouded in silence. Fox (2000) has

more recently “revisited” her work in the context of contemporary medical practice suggesting that changes in technology and scientific knowledge have exacerbated the uncertainties of medical knowledge and practice.

Fox’s (1957) work highlights an important relationship between uncertainty and the social practices that strive to accommodate uncertainty. In terms of medical errors this work has much to offer not just in explaining how errors may arise through the “gaps” in knowledge and experience, but also in how medicine is characterised by social processes that accommodate these uncertainties and their consequences (Rosenthal 1995). It may be the case that this uncertainty not only provides the source of mistake but importantly it shapes the interpretation and conceptualisation of error. For example, if uncertainty characterises the origin of a mistake it may also be the case that uncertainty surrounds how this mistake is interpreted as efforts are made to reconcile this uncertainty whilst mitigating any negativity.

Uncertainty, risk and trust

Related to the concepts of uncertainty and error is the important sociological topic of risk. As Hughes (1951) points out all work runs the ‘chance’ or ‘risk’ of mistake. It can be argued, therefore, that the meaning of ‘error’ relates to an evaluation of action, inaction and/or outcome, to which some form of chance can also be attached. Furthermore, the uncertainties associated with these actions are also characterised by

the determination of chance or risk. Luhmann (1991) argues that the concept of risk is a contemporary semantic for rationalising uncertainties. As such, error, risk and uncertainty constitute a conceptual triangle, each can be analysed as a distinct social subject but they are implicitly related. The study of risk can therefore contribute to the sociological study of error.

The study of risk has a long anthropological history and has recently gained renewed attention, being considered a central sociological concept for the study of ecological, technological and social uncertainties (Beck 1991, Giddens 1990, Luhmann 1991). Of importance here is the relationship between risk, uncertainty and error. Luhmann (1991) suggests that historically different rationalities have ordered the social understanding and response to uncertainties and threats. In the modern era he identified the language of scientific knowledge as informing the evaluation of uncertainties, specifically through the calculation of 'risks'; whereas historically religious and magical superstitions have guided these social meanings and responses. For Luhmann (1991) the social semantic of uncertainty has, therefore, changed to the assessment and evaluation of risks, typical of ecological and technological uncertainties; in a similar way that Beck (1992) highlights the transition from 'hazard' to 'risk' (discussed below).

Luhmann's (1991) analysis of uncertainty and risk is premised on a Parsonian systems approach, where society is characterised as interconnected actors within a bounded system or network. Interestingly his work highlights a distinction between

'risks' and 'dangers', where risks arise from the actions and interactions within the system and dangers are located in the external environment. In this way rationalities of risk are expressed through the decision-making and communication processes of the social system where there is an evaluation of uncertainty. For Luhmann an important consideration is the distinction between the decision-makers and those effected by decisions. Luhmann argues that decision-makers typically have the knowledge, expertise and capacity to recognise uncertainties through specific and often expert rationalities of risk, such as medical knowledge, whereas the non-decision-makers without the benefit of this rationality must have confidence in the assessment of the decision-maker. Confidence or trust is therefore a central feature of social relationships that are concerned with the recognition and ordering of uncertainty. Specifically, for the modern era the language of risk represents the prevailing rationality for decision-making and trust (Luhmann 1991).

This concern with trust is also found in Giddens' (1990) work on late modernity and risk. He suggests that trust is a central feature of contemporary society exhibited through a range of social practices and relationships, such as knowledge, symbols, communication and intimacy. For Giddens trust is imperative for accommodating uncertainty and providing individuals with 'ontological security'. He suggests that trust is pivotal where there are contingent outcomes and in late modernity this implicitly involves an evaluation of risk. This can occur between people, organisations, institutions or ideas, but importantly it serves as the basis of

protection from threats and uncertainties (the structural approach to risk is discussed shortly).

Although the notion of trust has implicit common sense meaning, it remains a problematic concept that has been theorised from various perspectives (Hollis 1998). Underlying any notion of trust are social relations based on uncertainty (Gambetta 1988) or risk (Luhmann 1991), where there is ignorance or unpredictability in the consequence of action. From an economics perspective trust and risk are often discussed in terms of self-interested rational action associated with weighing up the probabilities of exchange (Jaeger et al 2000). From a more sociological approach trust is not necessarily conceptualised in terms of self-interested calculations but is reflective of socialisation processes, group membership or cultural norms that encourage trust or recognise trust as a moral virtue or value (Gambetta 1988). For Luhmann (1991) trust is formulated within social systems characterised by uncertainty.

It can be argued that 'risk' and 'trust' are implicit features of medical professionalism. The work of Luhmann (1991) and Giddens (1990) can be used to explore how the risks or uncertainties associated with health and medicine are couched within a particular social system and structure. Specifically, patients must have the confidence or trust in their doctor to be able to understand and rationalise their health uncertainties. Simultaneously trust exists outside the doctor-patient relationship and is found at social, cultural and political levels, for example as

shown earlier the medical regulatory framework or triangle (Salter 2000) is premised on such trust, but it has also been argued that this trust is being eroded by recent health service scandals (Irvine 1999). The relationship between uncertainty, risk and trust therefore highlights important social relationships central to the control of health service quality. It could be suggested that error, risk and uncertainty are united by the concept of trust which sits at the heart of this triangle. This illustrates the contribution of theories of risk to the study of error.

Errors and Risk: finding a social framework of error

Although sociological research has revealed some of the 'social factors' underpinning the cause of error (Vaughan 1999) and also the negotiated and constructed dimensions of error (Hughes 1951, Bosk 1979), there has been little explicit attempt to develop or articulate a social framework for the study of error. Given the conceptual triangle between uncertainty, error and risk, it is worth considering the theories and epistemologies of risk in greater detail in order to advance a coherent theoretical framework for this research. In particular consideration is given to what Lupton (1999) terms a "continuum of epistemological approaches" for the study of risk.

Lupton's (1999) first epistemological approach to risk is described as the "realist". From this perspective risks are regarded as real ontological events that can be objectively and scientifically understood. The epistemological approach therefore

aims to 'truthfully' reflect the chance and outcomes of the risk and is commonly associated with scientific and technical approaches (Luhmann 1991), such as engineering and management. From this perspective the likelihood of risk can be assessed (as a statistical calculation) and given a probability, to which particular strategies can be developed to accommodate or control this risk. Tansey and O'Riordan (1999) demonstrate this technical approach to risk (R) calculation, suggesting that it involves ascertaining the magnitude (M) and the probability (P) of exposure and developing an appropriate formula, e.g. $R=PM$. In terms of the conceptualisation of error this approach would propose that errors are indeed 'real' and can be objectively and scientifically evaluated, calculated and then controlled. Importantly, there is little regard for the social or cultural context in which risks are understood, politicised or controlled.

Lupton's (1999) terms her second epistemological approach the "weak constructionist" and suggests that it is associated with sociological, cultural and anthropological theories. Here it is recognised that risks may possess objective and real properties, but it is the way in which these risks are interpreted and understood that is important. From anthropological and socio-cultural perspectives attention has been directed at how social groups come to define risk in relation to the contradictions, confusions and norms of social existence. The anthropological work of Douglas (1966) explored the rituals of pollution and cleanliness in relation to the body where risks were interpreted and controlled through particular cultural practices. More recently she has explored the cultural context of technological

change and highlighted the political character of risks in Western society (Douglas and Wildavsky 1982). Her work has been particularly critical of individualised, psychological or technical theories that focus on cognition. Her work demonstrates that the meaning of risk is frequently the product of societal attempts to secure and manage order in changing social circumstances, suggesting that risks are culturally relative and reflect social, cultural and political notions of responsibility and blame (Douglas 1992). Therefore risks may be entirely “real”, but the social meaning is developed within the cultural context.

Lupton identifies a second “weak constructionist” position which is associated with the more recent concern with modernity and global change. This epistemological approach recognises that risks may indeed be real, but the prominence of risk in contemporary society reflects particular facets and contradictions of modernity. Luhmann (1991), Beck (1992) and Giddens (1990) have articulated a new sociological interest in theories of risk, particular within the context of late modernity. Like Luhmann (1991), Beck (1992) suggests that modernity is characterised by global parameters of ‘risk distribution’ and the management of risks (Elliot 2002). For instance, the hazards and uncertainties of science, socio-economic change and environmental damage have come to characterise social organisation. Within ‘risk society’ increasing significance is accorded to rational, scientific and authoritative expertise that lay claim to the social processes of understanding and controlling risk. Paradoxically, this expertise is itself the focus of contest and risk as alternate ideas about risk develop and question the basis of social meaning leading to

greater uncertainty and risk. Crucially, Beck (1994) sees the social and individual preoccupation with risk as reflecting the centrality of instrumental rationality in modern society: hence society is concerned with understanding and managing risks rather than mere hazards.

Lupton's (1999) third approach is termed the "strong constructionist" and is closely associated with the ideas of Foucault, in particular the relationship between knowledge, social power, regulation and governmentality. To summarise it is suggested that a characteristic of modern society is surveillance and regulation. This can be achieved through various mechanisms but the most prominent and insidious is the role of knowledge that shapes social meaning and action, either directly or through "technologies of the self" (Foucault 1970, 1980, 1991). From this perspective the social meaning of risk is constructed through particular social practices that are reflective of and contributing to social discourses. Hence risk is regarded as a constructed phenomenon that conveys particular ideas and assumptions, and provides a basis of social control. Within this framework the idea of governmentality has been developed to understand the social control of risks (Lupton 1999, 2002). It is shown how ideas of "dangerousness" have been transmuted to risk, where potentially dangerous activities or people are conceptualised as a series of risk factors (Castel 1991, Dean 1999, Turner 1997). Within this approach social discourses and expert knowledge are pivotal in the process of defining and regulating risks, for example expert knowledge about smoking can be used to identify "at risk" people. The social constructionist

epistemology therefore suggests that the way in which risks are understood is reflective of particular discourses; and risks are social constructions as opposed to objective phenomena. Furthermore, claims to the “truth” or “objectivity” of risk are also social constructs that reflect discourses and political attempts to define risky situations and regulate social action (Gabe 1995).

Lutpon’s (1999) discussion reveals that there are a range of different approaches to the study and control of risks. The four perspectives offered could be generally reconfigured as two broadly different philosophical perspectives: the ‘technical’ and the ‘social’ (Tansey and O’Riordan 1999), or the realist and the constructionist. The realist is primarily concerned with advancing an objective concept that is open to technical calculation and control; while the constructionist approach suggests that interpretation and meaning is shaped by social interaction, negotiation, culture and discourse, and provides a basis for social order and control. From the constructionist perspective any realist approach would also be seen as constructed from particular bodies of knowledge and constellations of ideas or practices. It is the way in which these constructs compete to define the social world that is of importance because they are also competing to control the social world (Fuller 1999, Turner 1999).

A cultural and discursive approach to error

From the above discussion of error, uncertainty and risk it is possible to propose a sociological approach to error that advances existing sociological research and diverges from the realist zeitgeist of psychological theory and health policy. Building on Lupton's (1999) discussion of epidemiological approaches it is possible to incorporate the works of Bosk (1979), Fox (1975), Rosenthal (1995) and Hughes (1951) within the context of theories developed by Luhmann (1991), Beck (1992) and especially Douglas (1966) and Foucault (1980). In this way a social framework can be articulated to guide further research on the socio-cultural and discursive dimensions of error

This alternate sociological approach seeks to understand the socio-cultural dimensions of perception, interpretation and meaning. Rather than attempting to uncover or provide a 'real' account of error that portrays ontological stability, this socio-cultural perspective proposes that the meaning of error is unstable, subjective and negotiated. Douglas' (1985) suggests that prevailing psychology approaches to risk have lead to a distinction between the 'expert' and 'lay' in the capacity to perceive and calculate the 'real' attributes of risks. Conversely she argues that these psychological theories have no appreciation of the social influences that shape perception, in particular the "culturally learned assumptions and weightings" (Douglas 1992: 58) that inform individual and group perception and interpretation. From this perspective it can be argued that the prevailing psychological theories of error and error management are indeed reflective of a realist approach that seeks to

calculate and control errors in a similar fashion to orthodox risk management. Furthermore, it could be the case that policy also establishes a distinction between the expert (those in possession of the knowledge and skills associated with error management) and the lay (those with other assumptions about error). However, by highlighting the social and cultural dimension of risks Douglas (1985) makes reference to the shared conventions, expectations, and obligations that underpin the cultural relativity in perception, interpretation and meaning. Furthermore, by considering these social issues she locates risk within broader political concerns with responsibility and blame as it is used as a tool for allocating and mitigating accountability (Douglas 1992). By adapting this approach to medical error, it therefore becomes necessary to appreciate the cultural differences between social groups in the perception and interpretation of errors: to recognise those cultural categories that are central in the processes of developing the meaning of error.

To augment this cultural perspective consideration is also given to the Foucauldian notions of risk and how they may be adapted for the study of error. Here attention is directed at the relationship between the subjective interpretations of error, the cultural field within which these are made and social discourses and knowledge. The work of Foucault is typically regarded as concerned with understanding the dynamics of power and control within society (Armstrong 1997, Fox 1997). Importantly, through his various studies of madness, medical knowledge, crime and punishment, sexuality, and knowledge/power, Foucault (1970, 1973, 1980, 1991, 1998) has been concerned to develop a theory of power that reveals the relationship

between constellations of ideas, assumptions, communications and social power. Like Nietzsche (1996), Foucault has attempted to show the genealogy of ideas and knowledge, to understand how they have developed within particular social, cultural and historical periods and served to influence the meaning given to the social world and the basis of social power. In this way particular discourses serve as a mechanism of power, providing the language and theories in which the social world is interpreted. For example, medical knowledge shapes the way in which the body and illness are given social meaning, and in consequence, how they are surveyed and controlled, through the medical “gaze” (Foucault 1973). Building on his theory of knowledge/power Foucault (1991) develops a notion of control or regulation termed governmentality. Here knowledge underpins the basis by which control is secured as individuals internalise ideas that inform their perception and behaviour. In modern society this is a specific strategy for power that goes beyond external surveillance and control to internalised self-control in accordance with prevailing ideas and discourses.

“There is no need for arms, physical violence, material constraints. Just a gaze. An inspecting gaze, a gaze which each individual under its weight will end by interiorising to the point that he is his (sic) own overseer, each individual thus exercising this surveillance over, and against, himself.” (Foucault 1980: 155).

Such an approach has been used to show how particular notions of risk can serve to define and control forms of 'risky' behaviour (Lupton 1999). When adapted to the study of errors it enables the researcher to look at the relationship between knowledge and the meaning of error, and the forms of social regulation that these discourses promote. It is therefore critical of the realist orthodoxy found in prevailing theory and policy and crucially enables these ideas to be interpreted as mechanisms for social control. Equally, it enables the appreciation of alternate ideas about error and the role that other discourses can have in countervailing those put forward in policy.

Summary: discourses on error and power

Bosk (1986) has been critical of universal definitions of error, suggesting that there are two limitations on the search for ontological certainty. The first is associated with the inherent uncertainty of medical knowledge and practice that makes it difficult for a doctor to be absolutely certain about which procedures should and should not be performed. The second difficulty is associated with the complexity of the care process where multiple responsibilities make it difficult to distinguish an error from the host of other risks that the patient may experience. In consideration of medical uncertainty and complexity, Bosk (1986) questions whether a single operational definition of medical error could be found that could encompass all the various issues and in consequence he advocates a socially negotiated approach to error.

Despite these theoretical reservations, health policies have attempted to develop an objective and realist notion of error that is premised on prevailing psychological theories and technical parameters of error and medical work. It is possible to argue that such definitions of error are epistemologically realist: they implicitly claim that an error has stable characteristics that can be objectively observed, truthfully reflected and rationally controlled. Conversely, taking into account a more constructionist perspective it is possible to conceptualise error as a social construct that is reflective of particular social and cultural practices and knowledge. The sociological contribution to error offers a radically different perspective to those found in psychological, management and pseudo-scientific theory. In particular the relationship between uncertain knowledge and practice (Fox 1975), the relationships between practitioners (Bosk 1979, Rosenthal 1995) and the desire to maintain professional standards in the face of error (Arluke 1977, Rosenthal 1995) highlight the important social dimension to error. From this perspective, error is not conceptualised in universal and objective terms, instead the meaning of error is implicitly seen as contingent and derived from the social setting and the influences of wider knowledge and assumptions. In essence the study of error moves beyond a concern with 'human' or even 'social' *factors* and engages with the social *fictions* that characterise the social meaning of error.

By theorising error in this way, it can be argued that the prevailing discourse found in policy and theory represent a particular strategy for the control of errors that

implicitly includes the managerial control of medical errors. Crucially, it represents a new 'expertise' for the control of medical quality that originates outside medical practice. This discourse could therefore constitute a major development in medical/managerial relations as it promotes new systems for the analysis and control of medical practice. These may be associated with new managerial strategies of control, where knowledge about error enables managers to engage in the technical aspects on medical practice and regulation. Alternatively, the implementation of policy may represent forms of governmentality as doctors strive to maintain occupational control by adopting the conceptual language of policy and therefore conforming to the assumptions of Human Factors. However, it is necessary not to overlook the divergent constructions of error by others working in the health service, especially doctors. Drawing on and contributing to established medical discourses, the medical interpretation of error may be significantly different from prevailing theory and policy and could serve to maintain boundaries of medical expertise and occupational status (Freidson 1970). The construction of error is therefore a potential site for organisational and occupational power.

Structures and cultures of organisational control

In the previous chapter it was shown how the implementation of the National System involves the introduction of potentially new organisational systems for incident reporting and the management of errors. Furthermore it was shown that both theory and policy advocate the manipulation of organisational culture in order

to secure reporting and compliance to change. While the previous section in this chapter explored the conceptual basis of error, attention now turns to the theories of organisational control and culture, exploring the effect that patient safety policies could have on medical/managerial relations in the health service.

This section provides a review of prominent organisational theories and shows their relevance to the 'hospital', 'medical work' and importantly the new policy context. Unlike the sociology of error, organisational theories are well-developed and reflect many of the theoretical developments and cleavages in the social sciences, in particular the shift from positivist accounts of structural control, to interactionist theories that emphasise the more social and cultural basis of the work order (Morgan et al 1985). These different perspectives have been interpreted as competing techniques for securing organisational control, with hard bureaucratic rules structures being superseded by more soft cultural modification strategies for acquiring workplace compliance (Willmott 1993). It is argued that both of these forms of organisational control are evident in the proposed National System and offer challenges to established patterns of medical work. Within this discussion it is also shown how the notion of cultural change espoused in policy is also open to considerable debate.

Bureaucratic structures

It is customary to commence a discussion of bureaucratic structures with reference to Weber's (1970, 1992) theory of bureaucracy which has made a lasting impression of the sociology of organisations. An important feature of Weber's work is the basis of social authority and legitimacy, where 'power' is at its most basic the ability of actor *A* to influence the behaviour of actor *B*. For modern society he believed that the legitimacy of this power is typically secured through "rational-legal" forms of authority (as opposed to 'charismatic' or 'traditional'). This legitimacy is based on applying the appropriate means to a given end (*zweckrational*) and also behaviour that strives to realise some "absolute value" (*wertrational*) (Weber 1992: 28). He argued that the co-ordination of this rational-legal authority was most commonly associated with bureaucratic forms of social organisation, as a social device to 'get things done' efficiently and rationally.

For Weber, bureaucracy represented a particular form of social organisation and officialdom, typically associated with clear internal structures of 'roles and rules'. Bureaucracy can be described as a system with fixed areas of responsibility that are governed by legitimate regulations, where the authority to give commands is ordered through a hierarchy of super- and sub-ordination; where those holding organisational positions have the necessary level of expertise and experience; and the management of the organisation is based on the documentation of action through "files" which constitute the "bureau" or the "office". Organisational control and compliance is

therefore secured, maintained and recorded through the legitimate structures of formal rules and responsibilities. Weber (1970) believed that bureaucracy is technically superior to other forms of organisation because of its precision, speed and un-ambiguity, secured through the thorough co-ordination of social action, documented knowledge and the reduction of friction.

These ideas have had a major impact on organisational and management theory (Parker 2000). One aspect of bureaucracy and organisational theory that has received considerable attention is concerned with the appropriate role of management hierarchies and the levels of super- and sub-ordination (Chandler 1990). One of the most infamous ways in which these ideas have been developed is through “scientific management” or Taylorism, which is often associated with the Fordist manufacturing production (Allen 1992). Taylor (1970) was particularly concerned with the effective organisation, control and application of labour. Of importance to his work is the idea that operational managers should “scientifically” order the workforce through gathering the knowledge relevant to production, classify this information and reduce it to clear procedural tasks and rules that direct the workforce. He suggested that within the division of labour “the work of every man (sic) [should be] fully planned out by management”. Parker (2000) believes that implicit within this theory is the belief that individuals are self-interested, and in order to secure their compliance it is necessary to systematically order work. Here organisational control is secured through the rigid planning and allocation of roles

and responsibilities, developing those ideals of bureaucracy expressed by Weber (1970).

Despite the appeal of such structural and positivistic accounts of social organisation there remain several problems with the application of bureaucracy. Merton (1970) pointed out the “dysfunctional” properties of bureaucracy, in particular the “trained inflexibility” of organisational actors that inhibits change and the tendency towards “goal displacement” amongst the workforce whereby ‘following the rules’ overrides the task. Moreover, Burns and Stalker (1966) provide an important qualification to the theory of bureaucracy through showing the relationship between organisational structure, task and innovation. Their analysis focussed on particular organisational dimensions, such as specialization, standardization, conflict resolution and authority. They showed that “organic” organisational systems with flexible, flat and blurred structures were more effective for nurturing and implementing innovation as compared to the rigid bureaucratic “mechanistic” model. Such criticism has highlighted that bureaucracy is not necessarily the most effective or superior model of social organisation, which is especially important given wider socio-economic changes over the last 30 years.

Despite Weber’s account of bureaucracy and its criticisms, it is important not to overlook the centrality of culture and meaning within the works of Weber (1992). Parker (2000) suggests his ideas contribute to both debates about organisational structures and cultures, especially with his methodology of *verstehen*. In his

discussion of rule conformity Weber (1992) highlights the importance of “meaning” that underpins social action and highlights how rules can be “imprinted” and normalised with social action. Social action is therefore reflective of formal legitimate rules, but also the meanings and values of the individual within the organisation. Here he talks of “social rule-following” (1992: 106), highlighting the importance of the perceived validity of action that implicitly refers to the shared meanings or cultures surrounding social action. In consequence, Weber’s account of organisational control goes beyond the rational-legal structures of bureaucracy to include the cultural values that become established within patterns of social meaning and action.

Etzioni (1969, 1970) has developed these ideas through his theory of organisational compliance. Here he puts forward a theory of control that accounts for types of authority but also the character of social involvement. From these two dimensions he suggests that there are three main forms of compliance. The first is “coercive compliance” which relies on the role of physical sanctions and rewards in the pursuit of control. The second is “utilitarian compliance” and is associated with calculated remuneration to secure workforce commitment. Finally, “normative compliance” relies upon the acceptance and commitment to organisational symbols and rituals that are perceived as “good”.

It can be seen therefore that Weber’s account of bureaucracy deals with the broad structures of social organisation, but it also implicitly refers to the values and

cultures of organisational life. In consequence Parker (2000) has suggested that much of the literature on corporate management is debating with the “ghost” of Weber, because he refers to both “hard” and “soft” (Salaman 1992) forms of organisational control.

Interactional theories and post-bureaucratic ‘culture management’

In contrast to the rigid management of organisational roles and responsibilities, alternate theories of organisational work have been developed that emphasise the normative basis of order. The ‘interactionist’ approach emphasises the shared and accepted meanings that enable individuals to make sense of the work place (Morgan et al 1985). For example, Strauss (1963) highlighted the negotiated order of the workplace where formal rules were regarded as inappropriate and therefore local bargains and negotiations characterised the basis of social organisation. These theories have been applied to account for the normative and ideological order of the workplace, particular through forms of ‘culture management’.

Of interest here is the development of “soft” bureaucratic systems and the rise of culturalism within management theory (Parker 2000). The Human Relations approach (Roethlisberger and Dickson 1970) provides a theory of organisational life that goes beyond the structural bureaucratic model by highlighting the informal character of organisations. Here attention was directed at the social relationships, interactions, norms, values and sentiments that give rise to and reinforce workplace

order. Developing this perspective McGregor (1990) articulated his two pronged theory of managerial control. Fundamentally he argues that people do not like work, and in to secure their effective labour it is necessary to coerce, direct and control workers. For McGregor this managerial control can be secured through two different accounts of human motivation. *Theory X* is associated with traditional managerial and bureaucratic control strategies, which he claims lacks an appreciation of human nature. Alternatively *Theory Y* advocated fostering self-control and gaining the normative commitment of staff, aligning organisational goals to those of the workforce and encouraging individuals to develop their skills and innovate within their roles. Building on the Human Relations approach, McGregor's work highlights the social and human character of organisational labour, as opposed to role and rule structures.

Such theories have had a longstanding influence on management theory, providing an alternative to structural techniques of control and authority. The importance of these theories has become more pronounced over the last 30 years, typically associated with socio-economic changes and the retreat from bureaucracy. It has been well-documented, theorised and discussed how advanced industrial societies have moved to a post-industrial, post-Fordist, post-modern or late-modern era (Allen 1990, Beck 1992, Bell 1973, Giddens 1990). Society is theoretically characterised by radically different social, political, organisational and consumptive structures with reflexive individual identities and lifestyles. Important within these changes is the decline in rigid hierarchical organisational structures and the emergence of more

dynamic and flat organisations. This is often associated with transitions in global capitalism, the need for renewed Anglo-American competitiveness and other developments in manufacturing such as TQM, Human Resource Management and Just in Time (Strangleman and Roberts 1999, Willmott 1993).

Heydebrand (1989) suggests that these socio-economic changes have prompted significant developments in social organisation, particular the development of post-bureaucratic organisations as a way of ordering and controlling work. This does not refer to new unified concept, but represents the fragmentation of older patterns of organisation. These changes have been described along six dimensions:

- The size of the labour force has become more dynamic and flexible to accommodate wider market demands;
- There has been a shift from the production of goods to the delivery of services and the manipulation of symbols;
- Technological changes have required new and less stable forms of knowledge;
- The division of labour is more diverse with less hierarchies with more flat and empowering organisational structures;
- The control of labour has shifted to more “soft” techniques associated with neo-Human Relations and cultural modification;
- The ownership and control of organisations are becoming decentralised and more informal.

With these changes there has been a rise in new managerial approaches to organisational control and the increased importance of cultural as a basis of management in lieu of formal structures. Parker (2000) suggests that a series of influential management texts or “guides” published throughout the 1980s have nurtured the idea that culture is a component of an organisation that can be managed in order to secure greater effectiveness from human resources, for example, *In Search of Excellence* (Peters and Waterman 1982), *Corporate Cultures* (Deal and Kennedy 1988) and *Theory Z* (Ouchi 1981). Cultural modification, control or change has therefore become an emergent theme of corporate management and organisational analysis since the late 1970s. Willmott (1993: 515) suggests that:

“According to its leading authorities, the ‘strengthening’ of corporate culture enhances organizational performance by securing greater commitment and flexibility”.

One of the most interesting aspects of this “culturalism” (Parker 2000) or “corporate culturism” (Willmott 1993) is the manner in which culture is conceptualised in management theory. Meek (1988) suggests that management “experts” have borrowed the concept of culture from the traditions of anthropology and sociology. It is used to account for systems of belief, norms, expectations, rituals, stories and standards of behaviour, but she also suggests that there is a correlation between specific cultural formations and good/bad organisational performance. In

consequence, managerialism has become associated with creating successful organisations through effective ‘culture management’, where culture is conceptualised as a “variable” open to manipulation and modification by organisational leaders. As Wright (1994:4) suggests

“Culture has turned from being something an organisation *is* into something that an organisation *has*, and from being a process embedded in context to an objectified tool of management control.”

Within the management literature culture is something that can be manipulated and changed in order to produce behavioural changes (Parker 2000, Roberts 1997) that are required for corporate effectiveness (Bliss 1999, Du Gay 1996). One feature of this approach is the enhanced role of employee “autonomy” and “empowerment” to accompany the flattening of hierarchical role structures. In consequence, it is argued that organisations are made smaller, flatter and more flexible as the traditional patterns of compliance are minimised, and more normative control developed (Knight and McCabe 1999, Taylor 1997). As Willmott (1993) suggests cultural change is seen as a mechanism to win the “hearts and minds” of employees in order to align human performance to corporate goals. Parker (2000) argues the mission of culturalism is concerned with altering the identities of employees to produce greater organisational ‘fit’ or control. This conceptualisation of culture is well established within management theories and is typical of quality assurance (Taylor 1997) and developments in the public sector (Hood 1991).

These managerial theories have been criticised, whilst the symbolical and “metaphorical” notion of culture has been re-asserted to appreciate the political and moral dimensions of culture. This perspective has evolved from sociological and anthropological approaches where culture is contingent, interactional, emergent and a “metaphor” for understanding organisational life (Smircich 1983, Willmott 1993). In this way culture is more abstract than tangible, including both beliefs and action, while the political and insidious role of cultural manipulation can also be revealed. Meek (1988) believes that managerial theories have failed to account for the debates that surround the concept. Furthermore, she points out that the managerial approach reflects an implicit structural/functionalist position, whereby functional order can be attained through the creation of a suitable collective consciousness. She argues that this idea of culture fails to account for multiple overlapping and competing cultures, and the way in which alternate meanings and values can act as a mechanism for organisational control and resistance. In particular she is critical of the idea that specific cultures can relate to good or bad forms of organisational behaviour; and the path to corporate success necessitates the marginalisation of “deviant” cultures.

From these alternative perspectives organisational cultures are various and dispersed within organisations, emerging from the shared experiences and norms of organisational life (Wright 1994). Furthermore, cultural formations not only represent the meanings of those in the workforce, but they also provide the basis for control by representing and reinforcing particular constructions of organisational

life. For example, Taylor (1997) and Knights and McCabe (1999) have examined the implications of quality assurance programmes in the context of occupational cultures. Here it is suggested that while schemes such as TQM advocate enhanced employee freedom and empowerment to improve quality, they also represent attempts to change the beliefs and values found within organisations. In this way, changes that offer greater freedom from structural control are interpreted as relying on forms of normative control through the manipulation of values and ideological conformity. Alternatively Roberts (1997) has explored the implications for culture within changing patterns of apprenticeship and employment training. He highlights the way in which new training programmes have “diluted” the input of workforce experience in favour of managerial direction. However, he points out that because managers are not omniscient the ideas and systems they promulgate can be subverted and re-interpreted at the level of the “shop floor” through alternate meanings and values. Similarly, Roberts and Strangleman (1999) have examined the idea of “cultural cleansing” where “traditional” and “old fashioned” patterns of work are rejected by new managerial cultures. However, they also suggest that it is possible to identify a myriad of cultures that offer resistance to managerial prerogative through alternate values and beliefs.

Culture has become an important aspect of organisational and management theory, particular over the last 30 years with the apparent rejection of traditional bureaucratic structures. However, questions have to be asked about the formulation of culture within theory and policy and the way it is applied in management practice.

Notions of culture

The above discussion of organisational control demonstrates a transition from bureaucratic-type 'role and rule' structures to the increased significance of normative conformity and the manipulation of culture. However, it is apparent that the notion of organisational culture is contested and distinct theoretical approaches offer divergent explanatory models (Meek 1988). The debates surrounding 'organisational culture' are reflective of the general theoretical problems associated with the concept of 'culture', how it can be researched and its explanatory status (Eagleton 2000).

Tyler's (1924: 1) classic all encompassing definition described culture as "that complex whole which includes knowledge, art, belief, morals, law, customs, and any other capabilities acquired by man as a member of society". Despite such conceptual openness, the idea of culture remains problematic (Eagleton 2000). It is conceived and researched along various conceptual lines, from the material and structural aspects of society; symbolic, ritualistic and routine practices; stories and myths; expressions of art and language; identity and group membership; and to the sharing of cognitive beliefs and values. Such different approaches typically lead to divergent theories and explanatory models of culture, from those that emphasis the structural qualities of culture that enable a society to function, to those that explore the hegemonic and resistant aspects of culture, all of which have been born out by work

in sociology, social and culture anthropology and cultural studies (Ellen 1993, Kuper 1996).

The above discussion on organisational culture highlights important theoretical debates. Parker (2000) has attempted to clarify the different perspectives through the adaptation of Burrell and Morgan's (1979) typology of sociological paradigms. Although somewhat crude and problematic his work demonstrates the underlying theoretical and explanatory differences associated with organisational culture.

Firstly, Parker (2000) refers to the 'structural functionalist' approach where culture consist of the beliefs systems, values and expectations of a social group reflective of organisational structures. In line with traditional anthropological work (Krupe 1996), culture is described as a 'social glue' that holds people together and provides the basis of social stability. Culture therefore has a functional role through establishing a collective consciousness that provides stability and goal-orientated behaviour (Parsons 1951). As shown above, managerial theorists conceive that culture represents a characteristic component of an organisation that is reflective of its structure and can be manipulated to secure this stability and compliance.

Like the functionalist perspective, Parker (2000) suggests that the 'radical structuralist' paradigm assumes that cultures are reflective of wider organisational and social structures. However, from this perspective it is the requirements of capitalism that structure culture in order to secure a compliant workforce to the

needs of capitalist enterprise. Demonstrating the theoretical divergence between functionalist and Marxist approaches, this explanatory model highlights the hegemonic function of culture and how values are shaped by ideological apparatus. Taken together the functionalist and radical approaches put forward a notion of culture that is shaped by the “environment”.

Alternatively, Parker (2000) highlights the interactional dimensions of culture. He suggests that the ‘interpretive’ approach provides a more locally contingent and interpretive perspective where cultures emerge from the actions, interactions, meaning and shared meanings of the organisational workforce and are reflected through the symbols, actions, and language of work. While social structures are contextually important, culture is used to explain the emergent meanings, practices, and other significant factors that characterise participation within organisational life. From this perspective, culture is seen as varied and overlapping and is used to explain how the localised social orders of an organisation constitute the basis of culture.

Developing this perspective, Parker (2000) suggests that ‘radical humanism’ examines the way in which emergent beliefs and meanings are not only developed through the interactional aspects of an organisation but also represent a site for control and resistance. In this way, organisations are seen as consisting of multiple cultures that are often competing to provide meaning and order to work life. Parker (2000) suggests this perspective blends Weber’s idea of *verstehen* (Weber 1992)

with a Marxist account of power. Culture is therefore conceptualised like ideology and is used to explain normative and discursive domains of social control and resistance. Here the work of Foucault (1980) is useful as locally developed and shared meanings are seen as developing with reference to a myriad of discourses (Clegg 1998), and the formulation of meaning reinforces and constructs organisational life and order. Crucially culture is interpreted as reflecting localised values and beliefs that struggle and compete to shape the construction of work place identity and order.

Parker's (2000) models of organisational culture highlight important theoretical and explanatory differences. Each perspective provides a distinct explanatory framework through which research and theory can be guided. For this study particular emphasis is given to the distinction between the structural-functionalist theories of management theory, specifically Human Factors, and the more emergent and radical notions of culture that highlight the localised and conflicting nature of culture. From this latter perspective it can be argued that culture(s) can be empirically examined and theoretically developed to explain how occupations make sense of themselves, their work and the organisation, within the context of relativistic workplace practices at the sub-organisational level. Furthermore, these can be active in reinforcing domains of influence and control whilst resisting other cultures and structural forms of control typical of management practice.

Error management and the medical labour process

Given these theoretical accounts of organisational structures and cultures it is necessary to show their relevance to medical work and patient safety policy. Initially, it is worth reviewing the observations made in chapter two about medical/managerial relations. While the NHS has existed as a large and, for most of its history, a unified organisation it has also been characterised by the working arrangements of large professional groups, such as the medical profession. As such it has been argued that it is difficult to conceptualise the NHS and its hospitals as a single bureaucratic structure (Morgan et al 1985) because professional groups have exhibited distinct occupational hierarchies (Bucher and Stelling 1969, Freidson 1970). In consequence, changes in hospital organisation, administration and management have tended to co-exist with established professional systems in a kind of symbiotic relationship, given that neither could adequately function without the other.

Nevertheless, it is possible to characterise recent reforms of the NHS as being reflective of recent trends in organisational theory. For example, in response to the lack of political accountability in the service, the *NHS Reorganisation* (Department of Health and Social Security 1972) aimed to deliver maximum 'delegation downwards and maximum accountability upwards' with new organisational structures "from Whitehall to the ward". This reform can be seen as the first major attempt to bureaucratise the NHS with layered administrative units to delegate and oversee responsibilities. However, throughout the 1980s and 1990s health policies

have reflected the changed political and managerial ethos of the era (James 1994) with forms of New Public Management (Hoggett 1991), such as general management and the internal market. Here there was a rejection of bureaucratic structures with greater reliance on devolution and market mechanisms and the implementation of contemporary management practice, such as TQM, risk management and cultural change. As such it has been argued that the like wider corporate business, the health service has experienced changes associated with post-Fordism and the rejection of traditional bureaucracy (Nettleton 1998, Ranade 1994). What is important therefore is to understand how the current “modernisation” and “patient safety” agenda within the NHS offers to further alter the organisation of the service and importantly influence the medical labour process (Harrison 2002, Harrison et al 2002).

The patient safety agenda introduces a range of organisational changes to the service that offer to modify the established patterns of medical work and the ‘regulation’ of quality. On the one hand of error management is fashioned from the popular theories of TQM and quality assurance where it is argued that quality is the responsibility of all those who work within an organisation (Reason 1999). This requires the devolution of quality control to those at the ‘coal-face’ whilst retaining strong managerial leadership for the direction of improvement and the alignment of quality to the customer (Drummond 1992, Wilkinson et al.1998). It may appear that such schemes actually foster and reinforce a high degree of employee ‘ownership’, control and ‘relative autonomy’, and endorse professional forms of quality control. It

has been argued, however, that these management systems bring about new patterns of occupational control. Taylor (1997) highlights an “optimistic” interpretation of TQM where it is argued that due to the competitive nature of contemporary business it is necessary to strip away bureaucratic structures and introduce a dynamic style of quality improvement ‘close to the customer’, fostering ‘enterprise’ within the workforce, ‘empowering’ workers to ‘add value’ to their work and the company, and making them responsible and accountable for the content of their work. Alternatively, he also discusses a “pessimistic” interpretation of TQM that draws on Foucauldian theories of surveillance and governmentality (Foucault 1991) and proposes that TQM represents a form of ‘self-surveillance’ (Taylor 1997). From this perspective, as traditional bureaucratic structures are removed new panoptic styles of control develop whereby workers are given greater freedom and discretion in their work, but action must accord with managerial preference and indirect supervision. From this perspective Foucault’s theory of governmentality (Dean 1999, Foucault 1991) provides an interpretation of new managerial processes that reveals the underling basis of control.

The theoretical development of error management requires an appreciation of these two perspectives. On the one hand the patient safety agenda could be interpreted as reinforcing professional discretion and autonomy in the pursuit of quality improvement. On the other hand, it can be seen as empowering employees but ensuring that error management is ‘in tune’ with managerial preference. Such a theoretical critique has been applied to clinical governance where it has been

suggested that this policy reflects a form of post-bureaucratic control that focuses on the “mentality of rule” and governmentality (Flynn 2001). The National System could equally be explored in such a way, particularly given the centrality of cultural change and normative within theory and policy (Reason 1999, Department of Health 2001).

As shown above popular management theories regard culture as a functional “variable” of an organisation that is amenable to modification to secure workplace change and order. Alternatively, culture can be conceptualised as a “metaphor” for making sense of organisational life through emergent and shared meanings, beliefs and practices. Importantly, this approach holds that organisations are characterised by many cultures that are actively making sense, ordering and controlling occupational life (Parker 2000).

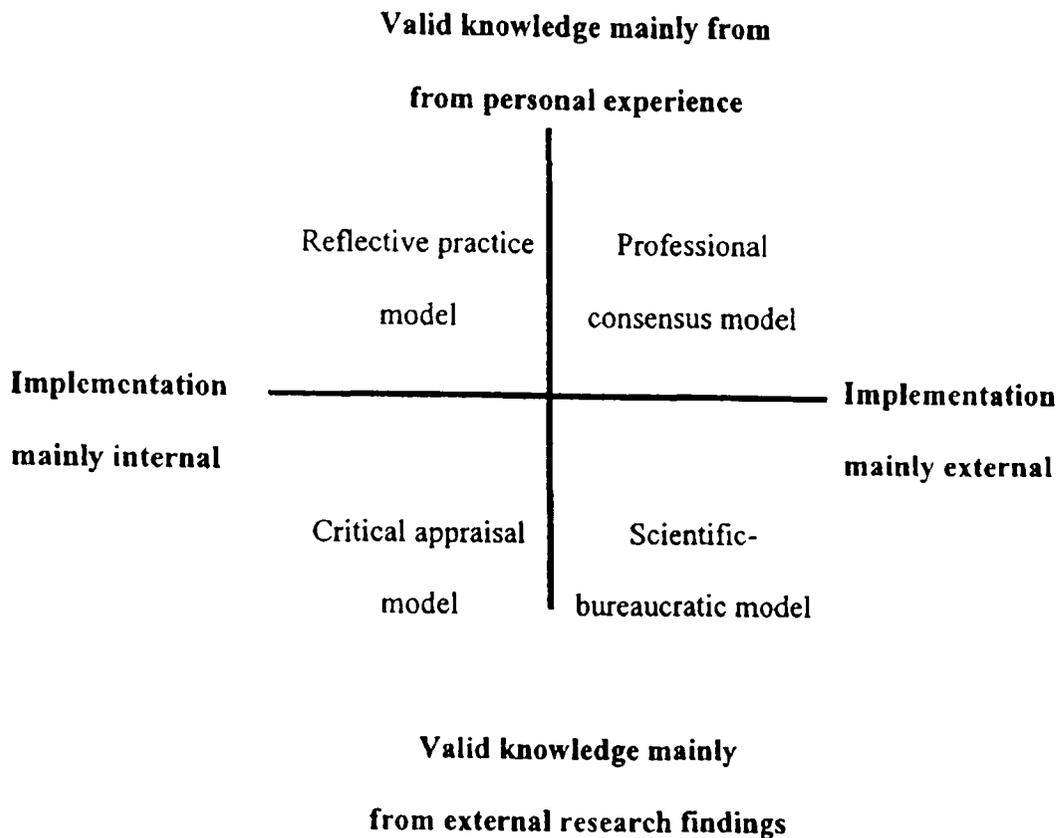
It has traditionally been the case that medical work has been analysed in terms of the application of expert knowledge and there has been comparatively little regard for medicine as a culture of cultural practice (Lupton 1998). It is possible to argue that the NHS is characterised by many cultures reflective of management strategies, occupations and the emergent features of health care provision within a complex and varied health care system (Lupton 1998, Parker 2000). Although Reason (1999) recognises that different theories of culture exist he reinforces a structural-functional view by arguing that organisational leaders should foster and adopt a “safety culture” and specifically a “reporting culture”. By failing to consider the

interactional and radical aspects of organisational and occupational cultures, both theory and policy fail to recognise how cultures can not only be barriers to change, but actually be actively resistant and adaptive to new management reforms. By developing an explanatory model of culture that emphasises the emergent, localised and conflicting character of workplace beliefs, values and cultural practices, this thesis provides a study of how the implementation of policy may meet crucial forms of cultural resistance that fall outside the theoretical boundaries of prevailing management theory and health policy.

It is also clear from the policy that there are to be new formalised structures of administration and management, specifically the National System involves the introduction of reporting, analysis and management systems. As well as the forms of cultural or “soft” organisational control, the system also involves documented and systematic processes that reinforce a more bureaucratic model. For example, the National System operates on the assumption that incident reports will be returned to a centralised managerial group that has responsibility for collating and analysing the information contained in these forms. From this information managers can then identify the underlying causes of error with reference to a particular theoretical framework, namely Human Factors, and then errors and risks can be appropriately controlled; bearing many similarities to Taylorist forms of organisational control (Taylor 1970).

In the context of health service reform and increased managerialism in the NHS, Harrison (2001, 2002, Harrison et al 2002) has developed a theoretical framework to account for potential changes in medical professionalism. His concept of the medical labour process is premised on the assumption that medical work is “social” and consists of more than just the technical application of knowledge through isolated interactions. His model (see figure 4.1) consists of a vertical axis to represent the sources of “valid knowledge about the effectiveness of medicine” (Harrison 2002: 467); at one extreme this is *internalised* and personal to the doctor; at the other it is *external* and located within abstract bodies of knowledge. The horizontal axis represents the way in which this knowledge is put into practice; with one extreme being *internal* and associated the use of knowledge because the doctor regards it as appropriate; while at the *external* end knowledge is implemented through institutional means such as rules and regulations.

Figure 4.1. Four models of medical care practice (sources Harrison et al 2002:7)



From this matrix four types of medical work are proposed. The first is termed “reflective practice” and resembles idealised theories of professional work where doctors are constantly self-critical of their work. Here schemes such as Medical Audit are used to support this process. The second model is termed “professional consensus” and centres on the collaboration between professional colleagues to develop guidance for the occupational ‘rank and file’, for example developing collegial guidance from case reviews. The “scientific-bureaucratic” model differs from the previous two types as it rejects personal experience as the source of valid and applicable knowledge and instead favours knowledge accumulated through

scientific data, for example Randomised Control Trials. Furthermore, it suggests that doctors are too busy and unskilled to interpret this information and therefore medical work should be guided and regulated through bureaucratic protocols and guidelines. The fourth model is termed “critical evaluation” and like the previous type assumes the valid knowledge is located in external scientific findings, but it suggests that its application cannot be rigid and prescriptive but must be open to the experience and interpretation of professionals at the ‘coal face’. From this model Harrison suggests that current developments in the NHS, particular those associated with clinical guidelines, clinical governance, consumerism and health service risks have reinforced the centrality of the scientific-bureaucratic model of medical labour. He argues that the accounts of post-Fordism and NPM have failed to acknowledge the character of professional labour process, which has experienced both traditional Fordist and post-Fordist developments (Harrison 2001: 475).

From this work it can be argued that as well as promoting cultural change the patient safety agenda reflects aspects of the scientific-bureaucratic model. It holds that the appropriate knowledge to understand, analyse and control medical errors resides within particular psychological and Human factors theories associated with “root causes analysis”. Furthermore, this is external to medical knowledge and represents a distinct and valid expertise. In consequence, a managerial lead is required at both the hospital and national level to develop new knowledge about health service quality and through management change the quality of professional work can be improved and medical errors controlled. The National System therefore represents

new organisational structures for directing service improvements and managing medical errors.

Bringing the two strands of the National System together it is possible to interpret this policy as representing both traditional bureaucratic but also culture based forms of occupational control. It is important is to understand the impact of such changes on medical labour and appreciate the consequence of this policy for medical/managerial relations in the NHS.

Conclusion: discourses, cultures and structures of control?

The previous chapter described the patient safety policy, and suggested that three core components represented a conceptual and practical 'backbone'. In this chapter attention was given to questioning and de-constructing these three features of policy: the conceptualisation of error, the promotion of incident reporting and the establishment of managerial procedures for the analysis and control of errors. It has been shown how sociological theories offer alternatives to the prevailing psychological and managerial orthodoxy of policy. Furthermore, through appreciating these different perspectives it is possible to engage with the changes in medical/managerial relations. Several research questions emerge from this theoretical and policy context.

First, does the conceptualisation of error advocated in theory and policy represent a new discourse about error and error management that is providing certain occupational groups within the NHS with a knowledge basis for the assessment and regulation of medical performance? Specifically have health service managers been imbued with an expertise that has the potential to define and control errors, in the same way that medical professionals have been characterised with the discursive power for defining and regulating issues of health and disease (Freidson 1970, Foucault 1973)? Conversely, does the construction of error represent a contested site for organisational power as medical professionals perceive, interpret, and give meaning to error with reference to divergent cultural and discursive features of their work? Importantly, how does the construction of error by medical professionals foster specific forms of professional regulation? Underlying this question is a general concern to reveal the weaknesses of the realist conception of error found in both theory and policy.

Second, a key component of error management is the introduction of an incident reporting system buttressed by cultural “engineering” (Reason 1997). However, questions needed to be asked about the capacity of managerial-led incident reporting to penetrate medical working practices and culture. Specifically what are the experiences of medical professionals in reporting incidents and what are their attitudes towards reporting as a mechanism for error management? Drawing on the above discussion of organisational culture a key consideration here is the extent to which medical cultures are distinction or resistant to the ‘reporting culture’

promoted in policy. What effect, therefore, are cultural change strategies having on medical practice, but more importantly how are alternate cultural formations resistant to incident reporting? Again this implicitly challenges the theoretical basis of policy through questioning the notion of organisational culture.

Third, the research is concerned to understand how managerial procedures associated with analysing and controlling medical error may represent new structural forms of quality control within the health service that are divergent from established medical regulatory systems. Drawing on the theoretical accounts of the medical labour process and organisational control, the research aims to explore the extent to which new procedures and managerial processes may supersede established professional forms of quality control, especially since they are based on a new managerial expertise and theory of error management.

Together these three themes aim to explore the changing relationship between medical and managerial groups within the NHS. It appears that the application of policy through management practice represents the potential for discursive (the definition of error and basis of error management), cultural (normative control and behavioural change) and structural (new procedures and valid knowledge) control of medical work. Of interest is the extent to which these changes will impact upon medical (technical) autonomy and (sanctioned) self-regulation. Earlier it was shown that autonomy, bounded and contained, refers to aspects of diagnosis and treatment and the ability to evaluate performance, whilst the regulatory systems of medicine

are, at the practitioner level, contained within internal informal and formal practices. This policy may therefore provide a new frontier for medical/managerial relations as managers have a distinct and valid knowledge base from which to define aspects of medical error and produce occupational change, buttressed by cultural and structural changes to the health service, in the form of incident reporting and new management practices. However, questions also have to be asked about the extent to which these changes will be fully implemented and the degree of conformity or resistance found in medical work.

5. The research

Introduction

University training courses, research text books and the tacit assumptions of “being a sociology PhD student” seem to imply that the three-year (empirical) doctoral process can be roughly divided into three stages. The first year is concerned with literature searches, reading around the ‘topic’, completing research training courses, clarifying the ‘topic’, developing a research programme, even a pilot project, and at some point justifying to yourself, supervisors and internal assessors that your knowledge and capabilities are adequate to go forth and undertake research (and you should no longer be considered an MPhil candidate). The second year is typically seen as the time of conducting field work, whether this be through quantitative, qualitative or mixed methods, collecting “data”, sorting this information, carrying out preliminary analysis, and maybe collecting some more data, throughout which more reading and some writing may occur. The third year is the time of “writing-up” when all the data is thoroughly analysed and together with reading this becomes the basis of a thesis.

This is obviously some kind of desired ‘ideal type’ and in many ways it is fiction. It is not uncommon for the first stage of the process to take longer than a year, particularly if applying for ethical approval, conducting research some distance from

the university or if conferences, summer vacations and other circumstances prevent the itinerary from going to plan. Conducting the research can also be hampered, for example by the difficulty of finding and keeping participants, and the writing-up process can undulate between weeks of frantic creation to weeks of stagnation or struggling with an over-whelming volume of data. Meanwhile, there are problems of juggling teaching commitments, the ever-present threat of technological failure, the peculiar relationship with supervisors and the implicit pressure to get something published or go to conferences. The result can be that a thesis emerges sometime in the fourth or fifth year of the process, much to the dismay of supervisors, the university and funding bodies.

My doctoral process has been shaped by the desire to meet the ideal itinerary whilst tackling the realities of “being a sociology PhD student”. This is not said as an excuse to mitigate any shortcomings or longevity in the process, but merely to suggest that the process of completing a PhD is far from straightforward and the processes of research do not easily follow textbooks or simple rules. In many ways my research has consisted of three stages, but these have not always been distinct. This did involve a year of developing the research focus, reading and re-reading works around, and sometimes far removed, from the topic, writing three broad literature reviews, completing training courses, developing a methodological agenda and submitting a summary of my efforts for internal examination before being transferred from an MPhil to a PhD. It is true also that my second year was largely concerned with gathering data through qualitative methods. While the third year has

been primarily spent writing chapters, re-drafting sections, developing ideas, rejecting ideas and hopefully producing a thesis. However, within this process detours were taken, for example, elements of the fieldwork were conducted early in the first year and continued throughout the writing-up period. Meanwhile I have analysed data throughout the research process, not merely at the end. What follows therefore is an account of *my* research process, describing and explaining activities over the last three years, drawing on theoretical justifications and revealing peculiarities.

Unlike other chapters this is written in a more reflexive and personal style, this can hopefully be seen with the preference for first person pronouns and through the candid accounts I have given of the research process. It has been greatly assisted by the use of my, Wright Mills (1983) inspired, sociological field journal in which I have captured many of the thoughts, observations and decisions that have been central to the research; some of the passages in this chapter are taken directly from this logbook. Furthermore, by writing this chapter towards the end of the research process I have been able to address debates and issues in a more reflexive manner, whilst also considering issues that did not easily sit within the other chapters. The chapter has been written with reference to a range of methodological and qualitative research textbooks, which have been invaluable throughout the process in helping to tackle problems, for example with selection. However, they have *not* been used prescriptively, only as a guide, and in this chapter I have not wanted to review

methodological debates that are well covered elsewhere, rather I have used them to justify decisions I have made and practices I have followed.

The research questions

Consideration is first given to the questions that guide this study. These have been developed over the previous three chapters. In its broadest sense the research engages with the theoretical debates concerning medical professionalism in the context of increased managerialism in the NHS. The specific focus of this study is the improvement and regulation of medical quality, specifically the management of errors. This policy context comprises the introduction of the National System which includes new procedures for gathering information about errors, analysing their causes and promoting organisational change, in line with Human Factors theory. Three specific questions emerge from this policy and offer to change existing medical/managerial relations in the health service. First, does the conceptualisation of error found in theory and policy represent a discourse on error that has the ability to legitimise specific forms of social action concerned with reporting and managing errors? Alternatively, is it the case that medical professionals construct errors in a way that promotes a divergent form of social action and provide a basis of social power? Second, how do medical professionals participate in forms of incident reporting? Are efforts at cultural change in the NHS having a meaningful impact on medical reporting, or are the cultural features of medical work resistant to incident reporting? Third, do new management systems for the analysis of errors and the

promotion of organisational change introduce new structures of organisational authority and power that override existing professional approaches to the control of quality? Together these questions examine the role of discourses, cultures and structures in the context of error management and medical/managerial relations. Furthermore, these research questions constitute a critique of the theoretical assumptions of prevailing theory and policy, especially the concept of error and the notion of cultural change.

Initial considerations on the research process

Preliminary forays and honing the research

Upon arrival at the University of Nottingham I was interested in the topic of medical professionalism and managerialism in the NHS, along with a developing curiosity in the emerging quality agenda of the post-1997 Labour government. However, it was decided relatively early in the year that a more narrow focus was needed to operationalise a research project or as it was once suggested to find a “brick” that I could feasibly investigate over three years that could fit within a larger theoretical “wall”.

Initially, this process involved reading about the quality agenda in the NHS and finding issues that were pertinent to my broader interest in medical/managerial relations. Alongside this review of the literature and policies, I also made several preliminary forays into the health service to talk with medical and managerial

representatives in order to identify issues that coincided with my broader theoretical interests, and find topics that were of relevance to those working in health care. This process was aided considerably by previous employment within the health service, and the existence of informal “networks” with people working in or researching in the NHS. Specifically, I had discussions with a Medical Director, one consultant physician and two NHS managers, all from hospitals in the local area, along with several academics working in health service research.

From these initial discussions a range of potential research topics were identified that related to the changing character of medical professional work in the context of quality improvement. After investigating the literature and policy documentation four topics seemed to predominate, these included “evidence-based medicine”, “performance management”, “risk management” and “National Service Frameworks”. Each of these represented considerable scope for empirical research, but of the four I felt that “risk management” and “performance management” were the most appealing in terms of maintaining my interest, but also in terms of conducting a study without requiring a detailed appreciation of ‘technical’ medical work. Two other factors clarified my final choice, first was my previous work on performance measures in health care (Waring 2000), which encouraged me to seek out other aspects of health policy, the second was the emerging political and media concern around risk and patient safety in health care. This included the “scandals” surrounding the Bristol Royal Infirmary (Kennedy 2001) and the increased attention given to medical mistakes, malpractice and negligence in the media, in particular the

Channel Four series *Why Doctors Make Mistakes* (Moore 2000). Moreover the publication of *An Organisation with a Memory* (Department of Health 2000) initiated a policy agenda that coincided with my doctoral process.

In order to further clarify the study further forays into the health service were arranged with a local hospital that was identified as having developed advanced systems of risk management. Through discussion with the hospital's risk manager it was found that forms of error management had already been developed in the NHS, especially through participation in the Clinical Negligence Scheme for Trusts (CNST) (see chapter two), and it was felt that a new managerial framework would soon be proposed by the Department of Health based on the recommendations of *An Organisation with a Memory*. To understand more about the systems already in place and appreciate the forthcoming policy developments, telephone contact was made with the Department of Health and the CNST. In addition, a meeting was conducted with Joint Chief Executive of the newly created National Patient Safety Agency (NPSA) to understand how change was to be promoted and policy implemented. Contact was also made with the office of Sir Liam Donaldson, the Chief Medical Officer of England and Wales, and a meeting was arranged with a representative to discuss the issues surrounding policy implementation. These discussions helped me to understand not just the pertinent concerns at the national level of the NHS, but they also clarified many of the underlying assumptions behind the policy.

Throughout the first autumn and winter of the doctoral process, these preliminary forays in the NHS, together with my broad interest in the medical profession, managerialism and the quality agenda, enabled me to identify and develop the basis of this research. I was then able to locate further theoretical debates on which this new policy could be addressed and wait for the publication of further policy documents. Meanwhile attention turned to identifying organisations in which the research could take place and developing criteria for selection.

The methodological approach

It is common for the 'methods chapter' to engage in debates about the methodological approach that guides the research. In many ways this is influenced by the questions that the research is trying to answer and also the philosophical or analytical approach assumed in the study. However, in this account of the research process I have not wanted to give excessive consideration to these issues, rather I am more concerned to actually describe and explain what I have done. Nevertheless, the methodological approach of this research can be characterised as broadly qualitative in style. When developing the study it was clear that there was little contemporary qualitative empirical data in this area. This is demonstrated by a recent Department of Health Call for Proposals for Ethnographic studies into Patient Safety aimed at filling this empirical void. Furthermore, the questions that underpin this research are such that I believe the most fruitful approach to the research is to explore the beliefs and attitudes of those working in the NHS, to delve into the subjective quality of

their work. In consequence, it is recognised that while quantitative methods may indeed be suitable for acquiring certain forms of empirical data, I have been more inclined to adopt a qualitative approach that engages with the pluralistic theoretical framework of the study.

There are obviously many different traditions under the umbrella of qualitative research, for example biography, ethnomethodology, ethnography, grounded theory and phenomenology (Creswell 1998). Moreover, these are not mutually exclusive, but can contribute to a varied approach to research and can inform divergent analytical and theoretical approaches. I have been interested in exploring the relevance of these different perspectives and been especially influenced by techniques found in social anthropology, ethnography and grounded theory. At the outset of the research, I adopted a broad ethnographic approach, characterised as exploring the social world through inductive conceptualisations; the use of exploratory unstructured methods; the investigation of small numbers in greater detail; and the analysis of data through the interpretation of meaning and action (Atkinson and Hammersley 1998). As a method of research a range of techniques can be employed under this umbrella, such as observations and interviews.

However, as the research developed the broad ethnographic approach has given way to more general qualitative methods with greater focus on individual perceptions, meanings and behaviour. The main reason for this transition was the difficulty in accessing the organisation for prolonged periods of time and particularly within the

clinical setting of the hospital. However, while the general exploratory and descriptive aspects of the research may have diminished in relevance, the analytical aspects of the research have remained concerned with understanding perception, interpretation, meaning and action. This analytical approach is discussed later in the chapter.

The phases of the research

Following the development of the research “questions” the research passed through several phases associated with selecting a hospital, identifying and accessing individual participants and organisational groups, gathering data and then analysing and writing-up the findings. As suggested above the research approach moved from a broad ethnographic study of managerial systems to a more general qualitative model centred on interviews. These stages are elaborated below, but it is first necessary to provide an overview of this process and highlight the divergent phases.

Following the identification and selection of a suitable hospital case study, the research developed through two main phases. The first centred on understanding the broad organisational structure of the hospital, identifying managerial groups involved in clinical risk management and incident reporting and exploring the social character of error management. Within this phases a combination of observations and interviews were used to gather data and refine the research focus. This fieldwork can most easily be described as ethnographic in style with attention directed at the

emergent social setting of the hospital's managerial systems related to risks and errors. The observations and interviews of this stage were conducted with participants involved in the corporate administration of the hospital, referred to as "managers", along with medical professionals with senior management responsibilities who also participated within these corporate groups. In line with the traditions of grounded theory this data was used to advance the theoretical basis of the study, identify and clarify research questions and assist the identification and selection of further participants, e.g. theoretical sampling (Glaser and Strauss 1967). Aspects of this first phase continued throughout the research process, for example focussed observations were conducted almost continually for a year, however, the examination of hospital management gave way to the exploration of medical work and culture.

Following a period of reflection, the second phase of the field was concerned with understanding the impact of hospital risk and error management systems on the working practices of medical professionals. Unlike the first phase, this field work can not be considered as ethnographic given the lack of observational research within the social settings of medical work (Fetterman 1989). Instead the fieldwork shifted to a general qualitative study primarily drawing on interview and documentary sources. Here attention was directed at doctors and risk managers, working at the organisational "coal face" and not directly involved in corporate management.

Reflections on the research role

Fetterman (1989) makes the point that ethnography is typically concerned with acquiring an 'emic' perspective on the social world: understanding the insider's point of view in order to account for the normative and ideological 'reality' of participants. However, he points out that it is often necessary to first develop an 'etic' appreciation of the social setting: to understand its structures, boundaries, relations and actions from an external perspective, within which the internal understanding can be couched. Such considerations not only relate to the style of data acquired throughout the research process but also the relationship of the researcher to the social setting, for example, is the researcher seen as an insider or outsider?

Participant observation is an established feature of ethnography and qualitative research yet its character in the field can be variable. It can range from complete involvement in the social setting where a specific role is assumed and the researcher becomes socialised into the group or culture; or observations can be more distant and external exploring the broader social patterns and structures. The variations in observational styles and field relations can depend upon the focus of the study, for example whether it is more concerned with the structural/material or the cognitive dimension of culture (Fetterman 1989). There have been several attempts to classify the role of the researcher during the fieldwork process (Adler and Adler 1987, Ellen 1984, Gold 1969), and although primarily concerned with observational roles, it is necessary to consider their relevance to this study.

Junker (1960) and Gold (1969) have identified four such roles along a spectrum that ranges from 'complete participant', 'participant as observers', 'observers as participant' and 'complete observer'. The aim of these role-types is to clarify the relationships between the 'researcher' and 'researched', thereby identifying important issues for data analysis and reflection. The 'complete participant' can be characterised by the undisclosed nature of involvement, whereby the "true identity and purpose...are not known to those whom he (sic) observes" (Gold 1969:33). The researcher therefore takes on a 'role-pretence' and assumes some form of legitimate purpose within the social setting therefore enabling the researcher to gather first hand social experiences with reduced levels of 'contamination'. Gold suggests that this approach to research has two main problems, first the researcher may be ineffective at taking on the role convincingly thereby undermining the field relations, and second the researcher may 'go native' and fail to fulfil the observational role.

The 'participant as observer' has similarities with the complete role, including the establishment of a legitimate purpose or role within the social setting, but crucially the research relationship is 'overt'. With this approach Gold (1969) suggests that explicit periods of observation are complimented by more opportunistic observations, and the rapport with informants is important for access and data collection.

The 'observer as participant' role is associated with field studies that are characterised by interviews and where observations do not accumulate over time to furnish the researcher with deeper insight, instead they are focussed to specific social settings. Here the relationship between the researcher and the researched is minimal and "superficial", and observations are overt. This approach avoids the problems associated with 'going native' or 'role pretence', but the quality and depth of data collection may be limited. The 'complete observer' avoids the problems with pretence because observations are conducted external to the social setting or group. Importantly, those being observed are typically unaware of the research, while data collection is made through eavesdropping or other forms of unobtrusive recording.

Similarly Adler and Adler (1987) have classified the distinct memberships roles acquired during fieldwork. Of particular interest is the function of the researcher within the social setting and the extent to which the researcher's identity is revealed. They suggest that the 'complete member' has an established function within the social setting, through which they acquire observational access, legitimacy, and normative alignment. The 'active member' also has a functional role and their observations potentially covert, but they have established "escapes" that enable them to reflect upon data collection and maintain a "critical distance" or "perspective". 'Peripheral membership', however, is where there is no designated function in or contribution to the setting and the observational role is overt and recognised by participants. They suggest that each of these research roles involves distinct issues about the validity of data and also ethical considerations, for example covert

research may acquire more valid information as participants are unaware that their views and actions are being recorded, but equally this is being done deceptively and without consent.

Gold (1969) suggests that these roles can be regarded as “master roles” for establishing a relationship within a social setting and other sub-roles can develop during the course of the fieldwork. As such multiple roles and research relationships may develop or dissolve throughout the processes of the fieldwork. Importantly it is necessary to reflect upon their influence for data collection and analysis.

During the course of this research I acquired and abandoned distinct research roles, particularly as the fieldwork made the transition from studying managerial groups to doctors, and as my involvement in the management meetings grew to include greater participation. At the outset, observations within the hospital’s committees and managerial departments were based on my explicit or overt role as an external researcher with no formal participatory role within the social setting. This research role could therefore be interpreted as ‘observer as participant’ (Gold 1969) or ‘peripheral membership’ (Adler and Adler 1987). The main purpose of these observations was to primarily understand the organisational structures and relationship, to further hone the research questions, and appreciate the function of hospital management with regards to error/risk management. Although this initial stage of this study can be described as ethnographic in character it is necessary to make it clear that this is not an ‘ethnography’, rather the techniques of ethnographic

observation and interview were utilised (Fetterman 1989). During the second stage of the research there were little opportunities for observational research and the study primarily relied on interview and documentary data. However, later during the research process a second phase of observations was conducted at the managerial level of the hospital to clarify emergent themes and further explore the changes in the organisation. It was during this period that my observational role changed as I provided the hospital with feedback and therefore acquired a more legitimate function within these social setting as I participated within the decision-making processes. My role therefore changed from being on the periphery of the social setting to being more 'active'. However, it is questionable whether this role could be classified as a 'participant as observer' in the ethnographic tradition because the observations were contained to a specific meeting that occurred monthly. Nevertheless, it is important to consider the changing relationship with the hospital throughout the stages of the research. Moreover, it is also important to highlight that throughout the course of the research and in consideration of the ethical position taken in the study, the research-relationship with the case study hospital and its staff has been completely overt.

Selection: the hospital

A case study

As shown in chapter three the National System is to be implemented throughout the hospitals in the NHS. Although there are linkages with the National Patient Safety Agency, the introduction of incident reporting, incident analysis and forms of managerial change are located at the hospital level. For this reason the research was focussed primarily at the level of the hospital in order to understand the implications of this policy for medical and managerial work.

An initial decision in developing the study was the preference for case study research. Hakim (1987) suggests that case studies provide a “spotlight or microscope” to focus social research and are particularly useful for analysing the implementation of specific policies. Due to their “bounded” character (Stake 2000), such studies can provide a rich source of data for descriptive, analytical and “best practice” research and afford an isolated arena for thorough and detailed research. Furthermore, it is suggested that working within a case study enables detailed and continuous research drawing from a range of potential field techniques and providing the opportunity to pursue emergent themes and alternate methodologies (Hakim 1987). The “hospital” was therefore identified as providing the bounded system in which the implementation of policy can be explored.

Stake (2000) identifies three different types of case study research, the first is termed “intrinsic” because the research is primarily concerned with the specific characteristics of the case being researched; the second is called “instrumental” because the case is used to provide insights that contribute to wider generalisations; and the third is “collective” as it replicates instrumental research across a number of cases. For this research the use of a case study was primarily driven by the desire to locate a hospital that could be sufficiently studied within the limitations of a doctoral programme in order to understand wider changes in the character of medical professional work in the light of a changing policy context. However, this raises a further problem with regards to the extent to which empirical data from a single case study can feasibly be used to appreciate wider occupational and social changes (Dingwall 1992). In consequence a major issue for the research was the theoretical justification for case study selection and the number of organisations to be included to enable appropriate empirical analysis and theoretical development.

Criteria for selection

As suggested above, one of the implicit pressures underpinning this doctoral research is the desire to complete the various research stages within a time frame that in some way accords with the ‘ideal type’. This did not mean that I wanted to sacrifice the collection of data in order to meet a timetable, but I wanted the opportunity to invest time within the organisation in order to understand its intrinsic qualities and also to ensure that the data was thorough and open to generalisations. I

decided therefore that the research should be conducted within a single case-study hospital. It then became necessary to theoretically and empirically justify the selection of a hospital for inclusion within the study. To assist in this process, a criterion for selection was developed to establish the 'instrumental' (Stakes 2000) character of the hospital. These included:

- The hospital needed to have a pre-existing incident reporting system or was in the processes of developing such a scheme in accordance with policy;
- The hospital needed to be of "general" character in both size and speciality, i.e. a district general hospital, so it would be large enough to include a range of medical services and different occupational groups, and therefore not a single-speciality unit;
- It was necessary to consider if the hospital had been through a re-organisation or merger because this could have introduced a range of other complicating features into the research;
- The case-study should not have been identified as a 'beacon' hospital with exceptional performance as the study may not be representative across the NHS;
- Alternatively, the hospital should not have been identified as a 'poor performer' or involved in a recent major scandal with regards to error, because this could influence the attitudes of staff;
- It was crucial that the organisation was willing to participate in the research;
- Given the limited resources for post-graduate research it was important to select an organisation that was accessible in terms of location.

Processes of selection and access

The initial stages of selection involved making telephone contact with seven hospitals within the Trent Region of the NHS (this is the regional administrative area within which the University is located). Typically contact was made, via the Switchboard, with the office of a risk manager or clinical governance manager within each hospital. Through these initial telephone contacts information was acquired about incident reporting and risk management procedures within each organisation and, where possible, documentary evidence was acquired. This provided some background about error/risk management systems in place. Follow-up contact was then made with three hospitals that most suitably met the criteria for case study selection to discuss the feasibility of conducting research within the organisation. Through this process one hospital appeared more willing to develop a research relationship and further meetings were arranged.

During the winter and spring of 2001 several meetings were held with representatives from this hospital to discuss the research project and also to secure access from staff members working within the organisation. Initially, this involved working with the Risk Co-ordinator who provided relevant insight into the organisation of the hospital, the development of incident reporting and clinical risk management systems and identified the most successful avenues through which agreement could be achieved. This involved further discussions with the Medical

Director, Director of Nursing and Corporate Affairs, the Deputy Director of Corporate Affairs and culminating in a presentation to the hospital Clinical Risk Management Committee. This committee had a key strategic and managerial role in overseeing incident reporting and clinical risk management within the hospital and acted as a “gatekeeper” for further selection and access. Through discussion with these different actors it was believed that the research would contribute to their own organisational development. Senior managers and staff representatives therefore supported the research.

The organisation of the hospital

Before moving on to discuss the selection of participants and medical specialities involved in the research it is necessary to first consider the structures of the hospital, how they relate to the NHS at large and the variations in terminology used to describe the organisation. It is common in sociological theory and research to talk of various ontological dimensions, such as structure and agency, or macro, meso and micro (Layder 1998). In theoretical terms the characteristics of an organisation can be positioned along many of these dimensions, from the individual employee, group interactions, relationships and teams, departments and hierarchical structures, market or corporate conditions, to the social structures of economy, society and knowledge surrounding organisation and the cross-cutting influence of culture.

This is equally the case for the NHS where accounts of its structure and organisation are well developed (e.g. Ham 1992, Powell 1997). It is shown how on a social dimension health care is influenced by assumptions about health and healing (Fox 1988, Seale 1997), from a political or institutional dimension the service is structured, financed and co-ordinated through social and political customs and actions (Klein 1989), at the level of regions, districts and hospitals it can be shown how decision-making groups plan services and allocate resources. Within hospitals there exists a range of sub-organisational structures that are equally important to how the NHS operates. Hospitals represent a common focal point of the health service, yet it is necessary to consider that they have their own organisational features, boundaries of activity, finance, and structure. Moreover, they have their own internal specialised departments, service providers, and management groups who attempt to co-ordinate these arrangements.

Of fundamental theoretical importance in this research is the divergence between management and occupational structures within the organisation of the hospital. For this research it is the convergence and divergence of bureaucratic management and the occupational patterns of medical professional work. The first comprises the managerial hierarchies and networks that relate to the broader corporate aspects of hospital organisation associated with the Executive Board, systems of Human Resource Management and arrangements for internal accountability. The second is concerned with the occupational organisation of medical work, with clear boundaries between specialities, internal hierarchical layers and the emergence of

medical-managers or those doctors that take up roles with the management hierarchy. In this way, it is not feasible to interpret the hospital as one unified organisation, but rather it is a broad conceptual device to describe the boundaries around multiple overlapping and competing structures of organisation.

For this research the case-study hospital reflected many of these features with clear external boundaries and internal demarcations. It was found that the hospital had non-executive and executive boards, supported by a range of specialised committees, such as the Risk Management or Clinical Governance committee. The centralised management structure also consisted of several departments, such as Human Resource Management, Estates, Hotel Services and Corporate Affairs. The research initially commenced with its focus on the central ‘corporate’ management structures that related to clinical risk management and incident reporting, including the Department of Corporate Affairs and the Clinical Risk Management Committee. It was also identified that the hospital consisted of four broad Divisions for service organisation, these included *Surgery, Medicine, Family Health, and Support Service*. Within each of these Divisional units there were various Directorates that reflected the different specialities of health care delivery, for example, Maternity was located within Family Health. The early field work revealed that within each of these directorates there were often sub-specialties concerning particular aspects of health care and these were often based around a particular doctor or professional who would lead the team or “firm”. The organisation of the hospital therefore appeared bureaucratic and hierarchical on a superficial level, but within this structure there

were other patterns of occupational organisation and interaction (this was an interesting finding in its own right, but for the purpose of this research it was only explored in relation to the developments in error management). For the latter stages of the research it was important to appreciate these variations particular for the purposes of selection and analysis.

Selection: participants

Theoretical sampling

Mason (1996) argues that sampling – the identification, selection and access to relevant social units for data generation – is a “vitally important strategic element of qualitative research”. She also points out that the desire to be representative, in a manner typical of positivistic research, is not always suitable for qualitative research. This can be the case when the research is concerned with the “meticulous views of particular units” and then sampling can be described as “purposive”:

“Selecting groups or categories to study on the basis of their relevance to your research questions, your theoretical positions and analytical framework, your analytical practice, and most importantly the explanation or account which you are developing” (Mason 1996: 94).

Purposive or ‘theoretical sampling’ allows for the selection of units or respondents based upon their relevance to the research and emergent findings, rather than criteria

such as randomness. Murphy *et al.*(1998) point out that in case-study research this technique can be more appropriate than statistically generalisable techniques because it is important to select particular actors and occupational groups within the case study that are of relevance to the research questions. This research has embraced the ideals of purposive sampling and has selected and accessed the case study hospital and the respondents based primarily upon the demands of the research questions rather than positivistic or statistically reliable criteria. This does not mean that selection has not been undertaken without the development of theoretical and meaningful criteria.

Criteria for selection

Selecting and accessing individual respondents from the hospital was premised on the theoretical context of the study as well as interesting and relevant findings generated through observations and initial discussions. From these sources of information I was able to develop criteria to guide selection and ensure that relevant managerial and medical professionals were involved in the research. These can be summarised as:

- The inclusion of “key informants” such as managers and medical representatives involved in the management processes of incident reporting and clinical risk management;
- The inclusion of all corporate level actors involved in the processes of clinical risk management, incident reporting, or error management;

- The inclusion of managers and medical professionals involved in the vertical organisation of incident reporting and clinical risk management within the hospital, i.e. those that have roles at Corporate, Divisional and Directorate levels of the hospital;
- The inclusion of medical representatives from a selection of horizontal organisational units located at or within the directorate level.

The eventual processes of selection and data collection consisted of two clear phases. For the first stage, the research was primarily concerned with understanding how the hospital had implemented forms of clinical risk management and was adapting its systems in line with policy. During this stage I was eager to understand the work of all individuals located in the “central” corporate structure of the hospital involved in clinical risk management, incident reporting and error management. For this reason it was decided that the research should initially focus on the activities of the Department of Corporate Affairs and the Clinical Risk Management Committee (the details of these participants are given below).

In the second phase, the research was concerned with exploring the implications of policy and management change on doctors working at the “coal face” within the hospital. The selection of medical participants at the directorate level of the hospital was a constant consideration throughout the initial phase of the fieldwork. I used the observations and interviews at the corporate level to explore the character of the hospital in more depth and acquire an understanding of the various directorates.

Together with a review of the literature, this enabled me to develop a theoretical basis for the selection of medical professionals at the directorate level. Some of the key questions that emerged through this process included:

- a) What is the nature and extent of error in the area of medical work – how “risky” is the speciality, how often do errors occur – for example what are the risks of surgery compared to radiography?
- b) Would the technical issues of error make exploration of the social processes difficult – such as identification and confidentiality;
- c) What is the importance of error to the hospital – are there major cost implications, as with obstetrics?
- d) What social groups do errors affect and how could these alter selection, i.e. errors involving the young may have greater status?
- e) How visible is the risk – is it immediate or is there a time-lag that could limit error detection and complicate research – for example errors may be more immediate with surgery as opposed to oncology;
- f) How willing are certain medical specialities to be involved in the research – some medical groups may be excessively sensitive to research into errors, for example, in cardiac surgery following the scandal at Bristol Royal Infirmary;
- g) What are the variations in clinical risk management that already existed at the directorate level or in medical practice?
- h) What is the level of participation in the corporate managerial-led forms of error management?

Processes of selection and access

For the first phase of the fieldwork accessing participants at the managerial or corporate level of the hospital was assisted through the process of securing general access with the hospital. One representative of the Department of Corporate Affairs provided me with contact details of all members of this department and the members of the clinical risk management committee. I then set about contacting these individuals, via telephone, and arranging meetings to discuss the research further and conduct interviews. During this process I was also informed about other individuals within the hospital who could provide me with further insight. Through 'snowballing' I therefore identified further participants at the corporate level who were also contacted via telephone.

For the second phase of the fieldwork, the selection of participants at the directorate level was guided by the data collected with respondents at the corporate and managerial level. Through the observations, interviews and documentary sources I looked for emergent and grounded themes that related to the divergence between managerial and medical approaches to error management. Another important consideration was the number of participants and directorates to include with the research, which involved balancing the desire for more data with my ability to process and manage that data. I therefore decided that the research should be further developed in the Directorates of Obstetrics and Gynaecology, Combined Surgery.

Acute Medicine, Anaesthesia, and Rehabilitation. The over-riding basis of this selection was the variation in incident reporting and error management at the directorate level. These differences are discussed in greater detail in chapters six and seven, but can be summarised as:

- Anaesthesia (Division of Surgery) – doctors were involved a form of incident reporting that was co-ordinated through the Royal College of Anaesthetists and was distinct from the hospital based system;
- Obstetrics (Division of Family Health) – doctors extensively participated in the hospital system and a directorate based risk manager had an important role in facilitating this involvement whilst enabling local change;
- Combined Surgery (Division of Surgery) – doctors were not extensively involved in forms of reporting or clinical risk management;
- Rehabilitation (Division of Medicine) – doctors were not clearly involved in the hospital incident reporting system, but had attempted to develop a medical-based system; whilst there was also a risk co-ordinator working within this directorate;
- Acute Medicine (Division of Medicine)– doctors were not clearly involved in the hospital incident reporting system, but had considered participating within a medical-based system, while the risk co-ordinator from Rehabilitation was taking on a new role in this directorate.

After these directorates were theoretically selected it was then necessary to identify key respondents within each area. Initially, I selected doctors with leadership responsibility as it was anticipated that these clinical directors could act as gatekeepers for identifying further respondents and promoting the research to their colleagues. I then contacted consultant level doctors within each directorate. When developing the selection criteria I frequently considered involving of a range of medical professionals, including house officers, registrars and consultants as this could reveal interesting variations *within* the medical profession. However, it was believed that many of these variations had been explored elsewhere (e.g. Bosk 1979, Fox 1975) and by involving these junior doctors consideration would have to be given to the teaching dynamic of medical work. I therefore believed I could gather more insight from those doctors with a high degree of permanency and seniority. Along with selecting medical professionals, I was also interested in the work of risk managers that worked in the hospital directorates as these could provide insight into how both professional and managerial systems were operating.

Accessing the clinical directors within the hospital was assisted by the Deputy Director of Corporate Affairs who provided me with documents that described the main hospital structure and roles. This list of names enabled me to contact each clinical director via the hospital switchboard. It was generally the case that this contact provided me with the details of other members of medical staff and therefore enabled me to arrange more interviews.

The process of accessing doctors is a potential barrier to health service research. Securing access typically involved contacting each doctor's secretary, explaining the research, referring to the support given by the Medical Director, if possible developing a rapport with the secretary and then arranging a time when the doctor may be contacted or when they can ring back. Medical secretaries were therefore important gatekeepers for this study. Furthermore, doctors were notoriously poor at keeping telephone contacts and it was often the case that it would take me four or five attempts to eventually speak to a doctor. Once contact was made I typically explained the purpose of the research and arranged a time to meet with them. Through the support of the secretaries, and also perseverance, the majority of doctors contacted about the research were happy and able to take part. However, a selection of consultants claimed they were "too busy" to take part in the research, or they felt that they did not know enough about the subject to comment. This is an indicative finding in itself, but one I have not had the scope to address.

The Participants

The participants involved in the research included fifteen respondents at the managerial and corporate level of the hospital, and twenty people at the directorate level. The total amount of interviews for the research, including preliminary meetings and multiple interviews in the hospital was forty-two.

Those participants involved in the first phase of the research (see figure 5.1) included a combination of occupational groups drawn from the Department of Corporate Affairs, the Clinical Risk Management Committee and other central management groups involved in risk/error management. Many of those involved in the committee also had roles in other areas of hospital management and service delivery. The data revealed that the purpose of the committee was to gather expertise from across the hospital as well as having management input, for this reason the composition of participants in phase one includes a range of health care professionals and managers.

In the second phase of the research participants were typically common to each directorate, including the Clinical Director, two or more consultants and, where in place, a risk manager/clinical governance lead (see figure 5.2). In line with the selection criteria discussed above, it was felt that these respondents would reveal the required information about the character of risk management at the directorate level of the hospital, professional forms of quality control, and how these systems related to those managed at the corporate level.

Figure 5.1 Participants in phase one: hospital management and corporate

- Medical Director *
- Director of Pharmacy*
- Radiotherapy Manager *
- Clinical Director of Cardio-thoracic surgery*
- Clinical Director within Family Health Division*
- 2 Consultant Physician in Medical Division*
- Director of Human Resource Management *
- Manager of Midwifery*
- Director of Nursing and Corporate Affairs **
- Deputy Director of Corporate Affairs **
- Two Risk Co-ordinators from the Department of Corporate Affairs **
- Hospital Litigation officer ***
- Director of Medical Devices ***

Note:

* Member of the clinical risk management committee with other hospital duties

** Member of the Clinical Risk Management Committee and Department of Corporate Affairs

*** Not a member of the Clinical Risk Management Committee but with other management duties linked to clinical risk management

Figure 5.2 Participants from the Directorate level of the hospital

Directorate of Rehabilitation

- Clinical Director
- 2 consultants
- 1 risk manager

Directorate of Acute Medicine

- Clinical Director
- 2 consultants
- (shared risk manager with Directorate of Rehabilitation)

Directorate of Obstetrics

- Clinical Director
- 2 consultants
- 1 risk manager

Directorate of Anaesthesia and Theatres

- Clinical Director
- 2 consultants
- 1 Theatre Sister with clinical governance responsibilities

Directorate of Combined Surgery

- Clinical Director
- 2 Consultants
- 1 Divisional Clinical Governance lead.

Ethical considerations

The ethical considerations can be classified as those specific to the research questions and topic, and issues common to social research. The specific ethical concerns centre on the highly sensitive subject of medical mistakes. In developing the study it was clear that the subject of error had gathered enormous media, public,

professional and political attention, with connotations of blame, personal failure, professional incompetence and litigation, it was therefore necessary to take forward the research in a sensitive manner. Furthermore, there was concern that during the fieldwork I would be exposed to information relating to patients and possibly examples of when threats to patient safety had occurred. It was imperative therefore that the research explicitly promoted an ethical standpoint.

From the outset of 'access negotiations' with the hospital these ethical concerns were addressed with the Medical Director and the Director of Nursing and Corporate Affairs. This involved discussing the potential ethical issues associated with the research and working with these representatives to ensure the confidential, discreet and sensitive use of all information acquired through the fieldwork and used in dissemination. It was suggested by the Medical Director that the broad terms of research should be formalised in writing, detailing these issues and explicitly referring to the maintenance of confidentiality and anonymity with particular reference to any patient information that may be discussed in the research process. This included not using information that could lead to the identification of patients, where possible the anonymity of all respondents (it was recognised that this would be difficult on an internal basis), the use of information should not be taken out of context or used maliciously, and the hospital should have access to all documents arising from the dissemination of the research findings. From another perspective it was also pointed out that exposure to sensitive information could place a burden on the researcher to reveal extreme and persistent cases of error; commonly referred to

as “whistle-blowing”. It was therefore necessary to establish an agreement that if I came across serious cases of malpractice I would contact senior hospital representatives and university staff to take the issue further; therefore balancing the needs of patient safety and confidentiality.

Despite clarifying these ethical considerations with the ‘hospital’, it remained necessary to address the issues of consent and confidentiality with individual participants. Despite the traditions of covert research it is now regarded as ethical to share as much information with those involved in the research process allowing them to make an informed decision as to whether they should participate in the study. Only through informing respondents about the research are they able to make a meaningful choice about their involvement. Furthermore, the information acquired through individual interviews and observations had to be gathered and used in a confidential manner which respected the sensitivity of the subject and the trust established between the researcher and the researched.

When arranging meetings with participants and before commencing an interview I provided all respondents with a brief summary of the research project, including its objectives, methods and how the findings would be disseminated. I also explained to all respondent that the findings would be used in a sensitive manner to ensure their confidentiality and where possible anonymity. In particular I felt it was important to emphasise that I was not a medical professional myself and was not interested in evaluating or assessing their work, rather I wanted to understand their point of view

and anything they told me would not be directly reported to other individuals inside or outside the hospital. However, with some participants it was pointed out that maintaining anonymity was not always practical, for example, data obtained through observations and group interviews by its nature involved multiple individuals in an open arena. In such situations it was made clear that maintaining the anonymity and confidentiality of those present was not always possible. It was also recognised that the information discussed during hospital meetings could be of a highly sensitive nature and therefore respondents were asked to make clear situations when they did not want specific information used within the research, for example if there were legal reasons.

Data collection: observations

Within the context of ethnographic research, observations represent a core method of fieldwork. This approach involves “immersing” oneself within a research setting and systematically observing the behaviour, context, interactions and relationships (Mason 1996). Through gathering information in this way, research data is *found* rather than *constructed* through interviews (Dingwall 1997). Furthermore, ethnographic observations are committed to holism (Fetterman 1989, Murphy *et al.* 1998), gathering a wide selection of descriptive and analytical findings that actually represent the realities of the social setting. Through observations the actions and

interactions characteristic of the social setting can be identified and interpreted within their original context.

However, this does not mean that this technique is without its problems. Mason (1996) points out that it is impossible to develop a neutral account of the social world as observations still rely on the role of the observer to collect, classify and conceptualise the findings. It therefore becomes important to be reflexive and explicit about what issues and findings are of interests and why they are recorded and analysed. Furthermore, the role of the researcher within the field must be acknowledged to appreciate the distinct roles and tensions within the research process (Gold 1969). As shown above participant observation can take several forms from gaining an insight from within or without, from being overt or covert, or from having a role. For complex social settings, such as hospitals it is not always feasible for a researcher to have a legitimate function in all social settings. It is therefore important not just to gather data but to be explicit about the process and interpretation of this information.

Conducting observations

Following a broad ethnographic approach, the first phase of the field work involved observations within the Department of Corporate Affairs and with the Clinical Risk Management Committee meetings. Initially, these were conducted with key informants working in the Department of Corporate Affairs. Over a period of one

month six observational excursions were conducted in the hospital to gather information about the organisational arrangements, to identify key personnel and participants, and to understand the function of the different divisions, directorates and departments. Initially this involved spending four half days of between one and four hours observing the activities of those working in the Department of Corporate Affairs who had responsibility for clinical risk management and patient safety. Here the opportunity was taken to watch the corporate 'patient safety' function, exploring how information was collected from across the hospital, and how it was managed and utilised to enable 'organisational learning'. During this time I was also given two small "guided tours" of the hospital and introduced to other individuals, 'key informants' and departments whose work related to issues of clinical risk and error, including the Medical Director, the manager of Medical Devices, the litigation officer and the managers for Infection Control.

It was through these initial observations and discussions that the Clinical Risk Management Committee was identified as constituting the hospital's main organisational group with direct responsibility for the management of clinical risks and errors. Observations were therefore arranged with this group, which normally convened on Wednesday afternoons between 5pm and 7pm on a monthly basis. These observations commenced in March 2001 where I made a small presentation to discuss the research and acquire consent. After this initial meeting observations continued with the Committee from August 2001 until January 2002, totalling six focussed observations that generated over 12 hours of data. After a break from the

observations to enable reflection and preliminary data analysis a series of three further committee observations were conducted during the summer of 2002 in order to clarify interesting and emergent themes. In addition, following a re-organisation of the hospital's committee structure a new Incident Reporting Steering Group was introduced in the winter of 2002 and I attend three of these meetings into 2003. Like the Clinical Risk Management Committee these generally lasted about two hours and occurred monthly. The observations with this group enabled me to understand the changing function of the hospital's committees, but also it enabled me to provide initial feedback about the data collected during the fieldwork. In total thirteen committee meetings were observed during the course of the study.

The observations with Clinical Risk Management Committee and then the Incident Reporting Steering Group provided me with greater insight into the corporate and managerial approach to error management, providing descriptive information about their systems, along with revealing much about the interactions between medical and managerial groups. For example, in these committee meetings "problem" issues were discussed providing me with insight into the way in which different individuals and occupational groups approached and constructed these "problems". The observations also revealed how the hospital was adapting its systems in line with the new policy framework. To explore these issues further interviews were conducted with the members of this committee and those working in the Department of Corporate Affairs.

On a reflexive note it is important to recognise my role within this social setting. It was generally the case that I was not involved in the processes of the committee and due to time pressures of the meeting there was little opportunity for me to raise questions during or after the meeting. This was most probably due to my role as an outsider and the lack of technical knowledge that I possessed. Furthermore, this role often prohibited my inclusion in many of the small discussions that took place after the meeting. In consequence, while these observations provided me with insight, I was not able to probe or further explore the social setting. Questions or issues that I believed important were therefore addressed during the interview phase of the research. As discussed earlier, my observational field role was on the periphery of the social setting and could be described as 'observer as participant' (Adler and Adler 1984, Gold 1969), except on the occasions where I was asked to provide feedback to the committee.

Recording the data

Despite the open and grounded nature of observations, Burgess (1990) suggests that it is important to structure the collection of data to ensure that the selection and interpretation of information is systematic and focussed. Throughout the observations data was organised through standardised topics that were central to the themes of the research. The use of such themes enabled me to more easily categorise information during the analysis of the data, these comprised:

- The presentation of error
- The interpretation of error
- The discussion of error
- The analysis of error
- The management of error
- The general function of the committee
- Participation within the committee
- Communication within the committee
- Decision-making within the committee
- Conflict and harmony within the committee
- Descriptive information about the management processes
- Accounts of the hospital directorates

Alongside these themes, general descriptive information, observations and thoughts were noted to ensure that any novel or grounded findings were recorded. The collection of data involved hand written notes within a fieldwork journal and then using a word processor these were “written-up” electronically within a day of the observation, therefore enabling me to reflect upon the observations and make initial interpretations (and also ensure that the notes were legible for future reference).

Data collection: interviews

Interviews have become an extensively used method for sociological research (Burgess 1990) and their scope ranges from tightly structured preconceived questions to more dynamic flexible conversations. Central to the interview is the idea that the spoken communication between respondent and researcher can reveal something of the world in which the respondent inhabits and experiences, gathering their unique views, descriptions and accounts and then placing these within the wider social and interpretative context. However, debate exists as to the actual merits of using interviews as a method of social research. Silverman (2001) suggests that caution is needed in interpreting interview data as “factual” or “authentic”; rather it is necessary to appreciate that interview data arises through a particular social interaction (between researcher and the researched) and as such the information is context bound within this relationship. Furthermore, Miller and Glassner (1997) point out that the language and format of interviews fracture individual “stories”. However, through recognising the particular symbolic interaction of the interview and then interpreting the data or “stories” within this light, it is possible to avoid the positivistic or “romantic” trap of presuming that interview data is authentic. If it is assumed that individuals construct their world then interviews are a particular form of reconstruction with the researcher.

Building on such ideas Mason (1996) has outlined the characteristics of qualitative semi-structured interviews. She describes them as relatively informal where the

relationship between the respondent and researcher is more akin to a discussion; they are thematic and topic-centred; and the relationship between the researched and the researcher is central to the data collection process. Several issues must therefore be addressed with conducting interviews. First, the informality of the “conversation” means that it is extremely important to establish a sound relationship between the ‘researcher’ and the ‘researched’ whereby information is forthcoming and discussion is possible. This could include a familiarity with the setting of the research or the language used by the participant. Burgess (1990) suggests understanding these wider social characteristics can be done through preliminary observations or discussions. Second, while the interview can be interpreted as a form of conversation it important to ensure that the information acquired relates to the demands of the study. The semi-structured interview should, therefore, be guided by a range of relevant topics or themes that focus discussion but provide sufficient freedom for ideas to be explored. Finally, it is important for the social researcher to appreciate and acknowledge their own active role in the interview process and be reflexive in the interpretation of data and recognise their own unique contribution in the “conversation” (Mason 1996).

Conducting interviews

For this study, semi-structured interviews were chosen as the primary method of collecting qualitative data. As suggested above interviews were conducting with those working within the management centre of the hospital and professionals

working within the hospital directorates. Following the observations, interviews were conducted with members of the Department of Corporate Affairs and members of the Clinical Risk Management Committee. Interviews conducted during phase one of the fieldwork enabled me to explore the organisational context of the hospital in greater depth, and clarify the information gathered through observations and develop a more focussed approach to the research. In essence the interviews were “conversations with purpose” (Burgess 1990) rather than a scripted series of questions. Nevertheless a thematic guide was developed for the interviews to ensure that the information related to the theoretical questions. These topics comprise:

- The concept and construction of error – how is error interpreted or defined? Are errors individual, group or organisational problems? How do individual meanings compare to ‘official’ or ‘quasi-official’ messages on error; and how do issues of blame and responsibility permeate the interpretation?
- Responsibility and error – how do respondents understand and give meaning to issues of responsibility and blame. In particular how do issues of responsibility and ownership change the way individuals act in terms of the first person, second person and third person.
- Reporting errors – Given that the new government initiatives for managing medical errors is predicated on the reporting processes, it was necessary to

appreciate how reporting systems operate within the case-study and how these were regarded by staff.

- The role of the Clinical Risk Management Committee – What did respondents see as the function of this committee, what role did they and others play in its processes and how does it operate in relation to other organisational systems.

- The analysis of errors – How do individual and the committee go about understanding the causes of error, does this reflect policy expectations or does it rely upon alternate systems? What does the analysis of error mean to the interpretation of error?

- Organisational relationships – What is the relationship between the committee and other hospital systems? How does the organisational context of the hospital impact upon the management of errors?

After interviews were conducted with staff members of the Department of Corporate Affairs and the Clinical Risk Management Committee, further interviews were then conducted with participants working at the directorate level of the hospital (as discussed above). Rather than replicating all the themes used with those at the managerial level, the phase one interview data was reviewed to develop a more focussed interview structure that would more appropriately address the theoretical demands of the research and explore emerging findings. In particular, the schedule

for the phase two interviews focussed on the alternate systems of error management found at the directorate level, the relationship between the directorates and the management level of the hospital, and the socio-cultural features of medical professional work.

All the interviews commenced with a brief introduction that outlined the purposes of the research and addressed the ethical basis of the study. The interviews ranged in length between 30 minutes and 2 hours, with the average being a little over an hour. A major consideration when conducting interviews with medical staff was finding the time to fit an interview into an otherwise busy working day. On several occasions interviews were cancelled and re-arranged due to emergencies or extra pressures in the professional's work. Alternatively, doctors often arrived late for interviews due to clinics or meetings "running over". These pressures meant that the interviews had to be flexible in order to adapt to medical working patterns. For example, with one interview the participant said that they had an hour available and then part way through the meeting they received a telephone call informing them that they were needed "on the ward"; on this occasion the meeting was re-arranged, but on other occasions, especially if it had been a difficult interview to arrange, the interview would be condensed to gather the most relevant information. Unfortunately this also means that with these interviews the opportunity for me to explore issues in greater depth was not always available and the interview took a more structured style.

Recording the data

All participants were asked during the interview introduction about the use of a tape recorder for data collection and they were re-assured about the ethical basis of the study. Generally doctors were accommodating and did not see any problem with this at all. On some occasions a participant would comment “this is for your ears only”, suggesting that they thought somebody else would have access to the tape recording. When such doubts about confidentiality seemed to arise I would always reassure the participant about the ethical character of the research. One participant, a clinical governance lead, did seem rather apprehensive about the use of a tape recorder and to allay any concerns I gave them the controls so they could stop it when they felt uncomfortable. Nevertheless during all interviews, but more so during this one, reflective notes were also taken to identify further lines of questioning and interesting issues.

The use of the tape recorder was particularly useful for capturing the contents of the interviews. I also used this equipment to record any after-thoughts I had during the course of the interview, typically in the car returning to the university. All tapes were marked and stored in a locked drawer at the university to ensure the safe storage of the data. They were then transcribed and analysed.

While observations notes were word processed quickly after a period of fieldwork, the process of turning recorded data into a manageable electronic format took a considerable amount of time and effort. Typically an interview would be transcribed

using a word processor within a week of an interview; however, if more than four interviews took place in a week then this process would take longer. All the tape recordings were transcribed verbatim using specialised transcribing equipment. Although this stage of the research process is sometimes completed with the assistance of a specialised audio-typist, I used this opportunity to maintain my familiarity with the data and to identify emergent themes from the data. In order to distinguish between the various occupational groups involved in the research, especially in the context of data extraction and quotation, the participants were classified as either 'D' for doctors, 'M' for corporate managers, and 'R' for directorate level risk managers or quality leads. These identifications can be seen in the use of quotations in the following three chapters.

The transcribed interviews were all anonymously logged on computer with a separate encrypted file containing individual identities. These files were then stored on the university mainframe and a back-up floppy disk. The original tapes and hard copies of the transcripts were stored in a secure drawer with other documents gathered in the study.

Data collection: documentary sources

Mason (1996) points out that when using documentary data it is important to account for how this information is used and how it is 'read'. For example, are documents used as literal accounts of the social world that have descriptive quality,

or are they used interpretatively to show how certain ideas and assumptions are represented through documents? In this research hospital documents have been analysed and explored for both purposes. Initially, they were used to engage with the wider organisational and managerial context of the hospital, revealing systems and procedures, but they were also used to explore the way in which those who produce such documents are contributing to the construction of the hospital.

Along with the collection of observational and interview data I also made use of documentary sources to provide contextual information about the hospital. At the outset of the fieldwork this involved examining the hospital's website to identify any major issues or developments that may have a bearing on the research. It was also found that the hospital placed a substantial amount of its official documentation on "the web", such as the agendas and minutes from Trust Board Meetings, the results of Organisational Research, Trust Strategy Plans, and other performance related information.

During the fieldwork process I also requested any information that the hospital thought might assist the study, this included all strategy documents for clinical risk management, reporting procedures and incident forms. I also collected documents opportunistically during the course of the study, for example if participants referred to a particular hospital form, letter or statistical summary I would then request a copy. During the observations with the Clinical Risk Management Committee I was also included in the e-mail distribution of the agendas and minutes for this group.

This provided a useful source of information to support my field notes, and provided an interesting alternate account of the events that I had observed. Electronic documents were stored with other observation records and interview transcripts, while paper records were manually examined and electronic notes were made to reflect their contents.

Data management and analysis

The analysis of qualitative fieldwork data should not be considered as an after-thought to the research process, but should form an integral part of a complete experience; a continual process reflecting Coffey and Atkinson's (1996: 6) suggestion that:

“...the process of analysis should not be seen as a distinct stage of the research; rather it is a reflexive activity that should inform data collection, writing, further data collection and so forth. Analysis is not, then, the last phase of the research process.”

The constant analysis of qualitative data, in particular “funneling” (Silverman 2001) has been central to the development of the research questions, the selection of the case study, the identification of respondents and the appreciation of emergent themes. When accounting for this process it is possible to draw upon Baptiste's (2001) discussion of three common stages in qualitative data analysis. The first is

concerned with “defining the analysis” or deciding upon the goals of the analysis and how best to interpret and convey information. This relates to the theoretical and philosophical context of the research and assumptions about ontology and epistemology. Second, data analysis is concerned with “classifying” the data through “tagging” or coding sections of information and developing theoretically and empirically relevant themes. The third stage is concerned with the development of ideas, stories or theories; going beyond the identification of trends or occurrences and developing an account of ‘why’. Although this research project did not follow such as format prescriptively, with much of the initial data being analysed through reflective notation, it is still possible to identify and describe such stages within this study.

The analytical framework

To the objectivist or realist the world is composed of facts that can be empirically described to portray a scientific account of the real world (Knorr-Cetina 1981). However, it has been argued that the pursuit for scientific “truth” is in itself a subjective and interpretive act (Feyerabend 1975, Kuhn 1970) and what becomes important, particular for the social sciences, is to understand how the social world is constructed through individual and social perception and interpretation (Berger and Luckman 1991). As Turner (1999) puts it, the logic of constructivism is that something is constructed as a “fact” through the representation and eventual sharing of meaning, but the meaning and appreciation of these events occurs through social

and cultural processes. As shown in chapter four this research is concerned with exploring how such ideas relate to the social construction of medical errors.

However, I am cautious not to assume an excessively post-structuralist or relativistic position where all existence and ontology is located within human subjectivity (Velody and Williams 1999). To re-introduce the idea of ontology consideration is given to the critical realist position (Bhaskar 1979, Bhaskar and Lawson 1998), which has attempted to address the excesses of post-structuralism and the rejection of ontology (Scott 1998). One of the fundamental principles of this approach is the distinction between what *is* real and what we *perceive* to be real. Outhwaite (1998) describes this problem of ontology as being concerned with *intransitive* reality, that which is real and independent of human understanding, and *transitive reality*, those dependant concepts and theories that are developed to understand reality. In consequence it is argued that there is a “real” or objective world, but this can only be understood in a dependent fashion as it relies on human perception and interpretation in order to make sense of it.

In the development of these ideas I am also making certain assumptions about the character of society in terms of action and structure, particular focussed around ideas, knowledge and culture. On the one hand I believe that perception and meaning does indeed belong to the individual, but they are reflective of and contributory to social groups norms and customs, and in turn they are reflective of and contributory to wider social structures, in particular discourses of knowledge

and communication. In this way, the social world is seen as “stratified” (Layder 1998) with the dimensions of agency and structures existing simultaneously and inter-dependently (I appreciate there are enormous debates on this subject, e.g. Archer 1982, Giddens 1984, Lopez 2000). What is interesting for my research is the interplay between medical discourses at the level of social knowledge but also at the level of medical work and culture; how they come together to influence perception and interpretation and ultimately shape the meaning and construction of reality.

This is the main theoretical and analytical basis for this research and together with the methodological approach discussed earlier constitutes the underlying basis of the study. The concern with meaning has been developed from the basic premises of Weber’s *verstehen*: understating the meanings that people assign to their actions and their relationships (Freund 1968), through to addressing the everyday character of social meaning in the workplace (Garfinkel 1967, Heritage 1984, Miller 1997). Miller (1997) suggests that ethnomethodology is concerned with various interpretative procedures to uncover the “everyday” and routine classifications of experience and meaning. He refers to four aspects of such analysis in the construction of the social world. The first concerns the descriptive practices found in statements through which behaviour is understood. The second involves the implicit assumptions and values that underpin behaviour and communication. The third refers to the reflexivity of the social context that frames or assigns distinct roles and relationships. Finally, there is concern to understand change and the instability of

meaning. Understanding the social construction of the social world therefore involves engaging with these interpretative processes.

In the processes of data analysis and theoretical development I have wanted to ensure that the data itself provides the basis of analysis, interpretation and theory; as opposed to getting the data to fit theory. Throughout the research, from the development of questions, selection of participants and the collection of field data, I have been appreciative of emergent findings and the relationship between data and my own interpretations and inclinations. The techniques of grounded theory (Glaser and Strauss 1967) have therefore been a methodological influence upon the research particularly during the development of the study and the processes of coding, re-coding, comparison and the development of 'types'. As a methodological approach it aims to remedy the problems of grand theory by promoting theory 'discovery', particularly through the close analysis of empirical data. As such it has been popularly associated with developments in ethnography and symbolic interactionism and can be identified as a major contribution to qualitative research methods (Charmaz 2000). As an underlying methodology it is concerned with moving from data to theory, and as a method or means of research it is associated with openness to the variety and detail of the social world. Its practical components are associated with theoretical sampling, constant comparison of data, the development of empirically based codes and themes, and then the development of theory from the data (Glaser and Strauss 1967). The methods of grounded theory have therefore been

central to the processes of data collection and analysis, specifically the grounding of analysis and interpretation in themes and codes that have emerged from the data.

However, this study is also concerned to understand the relationship between social meaning and discourses. Silverman (1997) has argued that the ethnographic exploration of the social world and the interpretative analysis of meaning and action should be enhanced with an appreciation of the role of language, communication and social discourses. However, this raises serious epistemological dilemmas, specifically, how to reconcile the realism of grounded theory and ethnography whereby data provides the basis of social theory, with constructivism where meaning and theory is subjective, interpretative and discursive. Hammersley (1989, 1992) believes this dilemma resides in the dual commitment to realism and relativism typical of ethnography and qualitative research. From this perspective, grounded theory can be seen as operating on the assumption that empirical data represents something real about the social world and this data can be used to develop realist social theory. Alternatively, Charmaz (2000) suggests that the application of grounded theory requires the recognition that the social world is characterised by multiple realities, where knowledge is mutually created and the interpretation of meaning is central. Despite the different epistemological perspectives of realism and constructivism, Costain Schou and Hewison (1996) suggest that grounded theory is implicitly amenable to accommodate these variations because it is rooted in the sociological study of meaning and interpretation, such as symbolic interactionism, where recognising the processes of social construction is the core methodological

and theoretical concern. It is therefore important to appreciate that the use of grounded theory with consideration of social discourses means that theoretical developments are not just reflective of the data, but they emerge through the interpretation of the researcher as well as the researched. Data analysis is therefore characterised by a 'flip-flop' between data and interpretation (Baily 1977) and theories can be characterised as 'generated' rather than 'discovered'. In consequence, data analysis not only provides theory *from* the data, but also theory *of* the data.

For this research, grounded theory has therefore provided the basis of data collection and analysis, where specific concern has been given to the emergent themes and properties of the data from which interpretation and theoretical development has occurred. It is appreciated that these processes are interpretative and the resultant analysis is not in any sense realist. Nevertheless, through the use of grounded theory as a method of data analysis, especially constant comparison and thematic coding, it has been possible to identify the interpretative processes underpinning the social meaning of error and how these constructions influence social action and control. Moreover, by generating and reflecting upon an account of these social processes, the data can be indicative of the cultures and discourses that shape social interpretation and meaning. In this way the methods of grounded theory, can underpin the discursive analysis of text and talk, through the grounding of themes within the data, therefore enabling the identification and interpretation of discourses and generation of theory (Silverman 2001).

Fairclough (1993, 1995) discusses the analysis of discourse along three lines. The first is at the *textual level* and is concerned with the content of communication in terms of delivery and grammar: the 'what's' and the 'how's'. The second dimension is the level of *discursive practice* and is concerned to link the textual features to social practices: how patterns of language and communication interact and coalesce within specific historical and contextual situations and how local discourses are shaped by wider social structures and visa versa. The third dimension is that of the *social practice* and is concerned with the social organisation of situations, institutions and social structures in which discourse occurs. It is the latter of these approaches that has had an influence upon this research. Through the identification of 'grounded' or empirically-based themes this study has been concerned to explore how text and talk construct particular social worlds that buttress specific forms of social action and control (Prior 1997).

Together these different methodological and analytical perspectives have been influential in the development of this qualitative research. Each has been used to inform the decisions I have taken in terms of conducting the research and also in the processes of analysis.

Data management: computer software

One of the major decisions taken in this study was the use of computer software to assist in the management and analysis of qualitative data. Through discussion with peers, supervisors and reading the literature, it appeared that there is considerable debate about the merits of such technology. Implicitly this seems to centre on the appropriateness and ability of computer packages to meaningfully analyse qualitative data. Although it is the case that computer packages can indeed contribute to theory building, issue must be taken with the view that this technology in some diminishes the quality of analysis. An analogy can be drawn with the traditional tools of coding and thematic development. Instead of using highlighter pens and record cards to cut and order interview data into codes and then themes, the basic function of a computer package is merely to replicate this function; in other words, the selection, coding, grouping and ordering of data is “managed” through a computer package. Underlying both techniques is the person who selects, interprets and generates ideas from the data. Nevertheless several “myths” still seem to surround the use of computer software (Bong 2002).

For this research several trial and demonstration packages were tried out before deciding on which package to use, including N*UDIST, Ethnograph and Atlas *ti*. From this selection I found that Atlas *ti* was extremely easy to use. My primary use of this software was the storage and coding of the various sources of qualitative data that I had gathered through the fieldwork. This included observation, interview

documentary notes, interview transcripts and electronic hospital documents. The software enabled me to store these on a computer in such a way that enabled easy retrieval and access, electronic coding and cross-referencing. The use of the computer software in no way diminished my active role as the researcher, as I was still required to read and re-read the data, make selections and analyse the codes and themes from the data.

Codes, themes and types

Once the data had been transferred from physical items, e.g. documents, notes and interview transcripts, into the computer package I then set about coding or tagging (Baptiste 2001). With reference to the above discussion of grounded theory, the processes of analysis were primarily concerned with scrutinising the data for emergent, common and uncommon sections of data. During this process I identified information that resonated with the theoretical and empirical agenda of the study, and other emergent findings. In line with grounded theory (Glaser and Strauss 1967), this evolved into the development of grounded codes that were reflective of the data and also of relevance to the research. It was during this process that extracts from the data were tagged and labelled with codes that referred to their theoretical and empirical relevance. This process took a considerable amount of time and involved extensive reviewing and revision; eventually over one hundred codes were identified covering over 1000 pieces of data and quotes (see appendix one). In order to empirically and theoretically justify each code a brief descriptive account was

produced to identify the basis of interpretation and selection, the boundaries of the code and the relationship with other codes. In line with grounded theory, each code was constantly re-appraised in the light of new data and the codes were compared for internal consistencies and external boundaries. In consequence, it was common for each code to pass through a series of phases. An example of code development can be shown with the initial code “Management” which was used to refer to instances where participants talked about hospital management in general, this code was then re-coded along several lines to capture the depth of detail with which respondents talked about hospital management, including “management – expertise”, “management – roles”, “management – control”.

Once all of the observational, interview and documentary sources of data had been coded and re-coded in this way the computer package was used to cross-reference and compare between codes. For example, the programme enables the researcher to sort codes on the basis of AND, NOT, WITH, WITHIN and OR. It was therefore possible for me to search for relationships between codes, for example, there were several different sub-codes for “reporting” (in terms of incident reporting) which were cross referenced with codes such as “directorate variations” (talk of peculiarities and variation in hospital directorates) and “risk management” (reference to the hospital system). Through the processes of coding, re-coding and cross-referencing the data was categorised or themed with reference to the data and how they related to the broader theoretical demands of the study.

The analysis of data is often described as a tree where the smaller branches come together to form a bigger branch until eventually the branches make a trunk, this can be seen with sub-codes, codes, family codes, and themes. In this way empirical data provides the basis for theoretical development (Glaser and Strauss 1967). Through this process attention was given to the theoretical justification for each stage of classification and like the initial definition for each code, similar descriptions were developed for each theme and concept. By linking these codes together the conceptual framework of the analysis emerged and the thesis took shape. The analysed data was grouped into three themes that reflected those developed from the literature and policy, under the general headings of “interpretation of error”, “incident reporting” and “management practices”.

Typology construction

One feature of the analysis that requires greater attention is the development of “types” from the data; this can be seen in chapter four. Types have a long history in sociology (Weber 1992) and Kluge (2000) suggests that they are used to understand complex social realities. Types can be used to highlight internal features or describe the relationship between social phenomena. When developing the typology in this research attention was given to the theoretical debates surrounding typology construction. This consists of several stages, first specify the analytical basis of the types, e.g. groups, behaviours, or attitudes; second, group together the relevant

empirical findings or codes; third specify their attributes, boundaries and relationship to minimise overlap and confusion; fourth, characterise the distinction between types but also their meaningful relationship and combination (Bailey 1994, Kluge 2000, Strauss 1987).

In this study it was found that one level of medical interpretation could be analysed in terms of what the doctors regarded as error causality. I was therefore interested to identify internal consistencies and clear boundaries between these different interpretations and constructions of medical error. The resultant typology consists of types that refer to the cause of error in terms of the specific aspects of medical work. Taken together the relationship between the types can be seen in terms of the health care process and the organisation of the hospital. This typology was developed to clarify the way in which doctors interpreted the technical basis of errors in terms of expert medical knowledge.

Data, discourses and theory

Throughout the processes of analysis, coding and typology construction, I was concerned to relate the talk of participants and texts of documentation to wider social knowledge, practice, cultures or discourses. As indicated above, text and talk are treated as narratives that represent particular constructions of the social world (Miller and Glassner 1997, Prior 1997) and in doing so serve to promote particular realities that include routines or preferences for social control and power.

In line with Fairclough's (1995) third aspect of discourse analysis I was concerned to link the social meaning of medical error to social and organisational arrangements for error control, whilst simultaneously reflecting on the influence of other forms of social knowledge. It is important to acknowledge that the transition from 'grounded' codes and themes to the theoretical appreciation of discourses requires an explicit 'interpretative leap': while the analysis is based on empirical findings I am also aware that I have imposed my own theoretical assumptions upon the data to develop an account of discourses and a theoretical contribution to the study of medical professionalism and managerialism in the NHS.

Summary: using the data

The analytical process of this thesis should not be seen as a distinctive phase that was isolated from data collection. Nevertheless there were certain stages of the process that were conducted after data collection and interview transcription. The initial analytical stages were all recorded within my field work journal and mainly consisted of reflective accounts of the hospital management processes, while the use of computer software greatly assisted the latter phases of analysis, particularly in terms of coding and cross-referencing observational, interview and documentary data. It is important to emphasise that through these various procedures there has been a constant process of reflecting upon the data, and searching out new ideas and concepts. While the following three chapters attempt to present the data in a manner that enables it to "speak for itself" I am acutely aware that I have been subjective in the selection of quotes, themes and debates. Furthermore, I am aware of the

epistemological dilemmas associated with reconciling realist and relativistic forms of qualitative analysis. Besides presenting all the data in its entirety there is little prospect of avoiding my interpretative influence. This is something that I believe to be crucial to this thesis, because this demonstrates that through the research process, including the analysis, it is my interpretation and beliefs that have shaped the development of the research and the writing of the thesis.

Writing the thesis

When thinking about writing this chapter I examined other accounts of the research process and one of the most interesting observations was the lack of attention given to the “writing-up” process. This is surprising given that it is this writing that conveys the doctoral research. Furthermore, it seems to suggest that it is in some way detached from the research and the analysis. However, for my research, I have continually kept records of activities and decisions, from readings and findings, along with drafts and re-drafts of sections, chapters and arguments. The writing process therefore occurred throughout the doctoral process, from justifying research methods, literature reviews, conference papers and eventually this thesis. I believe this has been crucial to the final thesis that you now hold. Firstly, it has prevented me from getting out of the habit of writing. Second, it has ensured that I have written records of the doctoral process. Third, writing has helped me to develop ideas and

arguments. And finally, I have been able to get feedback from supervisors about the direction of the research.

As well as writing being central to the entire research process, it is also an integral to the analysis of data and development of codes, themes, typologies and theories. While data analysis used computer software and my own analytical attention, it was only through the process of writing-up that these ideas and findings started to take on some shape and form. Each of the “data chapters” was written with reference to the findings and the relevant literature. Each drafted chapter was then reviewed and re-drafted until the analysis appeared thorough. In this way writing the thesis was also an integral process of analysis as I was aware that it is the words that appear on the page that ultimately conveys the data and interpretation.

In terms of the final thesis, the writing process commenced with the three “data chapters”. These were written as stand alone papers including all the relevant literature and theoretical background, analysed finding and discussion. These were then re-drafted without the literature to maximise the impact of the data and limit theoretical distractions. The literature reviews from each of these chapters were then used to form the basis of the earlier chapters. This ‘methods’ chapter was written almost at the end of the process after most of the other chapters had attained their shape, followed by the introduction and conclusion. It is also worth noting as an addendum that revision and editing followed these stages of writing and had a substantial impact on sustaining the continuity and argument of the thesis.

Conclusion

The methods chapter has multiple purposes. Firstly, to provide an account of the research process. Secondly, in giving this account the methods chapter can indicate to the reader how the study could be replicated. And thirdly it can be used to identify weaknesses with the research design or suggest future opportunities for research.

Firstly, I have attempted to provide a transparent and honest account of my doctoral research process. From the development of the research project, to identifying and selecting participants, gathering information, analysing the data and writing the thesis, I hope I have adequately described and justified the decisions I have made and the actions I have taken. One of my main objectives in writing this account was not to excessively review the theoretical debates that surround research methods, these have been developed in numerous articles and text books, instead I have wanted to demonstrate that I know the essence of these debates but more importantly I wanted to show what I have done.

Secondly, as Parker (2000) suggests the methods section is often seen as necessary to give the “impression” that the research is “replicable” and therefore in some way more valid and reliable (Silverman 2001). Like Parker I am somewhat sceptical about the extent to which qualitative research can be easily replicated and produce similar outcomes. I would like to think that if somebody repeated my research

process they would gather similar information, but I also recognise that I was central to the research process: I subjectively selected the information to be included in field notes, I was an active participant in the social interaction of the interview, and I interpreted and developed the data into a theoretical context. So replication is not necessarily the objective, but I believe transparency is important so I can demonstrate how the ideas expressed in this thesis originated and developed.

Thirdly, by being transparent and honest not just to the reader but also to myself I can start to reflect upon the research process. There are many aspects of the research process that I do not feel were necessarily the most appropriate or suitable. First is the inclusion of only a single case-study. I feel that while the information gathered in the hospital was detailed and useful for making generalisations, it was not supported by information from another hospital site that could clarify, support or refute this data. Since the completion of this study I have commenced another research project and this has afforded me the opportunity to further explore this research within another hospital. Second, the access and process of selecting respondents was initially based around the senior management level of the hospital and I have to question whether through these activities I was 'pushed down' a particular route that suited the hospital. However, later discussions with the hospital have suggested that senior managers were generally unaware of the directorates within which I was conducting research. Third, I would have preferred the selection of respondents within each directorate to be more thorough. I feel now that if I had gathered more detailed information from within one area I would have found it easier to

substantiate this work. Conversely if I had done this then I would have included fewer directorates and the data would have been too narrow to appreciate the variations across the hospital. Fourth, in terms of gathering the information I am also disappointed that I did not manage to gather more observational data from the directorate level. I would have liked to observe clinics, ward rounds and other meetings. This data would have given me greater insight into the local level of the hospital and enable me to explore the issues that relate to error. However, due to practical constraints this was not possible. Despite these concerns I believe that the thesis provides a reasoned account of the social construction and control of medical errors.

6. The Construction of Medical Errors

Introduction

While the fallibility of medical work has become increasingly recognised there remains little clarity as to the conceptualisation of error. It is clear that there is an abundance of terms and concepts, for example, “error”, “mistake”, “untoward incident”, “adverse event” or “adverse patient incident”. As shown in chapter three much of the empirical research employs such terms interchangeably, or more often selects the term most appropriate for the audience, especially the use of “adverse event” instead of “error” when writing for professional and management groups.

It was argued through chapters three and four that there is a prevailing, or even dominant, approach for the basis of health service research and policy. This zeitgeist certainly seems to shy away from the use of the term ‘error’ and favours some derivative of ‘adverse event’, but of more significance this approach is highly influenced by the popular theories of Human Factors and risk management. What this produces is a concept of error that is on the one hand individual and rooted in cognitive psychology, and on the other hand organisational and rooted in management theory. Of crucial epistemological relevance for this research, these approaches conceptualise error in realist terms seeking out an objective and universal definition or sometimes types. In other words a health service error is said to be real with tangible and absolute characteristics, which are brought about by

cognitive lapse and poorly designed organisational systems that promote error-prone individual behaviour. The application of this approach in policy suggests that errors should be 'truthfully' reported and then through investigation the underlying causes can be identified.

Developing the ideas presented previously, this chapter argues that the prevailing notion of error fails to recognise that the professionals charged with the duty of reporting 'adverse events' are also involved in social processes of recognising, interpreting and understanding errors. It was shown that as an alternative to the prevailing theory and policy, a socio-cultural and discursive epistemological approach could highlight how errors acquire their meaning in a more contingent and variable fashion, with reference to particular social relationships, social knowledge and occupational cultures. Furthermore, by adopting this approach it can be argued that the prevailing approach is reflective of particular discourses or 'constellations' of assumptions and meanings that inevitably attempt to construct the meaning of error in an objective and scientific guise that promotes specific forms of social action. Equally, it can be proposed that other social or occupational groups make sense of or construct errors with references to other discourses and this could lead to social action that is not necessarily consistent with the expectations of policy. It is the contention of this thesis that medical professionals do indeed construct errors in a way that is divergent from that found in policy, where the meaning of error reflects particular socio-cultural assumptions and beliefs. Not only does this question the

realist basis of policy but it also offers a location for organisational power and resistance through the construction of error.

This chapter provides an empirical account of the construction of medical errors. Initially, it is shown how managerial groups within the hospital talk about and define health service errors. Here it is shown that the prevailing approach found in theory and policy is indeed being taken up within hospital management and is informing the implementation of the National System. Attention is then given to the way doctors give meaning to and construct errors. Initially, it is argued that doctors attempt to 'make sense' of errors with reference to the technical features and aspects of their work, specifically decision-making, technical performance, equipment and the organisational context of medicine. However, in this discussion it is shown how a second dimension of interpretation characterises the medical construction of error, which draws on other factors that are culturally pertinent to the evaluation of medical errors. These secondary factors arise from and are demonstrative of the complexity and uncertainty inherent in medical work, which serve to modify the initial preoccupation with technical causality and reveal a complex interpretive process. Together these levels of interpretation reveal that the medical construction of error is complex, contradictory and transient; where the discourses of bio-medical knowledge struggle to deal with uncertainty thereby necessitating the recognition and interpretation of other socially important factors.

Rather than representing a universal or an objective meaning, the construction of error is based upon distinct assumptions, priorities and constellations of knowledge. For this research it is those found in psychological and management theory and also those found in medical knowledge and practice. Accordingly the social response to error is premised on these different discourses and constructions, on the one hand promoting greater managerial intervention into medical work and regulation, whilst the other reinforces the legitimacy of medical control and regulation. Although not recognised by the relevant policy documents, the way in which medical professionals recognise, interpret, give meaning and react to an error in their practice will influence what they report and is therefore fundamental for the success of any kind of risk management system.

Human Factors in hospital management

This section describes the way hospital managers involved in clinical risk management and incident reporting talked about and 'made sense' of health service errors, with particular reference to the utilisation of prevailing theories. It is evident that the principles of Human Factors are being communicated to managers through policy and various other promotional schemes. Over the last two-years a great deal of effort has been made by the NPSA to prepare and educate those working in the NHS about the principles of the patient safety agenda. This has included providing conferences, road shows and workshops as well as having a presence at other health care seminar programmes. Throughout these activities it is clear that there has been

considerable effort to encourage the occupational and managerial awareness of policy. This has included the promotion of the prevailing conceptualisation of error, or “adverse patient incident” as outlined earlier. The result is such that those responsible for risk management have been almost ‘bombarDED’ with a particular epistemological orthodoxy. In consequence, it appears that the assumptions and expectations that underpin this perspective are being increasingly adopted within management practice. In other words the discourse of ‘error management’ is shaping the way health service managers understand and construct health care errors.

The managerial understanding of error

It was certainly evident from the way in which corporate managers within the hospital talked about the patient safety agenda that there was great enthusiasm for the health policy. This included those working within the management centre, closely associated with executive decision-making for the entire hospital and also those at the local directorate level with risk management responsibility (see chapter five for an account of the hospital structure). Generally there was great “hope” that if fully implemented the National System could “make real change in the NHS”. Mimicking the messages of theory and policy one manager said that:

“People don’t mean to make mistakes, the NHS is full of good people, its normally other things that lead to the mistakes... being rushed off your feet and not having time to do things properly” [Participant/Manager 1].

Furthermore, it was clear that the concept of error developed in policy was having an influence upon the way in which managers and administrators within the hospital's 'corporate centre' thought and talked about mistakes. For example, there was appreciation for the distinction between active and latent errors, the need for more thorough "root cause analysis" and the role that poor organisational systems can have in failing to protect against errors:

"And then there's one poor soul at the end of that chain who gets it wrong. Traditionally that one person might have been disciplined, sacked, made to feel really bad. And actually when you investigate them one of those other processes, chains or links, or what ever you want to call them has gone wrong, or all of them might of gone wrong, or one or two essential parts of the chain have failed." [P/M1]

"Its like the Swiss-cheese model, things sometimes slip through when the system doesn't work well" [P/M3].

The observations within the Clinical Risk Management Committee also highlighted the uptake of the prevailing theoretical position. As the fieldwork progressed it was clearly noticeable that this Committee was becoming increasingly concerned with the activities of the NPSA and the need to take the policy seriously in preparation of national implementation. In particular, the idea of 'root cause analysis' was rising up

the managerial agenda, being pushed by those directly responsible for risk management, demonstrating the absorption of the active/latent distinction. When asked about the principles and application of root-cause analysis, members of the committee demonstrated the growing influence of the prevailing approach on the way they thought about error and also how they recognised the need for organisational development in line with policy.

“And you know with OWAM [*An Organisation with a Memory*] and the Patient Safety Agency we’re meant to do root cause analysis of each error, which is great and so you should and people are trying to do that to analyse errors in more detail now, so the person left holding the parcel when the music stops isn’t the only person that’s considered that had some responsibility within the process” [P/M6].

From theory to practice: implementing the prevailing concept

As the fieldwork progressed it was observed in several management meetings that the hospital was attempting to apply and promote the prevailing concept of health service error, particularly through the development of a set of universal definitions and in support of changes to the incident reporting system. This included new induction and “training-days” for members of staff, and the distribution of a glossary of terms and handbook to each hospital directorate. Building on RIDDOR (Health

and Safety Executive 1995) and reflecting the language of policy, the hospital's documents defined an untoward event as:

“An untoward incident is an event which gives rise to, or has the potential to produce, unexpected or unwanted effects involving the safety of patients, users or other persons” (source: Incident Reporting Training Document)

Furthermore, this training document contained a list of examples to elaborate upon this definition providing staff with further guidance about what constitutes an adverse event. Along with its descriptions of accidents, violent conduct, general dangerous incidents and near misses, specific attention was also given to clinical incidents. These were described as:

“Error or mishap in clinical procedure, incorrect prescription or administration of drugs, absconding patients, self-inflicted injuries, incidents leading to increased length of stay, or unplanned readmission, sharps injury” (source: Incident Reporting Training Document)

This demonstrates the implicit influence of prevailing policies and theories on managerial ideas about error and the desire of managers to implement policy and prepare the hospital for the introduction of new error management procedures. It was commonly observed in the management meetings that those responsible for clinical risk management were unsure about the best ways to develop these strategies and

encourage the participation of hospital staff in accordance with policy. It was anticipated that the production and dissemination of standardised definitions and practical examples would provide staff with the necessary guidance and contribute towards their compliance. This not only shows that managers were responding to specific recommendations of policy with regards to standardised definitions, but they are also attempting to 'educate' or influence the interpretation of other occupational groups within the hospital.

Questioning the meaning of error

However, it is misleading to suggest that all corporate and risk managers in the hospital were unquestioning in their endorsement of Human Factors and policy. It appeared that there was a significant difference between corporate managers and those risk managers working at the directorate or local level of the hospital. In particular at the local level there was seemingly less exposure to national policy and in consequence there was less awareness of its principles or eagerness to make change. For example, there seemed to be a degree of uncertainty and scepticism about the policy and a suggestion that a "tight" definition of error could potentially neglect the subtleties, peculiarities and "realities" of clinical work. One respondent summed up this feeling with a general rejection of the definitions found in policy. However, others appeared more measured and suggested that the definition of error and the development of error management needed to have a degree of practical expertise to reflect the realities of delivering health care.

“There isn't for me a clear statement or definition that covers all that could possibly go on in a complex organisation... I think whilst we're trying to come up with a catch-all definition we won't get the right lessons learnt and the right reporting” [P/M3].

“Essential to that is clinical knowledge and being able to interpret theory into clinical practice, so you have got to have some understanding...of what it actually means.” [P/Risk Lead18]

Despite such reservations it was found that the patient safety policy agenda was having an increasing influence on the management of clinical risks throughout the layers of the hospital. This was stronger at the 'corporate' level where there was an immediate responsibility for the translation and implementation of policy within the hospital, but even at the local directorate level it was evident that the 'spirit' of policy was increasingly being absorbed, where many risk managers or clinical governance leaders saw Human Factors as a slight variation of their own 'common sense' understanding of error.

Summary: a prevailing concept of error?

As shown in chapters three and four, the conceptualisation of error advocated in policy is founded on particular psychological theories of error. From the interviews

and observations with hospital managers, it was clear that these ideas are increasingly shaping the way in which these actors conceptualise error and are coming to terms with the implementation of policy. It is difficult to know whether there has been any radical change in the way managers think about mistakes, and given that proportionally fewer managers work in the hospital it was difficult to acquire a substantial perspective, even though they are primarily invested with the responsibility for risk management. Nevertheless it is shown in the following chapters that the hospital managers with responsibility for quality are indeed being influenced by the ideas found in policy and are acting with reference to the prevailing conceptualisation of error and the need to introduce the National System.

Doctors in search of causality and certainty

The interviews revealed that doctors typically 'made sense' of errors through complex interpretative and social processes. These were characterised by distinct and often contradictory phases that contributed to the medical construction of error. The initial line of reasoning was commonly concerned with searching out certainty and 'reason', specifically doctors tried to understand the cause, or in medical parlance the *aetiology*, of an error. It was through ascertaining *how* and *why* something happened that the medical meaning of error emerged. However, as it will be shown later, doctors were rarely content with merely identifying causality and the further interpretation of error seemed to question and de-stabilise these initial concepts of error.

Nevertheless, through this initial search for causality doctors appeared to draw on their acquired knowledge and expertise about the human body, disease and medicine. It was this bio-medical discourse that guided the recognition and interpretation of errors in medical work, and frequently this was manifest through the identification of distinct 'types' of error, or to be more precise 'causes of error'. Although this typology (see figure 6.1) resonates with other studies of medical error, in particular Bosk (1979) and Neale (1995), it is distinguished by the characteristic interpretative struggle for understanding from the perspective of doctors working in health care. Although Bosk's work equally draws on the constructed and negotiated realm of medical work his focus resides in the teaching dynamic of surgery; and Neale's account is presented as 'real' identification of error types and fails to recognise any domains of interpretation.

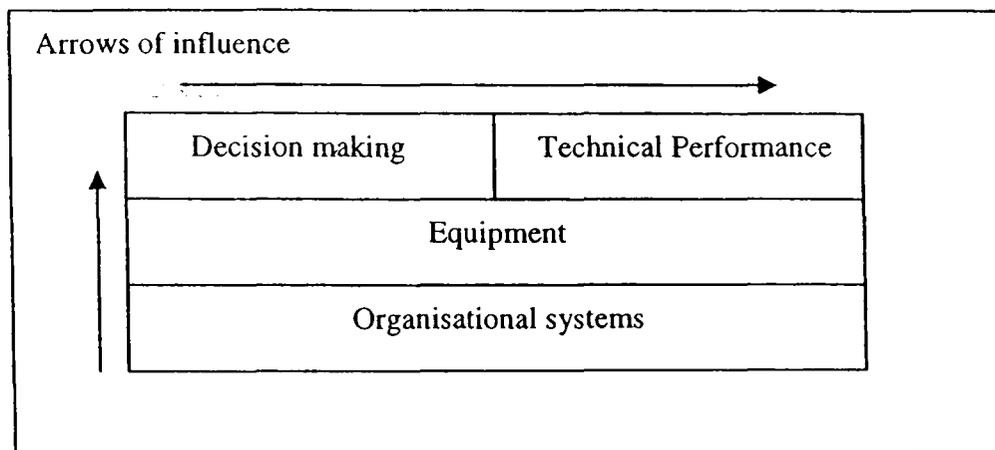
The first constructed causal type of error identified through this research can be termed medical "decision-making" and refers to the way in which doctors gather information, come to terms with the patient's complaint and develop care plans; hence it is most often associated with diagnosis. The second type is termed "technical performance" and is associated with carrying out medical procedures, such as administering a test or drug. The third category is concerned with the "equipment" used in health care that ideally assists or enables medical decision-making and performance. The fourth type of causality refers to the "organisational systems" that structure the work of doctors and the delivery of health care. These

four themes or types predominated in the way doctors attempted to make sense of errors in their work.

However, in the search for causality doctors also highlighted the inter-dependence between these types. It was evident that decision-making errors could have a consequential influence on technical performance, while equipment and organisational systems could also influence the way in which doctors went about making decisions or treating their patients. These directions of causal influence (see figure 6.1) are also reflective of the medical search for causality.

However, it is misleading to suggest that the medical search for certainty and causality led to the construction of unproblematic and stable types of error. It was evident that the medical interpretation of error was frequently confused and contradictory, where doctors almost ‘battled’ or ‘struggled’ with the complexity and uncertainty of their work and the mistakes that could arise. It was clear in the way doctors talked about error that the initial interpretation became unstable and this led to further layers of interpretation. These secondary issues are addressed later; initially attention is given to the search for causality and certainty, and the primary types of error.

Figure 6.1 Typology of initial medical construction of error aetiology



Decision-making errors

The “decision-making” category is most frequently associated with issues of diagnosis and planning patient care. Diagnosis is a fundamental stage in the care process; it involves gathering a range of information, from appreciating the patient’s complaint, understanding the patient’s history, making preliminary investigations through observation, and utilising a range of sophisticated scientific tests to assess the possible character of the patient’s ailment or disease. In the first instance the doctor must make decisions with regards to what information is required and what tests to request. Once this information is gathered the physician must then make some kind of assessment of this information, diagnose the disease and recommend a form of treatment and suggest a prognosis. This small sketch can show many of the points at which doctors see mistakes arising: for example, were the appropriate tests are run, is there sufficient information, is the information correct, and then is the decision and diagnosis correct? Doctors seemed to strive to evaluate and

conceptualise such decisions in objective and scientific terms, frequently relying upon (quasi-) statistical assessments that rely on the identification of risks associated with the disease or the patient. Based on these assumptions doctors attempted to categorise or define an error.

“We... do know about the likelihood of many diseases from talking to the patient and then further tests obviously make sure” [P/Doctor 14].

“There are certain things you look for... risks” [P/D5].

However, the way in which doctors also talked about such decisions demonstrated a tension. It was evident that such assessments and expectations were implicitly influenced by judgmental and subjective issues. It was strongly felt that the processes of decision-making, although guided by evidence-based practice, scientific data and specialised training, are not in themselves necessarily scientific but premised on making “judgement calls” and subjectivity.

“Diagnosis is just a guess but people don’t understand that, you make a guess based on the evidence that you can get and that evidence could change” [P/D15].

“Wrong diagnosis I think is quite difficult because it is not an exact science, it is part art, and therefore you might have a feeling or an inclination and run

other tests, but when something happens, in retrospect, you realise that actually you got absolutely the wrong diagnosis” [P/D12].

Furthermore, diagnostic problems did not seem to be equally distributed about the medical profession. It was evident from the way different professional specialties talked about their decision-making processes that for some groups making decisions was much more difficult. This was often related to the character of the patient or disease with which they practiced.

“I think it is a difficult one diagnosis, I don’t think it is in surgery so much, I think they are much clearer with black and white decision making, but if you look in areas, like medicine, where you can come with non-specific heart pain and that could be all sorts of things and there are series of tests you should go through before making a diagnosis” [P/D12].

It was found therefore that outwardly doctors attempted to make sense of decision-making errors in technical and scientific terms drawing from their acquired medical knowledge and through understanding how decision-making could cause an error. However, it was also the case that this process of interpretation was characterised by other dimensions of judgement and subjectivity that were based on the more tacit experiences of medical practice. In consequence, the medical understanding of a wrong decision or misdiagnosis is not understood along purely objective criteria, for example a decision was wrong therefore it is an error, but when a decision seems to

be inappropriate or incorrect, doctors evaluate the decisions they have made in the light of their experiences, inclinations and how they went about making the decision or diagnosis. Moreover, doctors seemed to emphasize the role of “art” over “science” thereby implicitly questioning the technical foundations of their acquired knowledge and instead emphasising the more contextual and cultural domains of shared experience. For example, if the patient’s disease is particularly difficult to diagnose, rare or unfamiliar, then the doctor is less likely to feel that they made some kind of decision-making error:

“Misdiagnosis, just by the words breaths the fact that somebody must have done something wrong, and actually that’s not true, because again I can think of an incident recently that was a misdiagnosis, but actually it was because it was a complicated diagnosis that led people to make what, when it was investigated, a reasonable decision, but it was wrong” [P/M3].

Two important points therefore arise from appreciating the manner in which doctors talked about their decisions and how they cause errors. Firstly, “judgement calls” and subjectivity implicitly buttresses expert knowledge, informs medical practice and influences decision-making. This reflects Fox’s (1975) observations about the uncertainties of medical knowledge that requires doctors to practice on “the edge”. In consequence some decisions may not be seen as ‘wrong’ because all the appropriate procedures were followed or tests carried out, even if the decision was not necessarily the best one. Secondly the way in which this type of error is given

meaning is through reflective subjective interpretation. Doctors seek out understanding not just in objective terms but through accounting for other relevant issues, such as the complexity of the case, expectation, the patient's characteristics and the impact of the decision. These are important features of medical interpretation that modify technical evaluations of error and will be discussed later.

Technical performance errors

The second type of error aetiology is associated with the "technical performance" and treatment stages of health care. After a diagnosis, this can be generally regarded as the next stage of the medical labour process, where medical practice typically centres on trying to make a change in the patient's health, typically through some form of medical intervention. It is therefore important to initially appreciate that this stage of medical work is highly dependant upon the relative 'success' of decision-making, given that treating an inappropriate decision can lead to further potential for error.

"I think if the diagnosis goes wrong you are more likely to make a treatment error, because you are going to treat the diagnosis you think, now that fortuitously can still be the same treatment for a different diagnosis". [P/D12]

Despite the diversity of treatments, procedures and practices that characterise the different medical specialties, it was again found that when doctors attempted to

make sense of the relationship between technical performance and error they implicitly illustrated the importance of bio-medical knowledge that guided their interpretation of causation. This involved assessing whether procedures had been carried out according to the skills acquired through training, expected standards, and established guidelines, and importantly whether any deviation had resulted in some form of negative outcome. It is the application of medical expertise and knowledge that initially provides the foundation for understanding how something may have gone wrong. Common examples included administering the wrong drug, carrying out the wrong procedure or carrying out the correct procedure in an unacceptable way.

“If something goes wrong you can see if this went right or you did that right.

There are normally established ways of doing certain things...” [P/D15].

Like with decision-making, when trying to make sense of such technical mistakes, doctors simultaneously sought out other issues that could mitigate or question this initial technical assessment, commonly with reference to other aspects of the care process, such as a wrong diagnosis, poor teamwork or defective equipment. For example, a doctor may administer or prescribe an inappropriate pharmaceutical dose but explain the causality not with reference to their direct action but in terms of poor labelling or the inability to read hand-writing. In other words, doctors strive to make sense of their performance within the parameters of technical or “scientific” expertise, but also through simultaneously emphasising and de-emphasising other

factors that provide this type of error aetiology with its social meaning. Interestingly these secondary issues resemble the 'latent' or 'upstream' factors emphasised in prevailing theory and policy. However, as it is shown shortly there is not always an explicit appreciation of this theoretical perspective, rather it represents a form of 'common sense' for doctors.

"It's well documented...drug packaging can look the same... in a hurry you can get things mixed up." [P/D12]

For example, in general surgery issues of technical performance are associated with the procedures relevant to a particular surgical operation. An example of how technical surgical procedures can lead to error was given with regards to locating and removing particular bodily organs without excessively or unnecessarily damaging surrounding tissue, veins or nerves. For surgery an important technical issue is to get in and out of the body without unnecessarily harming healthy parts of the patients.

The way in which surgeons talked about these issues suggested that professional guidance, established techniques and biomedical knowledge informs their practice. Beyond the extreme problems of operating on the wrong patient, it was also pointed out that surgery by its very nature necessitates damaging or 'cutting' into bodily tissue that is otherwise healthy. Although this is normally interpreted as "acceptable" and within the parameters of an operation in order to tackle the patient's disease, it

was also clear that there are times when damage to the body is unexpected and unacceptable. For example, wound infections are often regarded as an expected “complication” of surgery, whilst some types of nerve damage may be identified as “recognised complications” or “acceptable risks”, but damaging tissue of organs outside the “expected norm” is typically interpreted more negatively. It appears that if the procedure is carried out appropriately within expected parameters then any harm to the body, for example, incision wounds or damage to tissue are balanced with the desired objectives of tackling the actual disease and the expectations of professional conduct. Here we see a degree of selectivity, where the surgeon can balance damage to the body in terms of what is necessary and expected, with the demands of treating the illness, i.e. you may have to do some harm to do more good. In this way, medical errors are interpreted and evaluated beyond the medico-scientific knowledge and reflect other issues that are socially contingent and balance notions of “good” or “bad” performance. This dilemma may be observed with recent media controversies with regards to unnecessary mastectomies to treat breast cancer where it has now been suggested that less drastic surgery may have been more appropriate.

When trying to understand technical performance, therefore, surgeons seemed to give meaning to an error with reference to the demands of the surgical procedure, for some complex procedures it is necessary to potentially damage other organs, and if mistakes occur in this work then these are also balanced out.

“But if it’s just little things that happen in theatre, you know, so trivial that it doesn’t make much difference you just remember to do it differently next time, and I think surgeons always learn by experience” [P/D5].

Other medical professionals interpret and give meaning to their work in similar terms. For anaesthetists the technical issues of performance are obviously different, typically their concern is to ensure that the patient is healthily anaesthetised. they are monitored and supported throughout surgery and the appropriate drugs and substances are given to the patient. One anaesthetist highlighted an example of an error associated with the effective utilisation of breathing equipment. On the one hand, this was seen as a technical performance problem that could lead to patient harm, while on the other hand, it was suggested that if the problem is recognised and corrected without any damage to the patient it is merely seen as a ‘part of the job’ that could happen to anybody; not really an error. Again the conceptualisation of error is balanced with other considerations such as the harm to the patient.

“Now that as a fault is a very grievous one, if uncorrected it would lead to death of the patient within five minutes, but because you corrected it instantly you just regard it as one of those things and get on with it” [P/D17].

Issues of technical performance are therefore diverse and complex. The way in which doctors seemed to talk about technical performance demonstrated a desire to understand the objective technical basis of performance, i.e. was a given procedure

carried out in accordance with training, guidance and scientific knowledge? However, it was also apparent that the consequences of performance were not always interpreted in such terms, but they were constructed through balancing issues such as complexity, expectation and harm. This complex process may be indicative of the desire or impulse to avoid questioning individual skills and competence and to protect professional credibility. In response it seems that doctors attempted to re-interpret events with reference to other factors, such as organisational systems, patient complexity and the impact on health. This may be a cultural strategy to shift any suggestion of blame or incompetence. Like Arluke's (1977) analysis of symbolic rituals in surgical death rounds, the professionals involved in this research also give meaning to errors in such a way that highlights the technical scientific basis of error, but they simultaneously draw upon other factors to maintain their own feeling of competence. Again the relationship between medical knowledge and subjective interpretation is crucial to the medical meaning of error.

Equipment Errors

The third type of error aetiology concerned the "equipment" employed in medical care. Modern medical care is extremely reliant upon technological devices to assist in making decision and treating patients. This can include diagnostic tools such as X-rays, haematology tests or advanced MRI scans; while treatment can use keyhole technologies and machines to monitor the patient's conditions or provide pain relief. When doctors talked about errors in their work there was a strong awareness of the

role of equipment. Importantly, while these machines perform tasks in their own right, they are principally seen as tools to inform, assist and secure medical decision-making and performance. It is the ability or inability of medical devices and instruments to perform the expected tasks that characterises the medical perception and interpretation of equipment related errors. It was, therefore, evident from discussing errors with doctors that equipment constituted a major cause of error in medical practice.

“You can never make any piece of equipment ...completely risk free”
[P/D26].

The medical understanding of equipment errors exhibited several features. One of the main concerns was the potential for machines and devices to malfunction and result in direct harm to the patient. It was suggested that due to the limited resources of the NHS the quality and standard of equipment did not always meet expected standards. Specifically, in several of the Clinical Risk Management Committee meetings it was observed that certain forms of equipment, such as breathing apparatus and anaesthetic devices, were believed to be below the expected standards of the respective professional groups and were the focus of debate and resource allocation.

As well as direct harm to patients, it was also pointed out by that machines can go wrong and while not necessarily directly harming the patient, they can hinder the

work of the professional. For example, one surgeon claimed that absent or ineffective equipment in surgery can sometimes have massive consequences, and can necessitate the reliance on more traditional practices. This can create its own problems as the surgeon may not be as familiar with some of the older surgical techniques that may have been superseded by equipment and in consequence there may be greater chance of error.

“What does it actually mean all these little things, we can still do the operations if we don’t have the right equipment, the operations get done its just not so easy to do them and its difficult to put in black and white”
[P/D30].

Another issue with equipment concerned the uncertainties that it can promote or exacerbate in medical work. For one obstetrician there was a suggestion that a particular piece of monitoring equipment did not always provide the level of information required during childbirth and as such it was more-likely for errors to develop. In this way equipment can exacerbate particular uncertainties in medical knowledge and lead to an “equipment gap”, which could potentially make medical care more prone to error.

“And it’s recognised that the way that monitoring is done it is a spectacularly poor tool at telling whether a baby is okay or not. It’s very good when it’s

totally normal and it's reasonable when its completely abnormal, but in between that you have got very grey areas" [P/D19].

The use of sophisticated technology is an important feature of modern health care; and with such technology new uncertainties, risks and opportunities for error come into existence. An equipment error may appear more 'real', so that when a piece of machinery malfunctions it is somewhat easier to locate its impact, but the way in which doctors interpret such errors also centres on the social interface between the equipment and the patient or doctor. It is here that interpretation and judgement informs understanding. For example, an X-ray may reveal an image of a patient's chest but professional judgement is still required to interpret the image. It appears that the contribution of technology to medical practice should be seen in terms of its relationship with professional action, not in isolation, and therefore equipment errors are also understood through this relationship. Furthermore, in recognising this social dimension it can be seen that equipment problems are also used to mitigate problems with professional decision-making and technical performance errors as it was suggested that these types of error were sometimes caused by "faulty" equipment.

Organisational and System errors

The final causal type of error 'causality' identified from the interviews is associated with the organisational systems and occupational context within which medicine is practiced. It was frequently discussed how there was insufficient time and resources

to deal with all the issues and problems experienced in medical work, underpinning which seemed to be a concern with the wider organisational and political agenda of the NHS, such as waiting times. All the doctors involved in the research expressed concern with the organisational arrangements of the NHS and suggested that these were major direct and indirect sources of error in health care. However, a selection of novel themes emerged from the data beyond the seemingly ubiquitous concerns with resources and staffing levels. For example, several doctors highlighted the impact that working patterns and hours of work can have on the effective delivery of health care:

“You know results are phoned at 5 o’clock and not dealt with till the next day” [P/D9].

“When they are actually operated on there is a pressure in trying to get the number of cases down because of the time available and so one does try to do things as quickly as possible, there is always a set time that its going to take, and I’m not saying that you are going to cut corners but you are continually under pressure to try and get your patient done” [P/D30].

“But when you have got a lot of pressure and you have got people whizzing around a system that can’t cope then you are going to get errors at the end of the day I think” [P/D20].

It was emphasised by many of the doctors that the result of these pressures was not an abundance of errors, rather there was just greater potential for decision-making and technical performance errors to arise because there would be less time to do the tasks as thoroughly as required or to the standards that the professional would expect. Organisational systems therefore represented an indirect threat to patient safety through the negative influence on medical work. In the medical search for 'causality' the interpretation of decision-making or performance problems could prompt the professional to consider the wider contextual influences on their work. As it will be discussed shortly this has interesting, yet not explicit, similarities with the ideals of Human Factors.

As well as this indirect cause of error, doctors were also acutely aware that during times of crisis, such as in winter, the organisation of the service could also have a direct impact upon patient care. There was considerable concern about the necessary resources to sufficiently staff the hospital and ensure that the patients were appropriately treated in specialised departments. One doctor showed great concern about the allocation of patients around the hospital when specialised wards became full and patients found themselves on wards that did not necessarily meet their health care needs.

“In the middle of winter and a flu epidemic, we are still going to get patients admitted with respiratory disorders sent to wards that are completely unsuitable... every time there is a ward move there is a communication

problem or could be, everybody does their best but it can lead to all sorts of delays and it can lead to mistakes eventually.” [P/D20]

This means that patients are potentially being treated by professionals that are not the most suitable or appropriate and this was regarded as exacerbating decision-making and performance type errors. This problem also illustrates the problems associated with organisational linkages and relationships. Organisational communication was seen as a major ‘victim’ of poorly designed and integrated systems, in conjunction with excessive pressure. Modern health care is characterised by multiple professionals, often working in teams, providing an integrated care pathway. Effective communication and co-ordination is therefore crucial for medical work but can also be the source for potential errors, particularly since it is felt that there are too few staff and insufficient time to work effectively together.

Doctors were acutely aware of the potential impact of organisational systems on their work. This ranged from general “gripes” about the resources and staffing levels, to specific complaints about how certain systems are organised. These issues were major considerations for the medical interpretation of error. Interestingly, the way in which doctors talked about these issues resonates with the prevailing theories found in Human Factors. From the perspective of policy, it can be suggested that doctors are implicitly appreciative of the active and latent dimensions of error in their work, and by identifying mitigating and organisational factors doctors are themselves practicing a form of ‘root causes analysis’. For a minority of doctors it

was certainly evident that the 'patient safety' agenda in the NHS was recognised and regarded as an important development in quality improvement. As it will be shown in chapter seven, several doctors had attempted to replicate techniques of policy within their work. Furthermore, it appeared that a collection of doctors had read the special edition of the *British Medical Journal* (e.g. Leape and Berwick 2000, Reason 2000) and were aware of the recent scandals associated with the Toft Report (Toft 2001) and the Bristol Enquiry (Kennedy 2001). These had served to promote medical awareness and potentially encouraged doctors to consider the organisational and latent factors pertinent to their work. It appeared therefore that for some doctors the recognition of organisational type errors was explicitly influenced by the prevailing concept of error found in theory and policy. In particular one consultant had a particularly strong interest in Human Factors and was eager to promote the policy to their colleagues.

“I have that issue of the BMJ with the aeroplane on the front, and I have been telling my colleagues about it and lending it out” [P/Doctor 13]

In addition this doctor was enthusiastic about working with corporate management to promote incident reporting and, as it will be shown in chapter seven, he was also involved in developing an alternate form of medical reporting to encourage medical participation and the uptake of Human Factors within medical practice. The influence of policy was particularly significant amongst a number of doctors working in the Directorate of Obstetrics. For the obstetricians it appeared that their

appreciation of Human Factors was driven by their advances in risk management and incident reporting at a professional level. This is discussed more in chapters seven and eight, but it is important to note that Human Factors has had an implicit influence on this medical speciality. Crucially, however, this has been promoted within the profession well in advance of recent managerial developments.

For Clinical Directors there was typically some awareness that a new policy agenda was to be introduced that would alter the basis of risk and error management, especially those directors who worked closely with a local risk manager.

“Yes, individual errors do occur, there is no doubt about that, and research has shown and popular television programmes about medical errors have shown that it is usually a systems error, and we have seen that with patients being injected intrathecally rather than intravenously and that sort of thing” [P/D20].

“It’s like they say isn’t it, we will always make these individual mistakes but there are other problems in the way the service is run...it’s the active and latent thing.” [P/D13]

“Of course quite often these aren’t technical type errors, they are system organisational errors” [P/D17].

For the majority of doctors, however, it was not evident that the active/latent distinction and the ideas of Human Factors had a direct influence on their understanding of organisational factors. Conversely, the medical recognition of organisational causes seemed to stem from a 'common sense' understanding that was not explicitly shaped by prevailing theory. It may also be the case that by emphasising the organisational causes of error doctors are exhibiting a rationale or strategy to shift the analytical focus from their own practice and issues of competence towards that of which they have no responsibility. This resonates with the work of Arluke (1976) because doctors may be emphasising the influences of organisations to mitigate any lapses in their own performance or to legitimate claims for organisational change.

Summary: initial interpretations and medical knowledge

The way doctors talked about errors in their work seemed to generate a basic typology encompassing decision-making, technical performance, equipment and organisational systems as the potential causes of error. On one level these types reflect the technical and contextual features of medical work and show that doctors are drawing on their medical knowledge to develop scientific, technical or even 'real' types of error. This is normally associated with the techniques acquired through university training, continuous professional development, keeping abreast of new developments, and following evidence-based guidelines and protocols. It could be argued therefore that doctors initially give meaning to error in relation to the

scientific knowledge that underpins their work. In other words, the discourses of medical knowledge and practice therefore influence the search for causality and certainty and initially shape the medical construction of error.

However, in this discussion it also appeared that the medical interpretation of error implicitly relies upon other issues, such as expectation and complexity. Throughout the interviews it was found that doctors frequently struggled to make sense of the causality of error. As shown in the above discussion, doctors emphasised the judgemental and contingent character of their work implicit of the uncertainty and instability of meaning. For example, it was commonly suggested that medicine is “more of an art than a science”. In consequence, doctors have some difficulty in remaining committed to scientific principles of bio-medical knowledge because of the uncertainty and complexity through which errors are seen as originating (Fox 1975). In consequence, the certainty of this interpretative stage becomes destabilised and other important cultural and tacit factors appear to “fit” into the “gaps” or holes in medical knowledge. In consequence the medical construction of error becomes more complex and unstable as other social factors become important and inform the medical interpretation of error, through both challenging the assumptions of medical knowledge or offering to reconcile the gaps and uncertainties of this acquired expertise.

The interview data therefore suggests that it is important to go beyond a typology of error and instead understand the other interpretative influences that guide the medical construction of error.

Doctors dealing with uncertainty

In the first instance therefore it appears that doctors attempt to make sense of errors through seeking out the causal relationship between the technical qualities of their work and error. However, it is also apparent that when doctors talk about mistakes they become aware of the conceptual difficulties and uncertainties in their expertise and practice (Fox 1975). In consequence, the initial attempt to interpret errors in stable and absolute terms becomes problematic as doctors struggle with the complexity and uncertainty of their expertise. In this way error becomes a transient concept as a second phase of interpretation further characterises the medical construction of error. This proceeding process of interpretation engages with the more cultural and social aspects of medical work, or the emergent norms and values that characterise medical practice at the practitioner level (Lupton 1998). Specifically, the medical interpretation of error becomes shaped by the perception and the interpretation of uncertainty and in consequence the medical meaning of error moves beyond the technical to a more socially contingent concept.

The inevitability error

One of the most prevailing themes was the general feeling, amongst medical professionals, of all specialities, that mistakes and errors are an inevitable feature of human work.

“You know we are all human, mistakes are made all day, every day, by every body” [P/D5].

It was widely suggested that errors are common to medicine because of the inherent uncertainties in medical practice, the need to make decisions when information was not always available, the technical difficulties of performing certain procedures and the complexity of the human body and disease. The academic recognition of uncertainty (Fox 1975) was explicitly felt by doctors and characterised the culture of medicine.

In some ways it may be presumed that the acceptance of error reflects an appreciation of the ‘human character’ and is reminiscent of Pope’s dictum “To err is human, to forgive divine” (1711, line 525). However, it may also be the case that doctors have been influenced by recent events within the NHS and messages that have been extensively propagated through professional journals (Alberti 2001; Berwick 2001; Berwick and Leape 1999; Leape and Berwick 2000). It may therefore be the case that this awareness has been thrust to the fore of medical perception

through wider professional and social recognition. Moreover, it is likely that involvement in this research may have made the doctors implicitly aware of the human proneness to mistake and thoughtful on the subject.

Nevertheless, it was commonly felt by doctors that the pressures of working within the NHS exacerbated the inevitability of human error in general and had a major impact upon their work. This reinforces the link between individual and systemic errors as proposed in theory and also identified by doctors through their initial discussion of error.

“Well, human error is always going to occur and it depends on how much pressure people are under, whether they have got the time to make considered judgements, or whether they are having to work so fast that they are having to make snap decisions which inevitably some of them go wrong.” [P/D15].

It was extremely common for doctors to attempt to mitigate some of their responsibility for error with reference to the lack of resources in the NHS, antiquated equipment, time pressures and poor organisational arrangements. In this way, there was a tendency to ‘blame the system’ or organisational types of error causation.

This “inevitability” makes an important contribution to the study of error and reflects Rosenthal’s (1995, 1999) findings. Specifically, it suggests that medical

work cannot always attain some ideal or perfect level of care, but rather medical practice constantly involves working with the potential for something to go wrong. This has a significant impact on the medical interpretation of error as it indicates that mistakes cannot always be interpreted and controlled in absolute terms whilst highlighting the “gaps” in medical knowledge.

“You know, there is a learning with patients and mistakes are made, and things are not perfect and never have been” [P/D9].

The issue of perfection has been raised by the influential writer on medical error Lucian Leape (1999). He suggests that the medical approach to error can be described as the “perfectibility model”, where doctors rely upon expert knowledge and experience to deliver an ideal level of care, but when this expectation is not reached doctors react with considerable blame and shame. However, the manner in which doctors talked about errors in this research shows that they are acutely aware of the possibilities for mistakes in their work. Contrary to Leape, the doctors seemed to feel that the pressure of perfection originates less from within the profession, but more from outside, within the eyes of the media, public and government. A number of doctors felt that recent health policies expressed contradictory messages, on the one hand suggesting that mistakes are an inevitable feature of human work, but simultaneously suggesting that through implementing new management practices some kind of perfection could be attained. Moreover, doctors suggested that their patients did not often share this view and actually expected perfection. Again this

demonstrates the important relationship between trust, uncertainty and error that contextualises the current developments in health policy.

The social perception of error

It was certainly evident that one of the most crucial, but often overlooked factors, in the processes of interpreting medical errors is whether events are recognised or known about. This may seem quite obvious; if an event goes completely undetected then it cannot be given any social meaning; whereas when a suspect event is detected professionals can start to make evaluations as to its causes and impact, and therefore construct its meaning. However, this small point is rarely addressed in other research as it is presumed that mistakes are somehow distinct and independent of social perception, but for doctors it is clearly one of the first steps in any construction process.

“Another big area relates to recognition of problems, in other words, if you don’t recognise that there’s a problem you won’t act to do anything about it”

[P14]

It was clear that there were several sources of knowing about an error and typically they are detected by one of three groups. First, the professional directly involved with the event, second their peers involved in the care process, and third the patient or their family. For each of these sources there can be different signals that attract

their attention and each of these signals can hold different social meaning to the groups involved.

Of interest here are those doctors directly involved in the delivery of care. It was evident that a range of triggers can signal whether something has potentially gone wrong. The most prominent was a “dramatic change” in patient health, for example unanticipated death, dramatic loss of blood or severe disability which could lead a doctor to review and reconsider the tasks they had performed. Others included ‘warning alarms’ or concerned peers and patients. These triggers represent the primary basis of interpretation, shaping the way doctors come to know about errors and from this how they develop meaning. It also reveals the important interrelationship between perception and interpretation, for example, “unanticipated”, “dramatic” and “severe” all refer to the subjective understanding of the events that have transpired.

The medical construction of error is therefore not just a matter of understanding what caused something to go wrong, but it is determined in part by how and by whom an event is discovered. This demonstrates the complexity of the medical construction of error, for example, a decision-making error may only be identified much later in the care processes when more information is available or a procedure has followed the wrong diagnosis. The professionals involved therefore have to reflect upon how they have come to know about this problem, locate its cause and give the event meaning. Consequently, abstract typologies, of the kind developed

above and elsewhere cannot always provide a full account of error. For example, in technical terms it could be the case that an error occurs because a wrong diagnosis is made because test results were delayed, but the social awareness of this problem is unlikely to originate in those responsible for the test result as no problem has yet arisen, rather it could be the professional acting on the test results that is left with “blood on their hands”. Moreover, the doctor involved in the delivery of care may not be fully aware of these processes and awareness of the event is potentially isolated to their actions and it is here that they construct the meaning of error.

Moreover, perceptual and interpretative variations were also recognised across occupational boundaries, further demonstrating the contingent construction of error. One doctor suggested that it was not uncommon for two doctors reviewing case histories in the same directorate to perceive, understand, and evaluate errors differently:

“I suppose around the management [of a patient] there might be a discrepancy and one clinician may say ‘I think that was all right’ whilst another might say ‘I’m not too sure about that’”. [P/D7]

One ward manager with risk management responsibilities provided an interesting example of where the boundaries of expertise and responsibility in surgical theatres guided the variable perception of error. In this particular case, it was told that for certain forms of instrument sterilisation in theatre it was normal to use a cold-

sterilant, and for the sterilisation technique to be effective, the ward manager stated that the equipment must remain in the sterilant for 20 minutes. On one particular occasion, however, it was claimed that a surgeon wished to use the instrument after just 10 minutes; and for the ward manager this represented a significant error of judgement.

“Now my staff reported that, and I sent that to their clinical director saying you really need to investigate this and do something about it, and his perception was what a load of dross why are you sending me this” [P/R27].

The perception and interpretation of the error therefore varied between these different occupational groups. On the one hand this reflected different areas of specialist knowledge, yet it also showed that perception reflects wider differentials in organisational authority, culture and the division of labour. In this case the surgical interpretation seemed to prevail over that of other members of the surgical team, despite their own claims to expertise. Errors are not therefore fixed or stable but shift according to the social perception and interpretation of an event.

The manifestation of uncertainty

As illustrated above complexity and uncertainty in medical knowledge continually undermined the medical search for causality and called into question the aetiological types of error initially developed by doctors. These “gaps” (Fox 1975) were

generally manifest along three lines: complexity, expectation and severity and together with perception represented a further stage of interpretation. One significant influence of these three factors was the extent to which they appear to *filter* or *accentuate* the social meaning of error.

In the first instance, this can be seen with regards to the “complexity” of the human body in general and patient’s disease in particular; how “easy” it was to diagnose or treat. For decision-making this may centre on the outward appearance of the condition which the physician must interpret. However, if the patient’s symptoms are vague, non-descript or the disease is extremely uncommon then the ‘accuracy’ of the diagnosis may be undermined. It was suggested that this could often be the case for doctors working within acute medicine because of the assortment of patient ailments, unlike for example a specialist working within a breast care unit (hence the increased tendency towards medical sub-specialisation). Such complexity can also be found in the technical performance aspects of medical work, where errors relating to treatment are interpreted with reference to the difficulty of conducting a procedure. For example, the interpretation of error in cases of high-risk surgery may be balanced out by the complexity of the procedure and the condition of the patient.

“There is always something maybe I could have done that bit better and there are some operations that go badly for whatever reason and it is not actually a reflection on you as a bad surgeon it is normally a reflection on the difficulty of the case or whatever” [P/D25].

It was also suggested that the complexity may be exacerbated by the general health status of the patient, for example co-morbidities can complicate diagnosis or treatment. The patients pre-existing health status may, therefore, be taken into consideration when trying to make sense of why an outcome was poor and whether it was an error. However, it is necessary to consider that this could be a strategy for professionals to locate alternate explanations for why certain procedures are not successful and mitigate responsibility.

“Well if you operate on high risk sick people well some of them die. Well they might die because you’ve made some technical cock-up or they might die because you’ve done your best and they were too sick to make it” [P/D5].

Medical professionals, therefore, make sense of error beyond merely examining the technical causes of event, but also with further reference to the complexity of the case. In many ways this can act as a filter and provide the basis for doctors to temper or legitimate possibly poor performance, or more specifically modify the meaning of the event away from error and towards that of a “complication”. In essence what may be seen as an error is re-constructed as something that is “a part of the job”.

“Sometimes it’s difficult to tell the difference between an accepted complication of a condition or an intervention, and something that has

actually gone wrong. Sometimes it can be difficult to fit into both categories”
[P/R16].

Related to the problems of complexity and uncertainty are the “expectations” of the doctor. What is expected from a decision or a course of action is fundamental to how that decision or action is evaluated and given meaning. Considering the uncertainties surrounding patient complexity, it is therefore not surprising to find that doctors also have uncertain and variable expectations as to their performance and any prognosis; yet these expectations have a vital role in the interpretation and social meaning of error.

On the one hand expectation is often demonstrated in medical work through quasi-scientific calculations of risk or chance that attempt to quantify and control uncertainty through the rationale of scientific medical knowledge (Beck 1992, Luhmann 1991). This can involve taking into account the patient’s history, the disease type and complexity of treatment. For example, an anaesthetist may ask about breathing problems, weight and previous ailments when establishing the risks of a general anaesthetic and therefore informing their expectation.

“There are risk factors for that procedure [type of surgery] and we can try to work it out...but it’s not absolutely right”. [P/D30]

If a doctor expects a certain degree of risk or there is a possibility that a procedure may be below expected standards then the meaning given to these events will differentiate from an unexpected error. Specifically, the doctors may interpret the event not as an error but as a complication. In this way, expected problems can be filtered and given an alternate meaning, because the doctor was aware that this could happen.

“Well from a medical point of view it’s often this is a recognised complication, it’s not an incident” [P/D11].

This can be seen in the earlier remarks concerning surgery where it was pointed out that all surgery expects some degree of risk and bodily harm, but these are balanced with the desired objectives of care. Equally, if a doctor feels that a patient has a poor chance of survival or recovery then expectation seems to de-accentuate the need to locate and understand errors that may occur. Here again uncertainty *with* expectation can filter the social meaning of error.

Expectation can also have a role in triggering the recognition of an error by highlighting that something has gone wrong, accentuating the importance of the event and necessitating further enquiry or investigation. The impact of this could lead a physician to seek out the cause, raise the issue with colleagues or it could form the basis of what many doctors referred to as an “individual learning experience”. Unexpected events also appear to have an impact upon how medical

professionals start to come to terms with events and errors, and act as a driver towards seeking out causation. It could be the case that an unexpected event could be constructed as “a part of the job” after the doctor has sought out greater understanding. Nevertheless, doctors tended to refer to expectation as an implicit influence on the interpretation of an error, both accentuating and filtering error. Expectation therefore underpins the social construction of error and this is not always born out of the knowledge or discourse of medicine, but from the local contingent peculiarities of medical practice.

Possibly the most prominent, but not necessarily the strongest, influence on the medical construction of error involves the interpretation of “patient harm”. It was common amongst doctors to emphasise the purpose of medical care: normally centring on the ethos of improving patient health through the application of their expert abilities. However, the interviews also indicated that an unexpected change in patient health and the “severity” of this change were two crucial influential factors in the medical interpretation of error.

As mentioned above, an alteration in patient health may alert the physician to the possibility of an error, and the interpretation of the severity can necessitate the doctor to conceptualise the event as an error. This is particularly the case when the harm to the patient is not expected and takes the doctors by surprise. In this way severe and unexpected harm to the patient accentuates the interpretation of an event

and can lead to the social construction of an error. Here it is the combination of harm and expectation that guides the medical meaning of error.

Conversely, the combination of severity and expectation can also provide the basis for filtering the interpretation of error by enabling the doctor to distinguish outcomes that are a “part of the job” and recognised as expected consequences of treatment. This can be seen with examples of surgery involving harm to the body in order to tackle the disease.

“I think the important thing is the thing that has a direct impact on patient care. An important impact not just you used the wrong sized stitch, but something that is actually going to influence their outcome” [P/D5].

In consequence, expected patient harm was less likely to be regarded as an error. Doctors could justify these events more easily, yet unexpected harm appeared to demonstrate the limits and “gaps” of their expertise central to the construction of error. Generally, an unexpected negative impact on patient health was widely considered an alarming and extremely unsettling event. Not only were doctors concerned for the patient and their family, but there was also the potential for a strong emotional shock for the professional: calling into question competence, responsibility and feelings of self-blame. This was not necessarily under extreme cases of death or disability, because expected harm could be more easily accommodated, but unexpected harm appeared to accentuate the interpretation of

error. It seems therefore that where there is only a small expectation of patient harm, but harm still occurs, there is greater pressure for the professionals to critically evaluate their performance and interpret the events as an error.

Summary: the transient meaning of error

The data reveals that although doctors may initially seek out certainty and causality in their interpretation of error, other cultural features and issues characterised the medical construction of error beyond the influence of medical knowledge. These social and cultural aspects of medical practice appear to have developed to accommodate the uncertainties and complexity of medical expertise (Fox 1975) and lead to an unstable and transient meaning of error. Many of the doctors expressed a feeling that a definitive and meaningful definition of error was beyond their reach (Bosk 1986). For example, it was quite common for doctors to attempt a single technical definition of error but then reject or clarify this initial suggestion as they considered other possibilities and interpretations. It was seemingly felt that a single meaningful and workable concept of error is unobtainable.

“Everybody would have different ways of interpreting...[errors]” [P/R16]

These secondary interpretative issues render the medical construction of error extremely imprecise, fleeting, and unstable. The typology of error causation developed above rarely provides a full account of error, because the issues of

awareness, complexity, expectation and patient harm undermine or question any initial attempt at certainty. One of the most important findings is the way in which doctors seem to filter potential errors and reconstruct them as “complications” or alternatively accentuate ‘everyday events’ and interpret them as errors. It is not possible to provide an abstract formula of when this could occur, but seemingly the most likely combination of pressures for filtering centred on when there was a high expectation that the complexity of the case may lead to a negative outcome; whereas events were accentuated when there was little patient complexity and harm was not expected.

It can therefore be suggested that the medical interpretation of error is transient, taking on an initial technical form, but then becoming de-stabilised by other considerations. It may be the case that the search for certainty or stability is reflective of medical discourses associated with expert knowledge, where medical practice is characterised by diagnosis and treatment, in much the same way that doctors attempt to diagnose errors. However, the de-stabilisation of error may also be a conscious effort to complicate the interpretation and meaning of error, and by making it transient it becomes more difficult for other occupational groups to fully understand or evaluate. The different meaning ascribed to an error has a significant impact upon how doctors subsequently act. For example if the meaning of an error was constructed with reference to organisational causation then the doctor may attempt to reform organisational systems; if the responsibility of the error was located with individual performance then the doctor may question their practice; or

if the doctor feels that no error has occurred then no relevant action will transpire. Although this may seem obvious, it is not clear within the health policy documentation that different social meanings exist and elicit different social responses; this is particularly important given that policy requires professionals to report all their errors. By ensuring that error is a transient concept, doctors are not only making their own interpretative processes difficult, but also those processes associated with other occupational groups.

Discussion: the medical construction of error

The doctors involved in this study reveal an almost dual process in the interpretation of error. The first and most obvious centres on understanding the cause of error within the parameters of acquired medical knowledge. Here attention is given to the technical aspects of medical work that, through omission or commission, contribute to error. The second approach arises from the inconsistencies in the first process, where gaps and uncertainties in knowledge necessitate that interpretation centres on considering other culturally significant issues. Errors were not seen as “black and white”, but were given meaning with reference to expectation, severity and complexity: shaped by issues of perception and inevitability. The medical construction of error therefore involves the interpretation of a social event with reference to both esoteric knowledge (bio-medical expertise) and the tacit norms of medical practice. Where “gaps” exist in the former: the latter filters or accentuates the meaning of error.

Drawing on Lupton's (1999) discussion of risk epistemologies in chapter four, it was argued that error could be broadly understood through two approaches: the realist and the constructionist. The conceptualisation of error found in policy and manifest in management practice certainly resembles a realist approach as errors are defined as objective phenomena that can be scientifically and objectively understood and controlled. It is also possible to find such a point of view in the initial medical interpretation of error where there is a focus on technical causality. Both these approaches attempt to capture the "truth" of error, the first from a managerial perspective and the second from the medical; each drawing on established knowledge.

The constructionist approach questions these assumptions and specific attention is given to the work of Douglas (e.g. 1966) and Foucauldian (e.g. 1980) theories of discourse. From this perspective the social meaning of error reflects the socio-cultural features of medical work and the discursive qualities of knowledge. Here the conceptualisation of error found in both policy and medical work are both regarded as constructions that are shaped by different occupational cultures and constellations of knowledge. From the managerial perspective this knowledge is derived from the Human Factors approach and manifest in policy. For doctors it is both bio-medical knowledge and also the cultural aspects of practice that shape the meaning of error; where knowledge is incomplete or too complex other socio-cultural parameters influence perception and interpretation.

Developing the constructionist approach it is also possible to explore how the meaning of error, not only reflects particular discourses and practices, but can also provide the basis for legitimacy and control. On the one hand, managerial action is seemingly influenced by the theoretical and practical features of 'patient safety' health policies. As such, errors are managed through incident reporting and given particular active/latent characteristics. On the other hand, doctors make sense of errors with reference to different knowledge, assumptions and norms that lead to alternate forms of social action and error control. Both approaches attempt to define and control the social world of medical errors. Two related consequences may emerge from this epistemological divergence. First doctors may interpret and give meaning to error in a way that does not conform to the expectations of policy, leading to a lack of participation in incident reporting and the preference for occupational-based strategies that reflect medical knowledge. Second doctors could argue that managers responsible for the National System do not have the knowledge to make sense of medical errors because they are not familiar with medical practice and expertise; in consequence they do not have the legitimacy to evaluate or make changes in medical work. Given the realist epidemiology of the current theoretical and policy zeitgeist such important considerations for the implementation of the National System are potentially neglected.

Returning to the works of Hughes (1951) and Freidson (1970) it can be seen that a feature of professional work is the claim to expertise and regulation based on the

application of expert knowledge. It could be argued therefore that the medical construction of error can serve to inhibit other groups from evaluating medical work. This can be seen in two ways. The first is to locate the meaning of error in technical knowledge where it can be argued that non-medical groups cannot legitimately understand medical errors due to a lack of appropriate expertise. The second is to emphasise the complexity and uncertainty of medical work and therefore reinforce claims for exclusivity by suggesting that other occupational groups are not aware of these other important factors. It can be seen that the dual process of medical interpretation leads to a construction of error that marginalizes other conceptualisations (Foucault 1980).

In this research error is therefore regarded as a social construction, despite claims to scientific and expert knowledge and without completely rejecting ontology (Bhaskar and Lawson 1998). The meanings promulgated through policy and embodied in management, and those found in medical practice are both reflective of particular assumptions and constellations of knowledge. No single definition of error can reflect the full meaning for all groups (Bosk 1986). Despite realist claims to maintain and reflect the reality of the real (Knorr-Cetina 1981), the meaning of error found in policy and medical work are contingent and relativistic reflecting wider discourses and social knowledge. What becomes essential therefore is to understand how these discourses and meanings promote specific forms of social action and control.

7. The medical reporting of adverse events

Introduction

The collection of health service information in the pursuit of quality improvement has a long history (Donabedian 1980). For example Florence Nightingale introduced a system for monitoring patient outcomes, with measures for 'dead', 'relieved' and 'unrelieved' (Rosser 1983) and the Royal Colleges have introduced the Confidential Inquiries. Persistent health service failures have prompted the introduction of more systematic and meticulous mechanisms for collecting data about health service quality and risks (Clements 1995, Dickson 1995, Wilson 1999). This can be seen in with the development of clinical risk management, associated with CNST, and the forthcoming introduction of a new National System for error management and patient safety. As shown in chapter three, a key component of these reporting mechanisms is the identification and communication of risks or errors to enable learning (Department of Health 2000, Reason 2000, Wilson 1999). As opposed to traditional professional approaches to quality improvement, these are more managerial in style, reflecting many of the developments in financial governance brought about by the internal market reforms of the early 1990s.

The National System requires the mandatory reporting of all clinical adverse events and near misses, in order to facilitate learning about the frequency and type of errors and importantly to enable "root causes" analysis. However, it is widely recognised,

both in policy and research, that medical professionalism is characterised by a culture of “silence”, “closed collegiality” and “informal” mechanisms to deal with such problems (Alberti 2001, DH 2000, 2001, Leape 1999, Kennedy 2001, Rosenthal 1995). Furthermore, despite developments in quality improvement, medical professionals are generally more reliant upon established collegial systems of quality control, associated with ‘self-regulation’. In consequence, both theory (Reason 1999, 2000) and policy (Department of Health 2000) strongly advocate the modification of occupational cultures to acquire occupational compliance in the form of incident reporting; this involves creating a “no-blame” or a “low-blame” culture.

However, it is not always clear in policy what is meant by cultural change and how it is supposed to be achieved. There is also little appreciation of the various theories of organisational and occupational culture and how they could impact upon policy. Moreover, there is little appreciation of the character of medical culture, beyond reference to collegiality and the fear of blame, or understanding of how culture may influence policy implementation. For example, does medical culture promote a preference for collegial based systems because they “fit” better with medical work, or alternatively does it reject incident reporting to resist hospital management? Furthermore, there remains a serious lack of consideration about medical attitudes and beliefs towards reporting, while the promotion of a more open and less draconian organisational culture raises questions about the underlying theory of culture. This chapter seeks to provide an account of how incident reporting is being

implemented in accordance with policy and how medical professionals regard incident reporting in terms of their work and occupational practices

The chapter commences with a descriptive account of the current incident reporting systems found in the hospital case study. This reveals not only the existence of a trust-wide approach in line with policy, but also variations in the hospital at the directorate or service level. Here it is shown that specialist occupational groups within the hospital have different approaches and experiences of incident reporting, associated with factors such as leadership, external pressures, professional regulation and cultural norms. The chapter then develops these findings through the identification and interpretation of themes that dominate the medical attitude towards incident reporting. Here overt practical problems are initially discussed as factors or barriers that inhibit reporting, such as lack of time, the design of forms or the lack of feedback. These problems are significant because it can be argued that the responsibility for remedying these problems rests less with professional attitude but more with management practice. It was also found that there are crucial cultural features of medicine that further inhibit reporting. For example, a general disregard for the purpose of incident reporting, concern with managerial capacity, a general revulsion of bureaucracy and management, and the overwhelming fear of blame.

Incident reporting in the hospital

As discussed in chapter five, the organisation of the case-study hospital involves both 'traditional' bureaucratic structures alongside professional/occupational forms of organisation. In terms of the bureaucratic organisation, the hospital is characterised by a clear corporate management centre, along with a range of specialist service divisions and directorates. Within this structure medical professionals hold various positions from the practitioner level providing clinical care, to professional and organisational management leads as Clinical Directors, to holding positions in the corporate centre interacting with management groups including the department of Corporate Affairs. This section outlines the introduction and development of incident reporting within these different organisational sites, before moving onto to explore the medical attitude to these various forms of reporting.

The hospital-wide reporting system

As with the majority of hospitals in the NHS the case study has had experience of CNST participation as well as developing procedures for clinical risk management and incident reporting (Dineen and Walshe 1999a). Furthermore, the hospital has taken particular interest in the emerging policy framework and for a short time considered applying for participation in the pilot evaluation project co-ordinated by the NPSA. Given this background, the hospital has a pre-existing incident reporting

system that seems to have emerged in response to CNST standards and guidance, yet hospital managers also wanted to develop incident reporting in response to current policy and because they believe it serves as a useful tool for improving service quality.

First it is worth looking at the “hospital-wide” system, which refers to the system of incident reporting that is managed at the corporate level of the hospital, through the department of Corporate Affairs and operationalised throughout the hospital. It was reported during the course of the interviews that this system had been in operation since the mid-1990s and receives on average 3500 reports per year. At corporate level the deputy director of corporate affairs has day-to-day operational responsibility for overseeing the system and at the commencement of fieldwork this role was supported by two part-time clinical risk management co-ordinators. Due to changes in hospital personnel during the course of the study it was found that a dedicated data entry clerk and a specialist nurse had replaced these employees.

While the hospital-wide reporting system is managed from the Corporate Affairs department, it also receives guidance and support from several hospital committees. During the initial year of the fieldwork it was found that the Clinical Risk Management Committee had an overseeing responsibility for incident reporting and risk management, identifying and analysing organisational issues and proposing changes in policy. However, as the study progressed the hospital reformed its committee structure and introduced an Incident Reporting Group, which has direct

responsibility for innovating, encouraging and overseeing the hospital reporting system. This new group now has the responsibility to ready the hospital for the implementation of the National System. Initially, this has involved re-developing the incident reporting form to ease reporting, and also identifying training needs to promote reporting and cultural change.

The hospital-wide system involves the distribution of a standardised hospital form (appendix two) to all clinical areas in the hospital. It is then expected that these forms will be used to report incidents for all clinical adverse events; filled out primarily by the member of staff involved in the incident or the person made aware of the event, for example if a patient falls the responsibility would lie with the staff member who discovers the patient. These are then returned to Corporate Affairs for data entry and analysis. However, within certain directorates it is common for local risk managers or people with responsibility for quality improvement to funnel and expedite the reporting of forms by acting as a local collection point. These forms are then returned to the department of Corporate Affairs for inputting and analysis to inform the management processes (see chapter eight).

Despite the existence of a uniformed hospital-wide approach to incident reporting, it was also found that significant variations existed at the local level of the hospital. These were further explored in the directorates of Anaesthesia and Theatres, Obstetrics and Gynaecology, Combined Surgery, Acute Medicine, and Rehabilitation. Here it was found that not only were there variations in the

relationship between the corporate centre and the directorates, but also in the character of incident reporting across the local level of the hospital.

Anaesthetics and Theatres

This directorate is significant as it represents two different areas of responsibility within the Surgical Division. The first area centres on the medical speciality of anaesthesia; the second represents a more general responsibility for the management and function of surgical theatres, including technicians and nursing staff. In terms of incident reporting both aspects of this directorate can use the hospital-wide incident reporting system, but it was apparent that clear occupational variations exist. For those working in the Theatres area it was normal to use the hospital-wide form and return these forms to the directorate's "modern matron" who has responsibility for clinical governance and quality improvement. This person then dealt with immediate local issues before sending the forms to the corporate centre.

However, for the medical anaesthetists there was less inclination to use the hospital-wide form other than for exceptional incidents or circumstances. As an alternative this professional group was involved in an anonymous incident reporting scheme instigated and nationally co-ordinated by the Royal College of Anaesthetists, to which there was more willingness to participate.

“It was really something that our College is quite keen on, there's a lot of work being done in Australia, by the Australian anaesthetist on critical incident reporting” [P/D29]

“We have an entirely voluntary critical incident system which is coordinated through a new clinician for that, which is forms are filled in ... the Royal College does have a dataset and spread sheet which she has just been introducing, and she has been able to use that.” [P/D26]

Amongst these doctors there was much more enthusiasm for this approach as it was seen as professionally-led, with a local peer collecting and analysing anonymous data. Furthermore, a significant feature of this scheme was the confidential and anonymous character of the reporting system, which seemed to encourage professionals to be more open without fear of reprisals. It could be the case that this style of incident reporting was unlike the corporate approach as it appears to reflect the traditions of self-regulation.

“As I say confidentiality is another aspect that I think we are all aware of in that the information is useful for us as clinicians but if somebody else gets hold of it is whether its going to be a big brother thing looking down upon you, not that we not responsible with clinical governance etc, we all have to be responsible for what we do but as I say the error side of reporting is more

what we do in-house and keep it in-house as opposed to referring it outside our department.” [P/D29]

Furthermore, as can be seen in this last quote, there is also a degree of suspicion from doctors working in this area about the use of such information by hospital management. This may reflect a fear that with the identification of the reporter, hospital management may be able to use the forms to evaluate and criticise medical work. It was also found that these doctors also favoured their own system because it predated current managerial approaches and was more sophisticated. These professionals therefore seemed to abandon, to a certain degree, the hospital-wide approach and rely instead upon their own professional incident reporting system.

“And as I say anaesthesia has independently done this for many years before the trust was more interested and risk management is the thing these days but we have been doing it for years and years and years.” [P/D29]

Combined Surgery

The Directorate of Combined Surgery (so named because it includes a range of surgical areas that are not sub-specialised within the hospital structure, such as cardio-thoracic) involved areas of surgery including breast and gastro-intestinal. The respondents are commonly envisaged as working within operating theatres and

performing surgery, but they also have important roles on wards and in pre- and post-operative clinics. They therefore practice in a range of hospital environments in which mistake can arise, from decision-making in clinics to technical performance in the theatre.

It was clear that the surgeons were indeed aware of the hospital-wide incident reporting system. However, it did seem that there was little understanding of how the system worked or who was responsible for reporting. This may be indicative of the apparent lack of surgical participation in reporting, and it may further discourage participation due to a lack of understanding of the process.

“I wasn't aware of them until fairly recently to be fair, I knew that if there was a major incident that we would have to report it, but I wasn't aware of the forms that we now have, so these are the forms that we have (the 3 page hospital form), and as I understand it the consultant in charge of the case is responsible for filling the incident form and he may need to discuss it with other members of the team who were involved and then send it onto the appropriate place” [P/D25]

Unlike anaesthetists, these surgeons did not have an explicit alternative system of incident reporting, other than commitments to schemes such as the Confidential Enquiries and Royal Society audits. As the hospital-wide approach was the only one available to surgery it may be the case that this lack of understanding was important

in accounting for the low credibility that it appeared to hold amongst surgeons as a tool for making organisational change. This point is reinforced by a stated lack of regular feedback provided by hospital management about reported incidents and organisational change, further discouraging reporting.

“There is no point in reporting incidents unless something is done about it, and that is one of the problems that we perceive in our practices, you know you fill in all these forms and waste a lot of time and nothing gets done about it in the end.” [P/D25]

Another issue emphasised by surgeons was the feeling that incident reporting was mainly nursing-led and covered easily definable problems that were amenable to change. Conversely surgical work was seen as complex and distinct from other health care activities. These professionals therefore seemed to elevate the sophistication and complexity of their own field of expertise and suggest that these occupational issues were beyond the scope of managerial action. In consequence, it was inferred that surgical issues were seen as too complex to report and should remain in professional hands.

“Things on the wards get reported, nursing issues, administration of drugs, or potentially giving the wrong drug; they are easy to define. But in the operating theatre if we put down all the things that potentially did not go right there would be things such as no equipment and they would sound

fairly petty. But we find it difficult to report the other things because it's not black and white, it's complicated" [P/D30].

It was therefore common for some surgeons to be aware of their responsibility to report, but also admit that they rarely did report. Frequently, filling out forms was reserved for particularly severe cases. There was also a preference for relying on established systems of reporting, such as the Confidential Enquiries, and other systems of monitoring surgical quality, such as morbidity and mortality conferences. Importantly, these were seen as professionally-led and ensured that the complexity of surgery could be adequately understood and the issues dealt with without the interference of non-experts, who may have another 'agenda'.

Due to the apparent under-reporting in the Surgical Division and in response to recommendations from the Commission for Health Improvement, the Division has subsequently introduced a Clinical Governance leader to spearhead quality improvement. This person saw their role as collecting incident forms and providing initial analysis and coding before they were returned to Corporate Affairs. Through discussion with this person it appeared that the majority of forms received emanated from non-surgical professions, and there remained a high degree of under-reporting with surgeons.

"My role is to look after the surgical division... since the CHI [Commission for Health Improvement] visit, which came last year, we have found

something where we are lacking in order to improve our care. So I've been appointed as clinical governance project leader, but what that is all about I look after all the policies, keep them up to date, about health and safety, incident and any complaints which I follow up." [P/R23]

Acute Medicine and Rehabilitation

For the purposes of this chapter the directorates of acute medicine and rehabilitation (both within the Division of Medicine) are described together because of their organisational commonalities and shared reliance on divisional level support for incident reporting. However, there are some important difference between these directorates, mainly around the type of health care they deliver and the incidents that are commonly reported. For acute medicine, it was suggested that the mix of patients is often eclectic with many types of disease; while for rehabilitation it appeared that a lot of their work centred on providing care and rehabilitation for elderly patients. Staff groups from both of these directorates were involved in the hospital-wide reporting system, but the medical professionals had also experimented with an alternative "in-house" system.

It was widely acknowledged that within both directorates non-medical groups, mainly nurses, filled in the majority of hospital-wide incident forms. Furthermore, in the rehabilitation directorate the bulk of these centred on patient falls (quite common for elderly services and recognised within the National Service Framework for

elderly care). It was also the case that within both directorates there was comparatively little reporting by medical professionals and where it did occur the forms were channelled to the relevant clinical director within the directorates for evaluation, while non-medical forms were returned to a local risk manager. All forms were then returned to the corporate centre. The lack of medical reporting in these directorates was seen as a major problem recognised by those working at the corporate level of the hospital.

To address the problem of medical “under-reporting” one consultant with a particular interest in patient safety and error management developed and introduced an alternative reporting form explicitly for the use of doctors working in the Medical Division. This was initially taken up in the Rehabilitation directorate, from where it originated, but professionals in other directorates, including Acute Medicine, had also used it. The main variation between this system and the hospital-wide approach was the design of the form and locus of control. Rather than an A4 three page tick box form, the alternate medical form was an A5 sheet with an empty box in which doctors could enter free text to describe the event or incident. It was suggested that this was useful because it was small and could fit into the pocket easily, and therefore it could be taken on ward rounds and filled out immediately.

“It was a little thing, that size [A5] and it had four boxes: patient's ID, date, description of the event. And I think when its still fresh in people's mind it got a good response, I certainly... within a week I'd filled out about 8 or 10

incident forms and sent them to him. He collated those, so he has that information, and he actually presented it to the clinical risk management committee.” [P/D10].

“We asked every physician to carry a chart in his pocket and just record every event” [P/D10].

An apparent benefit of this alternate reporting system was the control of information within the local medical professional. Forms were sent to a recognised consultant who collated and analysed the data, as opposed to the corporate centre. For doctors, this appeared to promote reporting because it appears that the information is collected and used by a peer who can appreciate the technical issues of medicine with legitimacy and sensitivity. Furthermore, it appeared that this system required less time and effort on the part of the reporter as this local lead would gather all additional information from the patient’s notes. This is not to suggest that all doctors therefore adopted this approach, it was quite clear from further discussions that some doctors remained adamant that they would not fill in either the hospital or this alternate form. Nevertheless, it does appear that this attempt at promoting medical reporting fared better than the hospital-wide form.

“There was a certain amount of flowering ... of filling out the forms, and all you had to do was put a patient number in and write a brief summary of what happened and I would then pull the notes and summarise it and then we drew

up a pack for each of the major ones, and then took it through the actions that we took and so on.” [P/D13]

The other significant feature of these two directorates was the existence of a risk coordinator. This role was predominantly based in the rehabilitation directorate, but had also widened to cover other directorates within the Medical Division, including acute medicine. One of the main roles for this specialist nurse was the collection of hospital-wide incident forms, prior to them being returned to Corporate Affairs. The information from these forms enabled the risk manager to assess the character and frequency of incidents and promote local change. However, as mentioned the bulk of this work was based upon information gathered from non-medical groups.

“[They] send it [the incident forms] to me, they don't send it straight away. So they come to me, now in the past we used to receive the incident forms and then we used to pass it on to health and safety manager, and then all staff incidents are retained by health and safety and all patient incidents is retained by corporate affairs just in case litigation one day might arise and we will have to look for the incident form. In medicine, acute and rehab, we've always had the incident forms here, in the past three or four years ago, I decide it was just no good to just receive an incident form and send it on, we want know how things happen, so we have the data every three months the data collection, pick up the falls, where did they fall, which ward, and all that. So we have got a lot of details, and how long somebody is in hospital

before they fall, and have they fallen at home before they get here, and things.” [P/R22]

Although this specialist nurse had enormous potential to develop local risk management systems to compliment corporate reporting and therefore in line with national policy, it was clear that this actor regarded incident reporting as primarily a ‘nursing-based’ form of quality improvement. He was apprehensive about receiving and working with ‘medical’ reports and suggested that when he received such forms these were forwarded to the appropriate clinical director.

“I can’t answer the medical staff incident reporting because they don’t come to me. I get things like self-injury or needle stick that come to me, but I pass them on” [P/R22].

The implications of the lack of medical reporting on error management are discussed in greater detail in the following chapter. However, it is necessary to consider that despite the existence of a local risk co-ordinator, the management and control of medical errors remained outside the remit of this specialist nurse.

Obstetrics

It was reported that there are overt litigation pressures in the area of obstetrics, associated with child death or defect. In consequence, it was not surprising to find

that this directorate had well developed local arrangements for incident reporting, that worked closely with the hospital-wide system but exhibited a comparatively advanced local management capacity in line with national professional expectations.

“Within the profession, it’s within the profession, and also to be fair, the hospital, the insurance scheme, the CNST, has driven this forward. A lot of things that we aim to meet are their standards and the higher the standard the lower the insurance.” [P/D19]

It was widely acknowledged by medical professionals working in obstetrics that reporting was a necessary aspect of their work given the enormous health and financial risks in this area. Accordingly doctors were encouraged to report incidents and this was supported by induction, training policies and directorate-wide communications, such as team briefings and feedback.

“We teach about risk management on the doctors’ induction, we teach them that it’s important to recognise when our systems aren’t performing properly, and it is important for us as a unit to know when that’s happening, and that we are not trying to apportion blame but recognise when there are failures, and there are multiple level failures.” [P/D19]

In consequence, it was evident that medical reporting in this directorate was well established. Respondents from the Department of Corporate Affairs and the Division

of Family Health claimed that these doctors reported comparatively more incidents than any other. It was claimed that the fear of blame had been adequately addressed through training schemes and local leadership initiatives by the Clinical Director who actively promoted reporting.

“We tend to report most things...we are very open. Some things go to [the risk manager] and I look at the medical ones and talk them through” [P/D24].

Reporting in this directorate was also supported by local risk management procedures. Before forms were returned to the corporate centre, they were normally collected and analysed by a local risk manager, who filtered out information to be addressed in local management and service planning committees. This person acted as a local collection point to address any queries, provide feedback and use the information within local initiatives thereby demonstrating change. In comparison to the other directorates involved in the research, Obstetrics appeared particularly advanced in promoting incident reporting and using the information locally to promote service improvement.

“Okay we note that something is not right, somebody is asked to audit that straight away and then you see what is going on and then we change our practice and then run the cycle again. Now that is now a very well oiled system and a very tight system when things go wrong we just go and do things very quickly now.” [P/D24]

“We certainly drive ourselves, we are own worst critics. We drive ourselves; we want to improve all the time” [P/D19]

The directorate of obstetrics and gynaecology was therefore comparatively advanced in incident reporting. The staff involved in the research all expressed awareness about reporting and a commitment to making quality improvements. The acceptance and approval of reporting was buttressed by local risk management systems and stated service improvements that demonstrated the purpose of reporting. However, these local develops were not explicit linked to those at the corporate level. Crucially they were driven by professional developments at the national level. In many ways these systems can be seen as derivatives of the Confidential Enquiry into Maternal Deaths and further encouraged by the litigious context of maternity services that have necessitated advances in risk management and quality improvement.

Summary: variations in reporting

Incident reporting in the hospital therefore exhibited some significant variations between directorates. Generally there was a high degree of “under-reporting” for medical groups, although in some areas medical reporting appeared more common place, specifically in obstetrics and anaesthesia where it was found that drivers for reporting were external to the hospital, i.e. litigation pressures and endorsement by professional associations. In other areas there had been attempts to promote greater

medical reporting, in acute medicine and rehabilitation, but this approach had failed to make any long-term impact. One of the most interesting roles at the directorate level was that of a risk manager or co-ordinator who collected reports before returning them to the hospital centre. Although the existence of this role is normally associated with higher levels of medical reporting, it is worth noting that they are more often associated with the collection of forms from non-medical groups and there is an expectation that medical forms are diverted to the local lead medical professional, normally the clinical director.

The use of the hospital-wide incident reporting system was below than expected, or seen as necessary for service improvement. It was believed by managers that medical professionals are disinclined to report errors and mistakes; furthermore this is seen as indicative of a closed collegial culture that limits the managerial capacity to improve service quality.

“It’s said everywhere, doctors don’t fill in forms...because you don’t criticise your colleagues, and you don’t want to identify things with your practice” [P/M3]

What becomes important therefore is to understand the barriers to medical incident reporting in the NHS. The current policy framework is completely dependent on incident reporting, and although it is recognised that there is a need to change medical culture there is little appreciation of what this culture consists of and how it

operates. Presented here are the views of medical professionals with regard to incident reporting. These are discussed along four lines, the 'practical barriers' to reporting, the perceived 'purpose of reporting', the 'medical construction of reportable errors' and finally, the wider 'cultural and professional' context of reporting.

Practical barriers to medical reporting

"If it becomes an onerous task people won't report" [P/D11]

All medical professionals involved in the research felt that the practical aspects of reporting were a problem that discouraged medical participation. In particular it was found that the demands of time, excessive paperwork and 'form design' all inhibited medical reporting.

The problem of time and effort

Finding the time to participate in incident reporting was one of the most commonly cited practical barriers by medical professionals. It was general felt that the technical and clinical aspects of medical work are so time consuming that there is seldom available time for updating patient notes, let alone participating in other systems or "paper exercises" generated by a new management system.

“Well, I think it is just so time consuming, you’ve so many other things to do, if you’d nothing else to do people would do it without a problem, but there’s just pressure to be doing something else” [P/D15].

“I think the reason why we don’t sometimes go through the formal process is often time, we have so many things to do in a set number of hours that other things take priority and then you lose focus” [P/D31].

Time constraints had a number of different implications for reporting. One of the most fundamental is the time required to reflect upon events in medical work and decide upon the chain of events and contributing factors that lead to or failed to protect against an adverse event.

“There’s no time to sit down and think what were the problems last week, can I reflect upon them, can I report them. So I think there just isn’t any time to do it, and we would want to do it instantaneously when you have got all the patient’s notes there in front of you and the incident forms” [P/D15]

Given this lack of time to reflect, events that transpired in medical practice are not necessarily ignored but minor or less severe events are given a lower priority, enabling time and effort to be reserved for those events that are of more significance.

Alongside the lack of time to reflect, it was also argued that there was a general lack of time available for the physical processes of filling in the forms. The way in which doctors talked about their workload exhibited a priority towards providing medical care and activities related to this. Other tasks while seen as potentially useful were given a low priority as it was seen that they did not have a direct impact upon the care of their patient.

Form design and paperwork

The problems associated with time were exacerbated by a general feeling that such schemes involved excessive amounts of paper work that not only took up more time but were particular alien to medical work, whilst tending to reflect managerial priorities and not those directly concerned with patient care.

“I think we mostly view incident reporting as a pain in the arse. And it doesn't really contribute very much and it just causes lots of paper work and I'm not sure how much benefit it has” [P/D5]

This antipathy towards the processes and burden of incident reporting was also recognised by corporate management groups who accepted that time pressures were a major source of resistance to incident reporting. Managers often suggested that something was needed to facilitate reporting and make it easier:

“Anything new is often met with resistance by clinical staff because they see it as extra work...which takes them away from looking after their patients”

[P/M1]

It was also widely suggested that the design of the form impeded reporting because they required an enormous “investment” of time and effort to complete, gathering information from various sources, such as patient notes, witnesses and guidance documents, and then “struggling” with three sides of A4.

“I have seen the forms which are produced by the hospital and I find them very cumbersome, which box does this go into? Because there are codes attached to all of them but its not always possible to put a code on it.”

[P/D30]

As suggested above, the forms are based upon the entry of specific codes for particular locations with the hospitals and the type of events. From this list professionals enter the appropriate codes on the form and these serve to assist data entry and computer analysis at the corporate level, however, it was suggested that these codes were in themselves often imprecise, difficult to use and did not reflect what the professionals ideally would like to enter on the form.

“Have you seen the list of codes? There are so many and just trying to find the one you want takes time.” [P/D25]

“I went through the incident codes we used and they were very very unhelpful for us, exceptionally unhelpful, and didn't give us the information that we wanted in anything like a useable form. [P/D19].

“Well, I think they are too long, a tick box type of form would be easier” [P/D21].

In consequence, it was generally felt that the forms should be modified to assist in incident reporting. This view was particularly expressed within the Directorates of Acute Medicine and Rehabilitation where an alternate form had been developed and issued to facilitate medical reporting. As mentioned, this differed from the hospital's form because of the lack of complexity and ease of use, particular the reliance upon open-text to describe and report events. Furthermore, in Obstetrics it was also suggested that the hospital form would ideally be re-designed to promote reporting and to gather information in more detail and relevance to that directorate.

“We have to use a standard form, we don't have a choice, we would have preferred to design our own, but we didn't have a choice. So we have adjusted the codes because we were given the opportunity to change our coding, but we couldn't change the form so we had to stick with the form, but to be honest, although it's not perfect its, not that bad.” [P/D19]

Despite such concerns the hospital-wide form remains the predominate method of data collection. Management groups have identified the perceived problems with this form and believe that it should be altered to encourage reporting. This issue was first observed in a Clinical Risk Management Committee meeting where the representative from the Directorate of Rehabilitation discussed his alternate form. More recently, the hospital has introduced an Incident Reporting group to promote change in the form and develop it in line with national policy. Here the hospital is also eager to design a form that promotes medical reporting.

“We’ve got to redesign the form, and we’ve got to train and raise awareness”

[P/M1]

However, it is not clear whether managers appreciate the medical perspective in any depth. Doctors were openly critical of the practical aspects of reporting because it did not easily “fit” within the established working patterns and arrangements of medicine, where there are already demands on time. Doctors claim to give greater priority to the actual provision of health care services and there is a suggestion that the current “fashion” on audit in the NHS and elsewhere (Power 1997) reduces the available time for the provision of “real” medical work. Doctors therefore need to find time within their days to participate in reporting and it appears that the purpose of reporting needs to be strengthened in order to make it a greater priority. However, it may also be the case that these practical problems are merely superficial excuses for a general lack of willingness to be involved in reporting.

Professional alternatives

Given these concerns it was not surprising to find that doctors were eager to suggest alternative methods of identifying errors in their work. The most common suggestion was the reliance upon patient notes that should automatically collect information about errors as the doctor updates this record. It was argued that all the relevant information is entered in the notes and therefore it was an unnecessary duplication to re-enter the information in another form; a feeling that was recognised by hospital management.

“If there is a complication in surgery which is serious then the way it's done is that we would record in the medical notes what the complication has been during that surgical procedure of even on the wards.” [P/D30]

“The thing about the medic side is it should be recorded in the notes, so if something happens or doesn't happen it should be recorded in the notes” [P/D9].

“if an adverse event occurs or whatever you want to call it, then it's documented in the patient notes and why should they waste their valuable time writing it in the notes and then exactly the same on the incident reporting form” [P/M1]

However, the reliance on patient notes was seen as unfeasible and impractical for managerial groups as it does not provide a systematic approach. Specifically, the purpose of incident reporting is seen as providing a new and more thorough source of information that can be integrated with other forms of data, such as patient notes, but crucially is seen as independent. The use of patient notes would require managers to review and “trawl” through case notes that were often dispersed about the hospital with the relevant clinical staff. This preferred alternative was therefore seen as not complying with the imperatives of policy.

Another medical suggestion was the use of the telephone or e-mail system. Here it was felt that information could be speedily reported without the problems of paperwork and excessive time constraints. It also appears that the use of telephone more easily dispatch responsibility for problems without the necessary paperwork and effort.

“Because it’s much easier to pick up the phone; you are getting an instant response and you are passing it on. A form you’re not really passing it on, you are not getting any feedback” [P/M3].

The introduction of alternate reporting system in the Directorates of Rehabilitation and Acute Medicine could be interpreted as an attempt by doctors to address the practical problems associated with hospital-wide system, whilst also retaining a

degree of occupational control. However, the use of such techniques presents further problems for management groups who suggested that they fail to provide the necessary information for the systematic analysis of the data in line with policy.

The perceived purpose of reporting

Doctors were also sceptical about the purpose of reporting and how it was managed within the hospital. Although the wider ideals of patient safety were supported, incident reporting as a technique to secure this aim were not seen as necessarily contributing to this agenda and it was widely argued, particularly in directorates relatively inexperienced in clinical risk management, that there was no clear purpose for reporting. This view was exacerbated by the lack of feedback and meaningful change that doctors saw in the hospital, further reinforcing the view that reporting was a “paper exercise”.

A lack of purpose

It was common for doctors to suggest that the hospital-wide reporting system failed to have an explicit purpose that actually related to service improvements. This was a major disincentive to reporting because it further exacerbated the practical barriers demonstrated by the sentiment that it is a “waste of time” – time that could be better allocated elsewhere.

“As I say what am I going to get out of it, or what is the patient going to get out of it, or what are my colleagues going to get out of it, and if they don’t see anything valuable or a valuable learning lesson exercise then people don’t [report]” [P/D26]

However, it is important to note significant variations across the hospital directorates. In Obstetrics reporting was given more support and it was frequently suggested that reporting had a proven capacity to support change and share lessons. The risk manager and medical professionals working in this directorate had instigated service improvement based on these reports, and it may be the case that developments at the local level furnished reporting with meaningful purpose and local control, issues that plagued the hospital-wide system. Similarly, anaesthetists also saw an important role for incident reporting, but here the control of reporting remained within professional hands, as reports were collected locally by a designated doctor and then returned to the Royal College of Anaesthetists. This scheme was regarded as having a purpose because it was seen as contributing to professional practice through the introduction of guidelines or professional safety notices. Again it was the circumnavigation of hospital management that provides reporting with its purpose.

Another view held by doctors was that reporting reflected managerial priorities that were seemingly driven by central government assessment criteria or superficial

priorities and did not necessarily reflect the real clinical issues that would improve patient care or organisational performance. In consequence, doctors did not feel that it related to their work and merely represented another “accounting exercise” or what Power (1997) would term a “ritual of verification”.

“It struck me that the work of the risk management committee is about the guards around emergency exits, the stairs on upper floor buildings, so if there were any five year olds climbing around they won’t be able to climb up the stairs. But we haven’t seen to the everyday events that are happening. We don’t have such a system. So I just think that no I don’t see doctors filling those in, in cases when they should have done. And at the moment I can’t see a way to encourage them; they don’t see that as their role.” [P/D13]

“If we are asked to fill in a lot more forms I think ... morale will go down even lower that it tends to be at the moment and there will be a suspicion that emphases will be placed perhaps not always on the things that might improve matters” [P/D20].

“So I think some of the things get labelled with ‘its just collecting data for the sake of it’ because somebody in management has to tick boxes to send off to the Department of Health” [P/D10].

Equally, doctors believed that reporting all clinical issues, even if it could be done, was of little relevance to the hospital-wide system because managers lacked the necessary expertise to ‘decipher’ the medical reports. Doctors therefore seemed to question the capacity of management to fully operationalise incident reporting and risk management due to different domains of expertise and the conceptualisation of error (see chapter six); in consequence it was felt that there was little purpose in reporting to the hospital centre.

“I mean its all relevant to the trust but there are some things that are relevant more on a clinical level than on, you know, that are interesting to physicians but not necessarily have a major impact upon trust planning or financial implications.” [P/D29]

Doctors did not outwardly suggest that hospital management did not want to develop safer organisational systems, but it seemed that the explicit purpose of the scheme was not yet sufficient in convincing doctors that meaningful change would be made. This was common to all directorates involved in the research, and seemingly the best way to overcome this problem was for local service leaders and risk managers to take more responsibility for reporting and provide professionals with greater clarity, purpose and visible change.

A lack of change and feedback

Buttressing the doubts expressed about the purpose of reporting was the suggestion that there is insufficient feedback or visible service improvement even when forms had been returned to the hospital. This was the ‘acid-test’ for whether the scheme is useful in guiding health service change and worthy of medical professional participation. As touched upon above, one of the most prominent problems raised in the interviews was the ability of management groups to make sense of the information contained in reports and understand the most effective ways of bringing about change. For doctors the root of this problem appeared to be in the level of expertise required to make meaningful improvements in clinical work; something that management groups cannot possess. Although this theme is explored in greater depth in chapter eight it contributes towards discouraging reporting.

“That’s the trouble isn’t it, you can report these things till you are blue in the face, unless there is someone there to analyse and act upon them and then re-audit them later, there is no point having an incident reporting scheme”
[P/D17].

Rather than making change, it was the view of doctors that reports were sent off to the “faceless” organisational centre or “them over there” in corporate affairs, where it was merely collated and filed away without any thorough analysis. Rather than regarding reporting as important for making meaningful improvements doctors felt

that the hospital-wide reporting system (without local interventions) merely served managerial and national priorities that were not necessarily concerned with “real” quality issues.

“The other thing is, what happens when you fill a form out, well by and large nothing, it’s filed somewhere” [P/D5]

“Yes, I think there is the potential problem of a them and us situation where the people working hard in the clinical situation and some manager sitting in an office somewhere is going to look at the incident form and come down on us in a judgemental way, which causes the wrong attitude.” [P/D25]

This view may be a reflection of the lack of change that has occurred within the hospital based on incident reporting; nevertheless, it demonstrates a lack of confidence in the ability of hospital management to make service improvements. Consequentially, incident reporting is given less priority in the allocation of time and effort.

“So I think one loses heart in, not only the work of recording these things just taking time, but also the benefit of the process unless you can see some clear benefit to you and your patients and colleagues” [P/D10]

For doctors to participate more fully in incident reporting, particularly the hospital-wide approach, it seems necessary therefore to show that change can and will be made with the data. However, this is clearly a “Catch-22” situation where doctors do not see any change and therefore do not report, but yet without medical reporting it can be argued that change cannot be made.

“So if a doctor is confronted with mandatory reporting and they are quizzing and want to know what difference it will make they might devolve it to someone else... what we would really prefer I think would be to focus on the things with maximum impact, and the way that I would see it is that if you deliver on the one thing and you have a culture that delivers on those things, as a spin off other things will be better” [P/D14].

Associated with the lack of visible change doctors also emphasised the lack of feedback that they received following the submission of an incident form. It appeared that this was not only important for doctors to feel that their concerns had been listened to, but in addition it suggests that some change may transpire in the future and their concerns were being taken seriously. Without feedback doctors certainly felt discouraged to report in the future and again it was felt that hospital management just filed the forms and failed to give sufficient attention to the needs of those who took the time and effort to fill out and return the forms.

“if you keep filling in forms and sending them somewhere and nothing ever comes back...its never going to be the top of your pile because you don't get anything from it” [P/M3]

“If it just goes in an envelope to hospital headquarters and you never hear about it again, probably not going to be of great use, you are going to lose enthusiasm” [P/D25]

“Trying to get doctors to fill out forms at the best of times isn't very easy. I think part of the reason for that is you do it and you don't actually get any feedback from it, it goes off somewhere and don't know who has reviewed it, you don't necessarily get any feedback” [P/D21]

Many of the doctors who took part in the research were aware of the overt or stated purpose of incident reporting to improve patient care through the identification of organisational problems. However, the doctors also suggested that the purpose of incident reporting, as it operated in the hospital, did not necessarily reflect this professed role, and there was seemingly a gap between policy and what was actually happening in the hospital. Within the hospital it was certainly clear that doctors were sceptical about the purpose of reporting to contribute to change at the hospital-level and this was endorsed by the lack of feedback and visible improvements. Underlying these problems, however, is an apparent split between the role of the directorates and the corporate centre in terms of controlling incident reporting. It seems that

professionals working in an area more familiar and experienced in incident reporting may share many of the concerns about the corporate centre but they regard reporting as beneficial because of the capacity for local control to make change and provide feedback; whereas in those areas where there is little local control there is a general scepticism about the purpose of reporting.

The differential construction of error and adverse events

One of the most important findings from the research was the way in which medical errors are constructed with reference to the socio-cultural qualities of medical work and the discursive influence of medical knowledge. In the previous chapter it was shown that doctors attempt to give meaning to an error in terms of the technical features of the event, but also with reference to a range of other significant factors, such as severity, complexity and uncertainty that can “accentuate” or “filter” the meaning of the event. In this way, an event is not necessarily regarded as an error based on technical or realist assumptions but it is constructed through the social fabric of medical work. What is developed is the idea that for an event to be reported it should not just be constructed as an error, but it needs to be re-constructed as something that necessitates reporting. For the purpose of this research, what doctors commonly call an “adverse event” reflects the assumption that it should be reported, as opposed to an “error” which does not necessarily lead to this action. This variation in terminology is indicative of the subtle difference and complexity at the

heart of the medical construction of error, and the different audiences to which meaning is being conveyed.

What should be reported?

Virtually all respondents suggested that in common with the difficulties of defining an error, they were also unsure what should be reported and how it should be distinguished from other events that occur in the delivery of health care. It was widely believed that the policy definitions were not clear and were sometimes “alien” to the assumptions and knowledge of medical work, and therefore they were regarded as managerial in tone and jargon.

“Another barrier right at the other end...is understanding really what constitutes a serious incident” [P/M3].

This may be related to what was shown earlier about the perceived lack of purpose of incident report: if doctors do not fully understand what the aim of the scheme is or how it functions, then it can be expected that there is insufficient clarity about what should be reported. Several doctors suggested this problem could be overcome by directorates developing their own guidance for reporting, based on important local service issues. However, it was also believed that it would be difficult to achieve consensus, particularly between different staff groups as to the definition of what

should be reported, and this may lead to further confusion about reporting or discourage those from reporting who do not necessarily agree with the definition.

“It depends on whether there will be a narrow group of definitions. You could argue that perhaps there should be some key things to report on and those are the important things that should be targeted, but then again how do you arrive at a definition of what’s the most important?” [P/D21]

“If there’s a conflict at a lower level as to whether an error is an error, then people are unlikely to fill a form in and therefore incident reporting goes down” [P/M1]

The definition of a reportable error and the criteria for reporting are central to any attempt to promote reporting. Varying understandings and meanings will inevitably lead to different levels of reporting as interpretative and conceptual differences have a bearing on action. This reflects the underlying character of social action, which is not adequately recognised in policy. The policy documentation (Department of Health 2001a) stresses the need for more guidance about the operational definition of “adverse event”, yet there remains little comprehension that a single policy definition may have to compete with a professional based construction, as developed in chapter six.

Filtering errors

The way in which medical professionals make sense of what should or should not be reported reflects in many ways the processes of interpreting an error, as shown in the previous chapter, specifically doctors filter events prior to deciding what to report. This is a crucial social process that seemingly undermines the mandatory expectations of policy as certain events are seen as “worth” reporting while other are rejected.

“The professions will filter out what is going to be reported and what is not going to be reported” [P/D26].

One doctor described this process, suggesting that many of the decision-making features of medicine involve a degree of reflection and cogitation. Through these stages doctors seem to question the assumptions surrounding an event, and in doing so interpret and filter the significant features: constructing the basis of what should be reported.

“I think culturally one of the things that doctors think, rightly or wrongly, is that doctors take things in, play around with it in their minds, and they think that they sift out what is important anyway and therefore the 9 out of 10 things that pass by don’t fundamentally change things and they will concentrate just on the tenth. Why are you obliged to fill in about ten things rather than just pull out the important one” [P/D14]

Interestingly, it appears that this preference for mental reflection not only represents the process by which the meaning of an “error” and a reportable “adverse event” is developed, but it is also indicative of a more general rejection of mandatory and unquestioning bureaucratic procedures.

“I think the issue of selectivity is particularly true amongst medics. Its partly relates to, I think, shunning bureaucracy and partly relates to the spectrum of experience. I think that some things, a lot of things, go well and some things don’t go so well, and I think that is multi-factorial, but every time something doesn’t go well then you don’t necessarily report it.” [P/D5]

As shown in chapter six, filtering is therefore an important feature of the way in which doctors come to make sense of an error and also what should be reported. In this way, errors are either re-constructed as an “adverse event” that should be reported or they are filtered and dealt with through other forms of action; like errors, adverse events have a “transient” meaning.

Trivial or clinically relevant

The most common basis by which errors are filtered or re-constructed relates to the clinical relevance of the event. It was frequently stated that the managerial expectation for reporting includes events that medical professionals consider

“trivial” or of little significance for service development. Importantly, doctors suggested that reporting should be reserved, not for every single error, but for only those events that management groups can understand and can inform organisational change.

“So if you are reporting everything and you want to get the clinicians involved it mustn’t be trivial reporting just for the sake of numbers” [P/D31].

“But there’s a difference between, you know, just silly incidents and real problems” [P/D5].

An example of this was provided by a surgeon who suggested that the range of errors in surgery can be vast, but often these are trivial and would provide little useful information to anyone beyond the individual involved.

“I mean every time you do an operation something happens that you perhaps wish it hadn’t, but usually its: you tie a stitch and break the thread and you have to put a couple of extra stitches in, pretty trivial but you know its a silly thing and if every time you did something like that somebody filled a form in it would be ridiculous” [P/D5].

Doctors, therefore, filter events based on the perceived relevance of the event to their own work or the hospital. However, this appears to work on a contradictory

basis. It is widely suggested that the events that should be reported are those that are the most clinically relevant, but as already shown these are the types of errors that doctors feel necessitate medical expertise in order to interpret and understand; whereas it is the trivial events that doctors seem to suggest managers should deal with, yet these are not worth reporting because they will not lead to any meaningful change in clinical work. Of importance in this paradoxical situation is the perception and meaning attached to severity and complexity in shaping the meaning of a reportable “adverse event”.

Severity

Concern with the severity of harm is an implicit feature of medical culture, especially as medicine is driven by a desire to improve health. In other words, particular severe events are seen as necessary to report because there is some need to share this information with the hospital, possibly for defensive purposes to “cover the doctor’s back” against future reprisals. Again there is an important caveat, as shown previously, medical professionals are also aware that in many of the tasks they undertake errors or complications are to varying extents expected. As shown in chapter six, the threats and actual damage to patient health are balanced with the long-term objectives of medical work. In consequence, severity is not merely a matter of deciding whether an error was of a sufficient level that it should be reported, but it involves the interpretation of whether any negative impact is above and beyond those expected in a given procedure.

“I think an incident however severe in theatre, an anaesthetist will only fill it in if it has been particularly severe or if it is of particular interest, perhaps a scientific or quirky nature” [P/D26].

Another factor that encourages medical professionals to report errors is the perceived impact that the information will have on service improvement. If a doctor thinks that some form of change is desired or feasible they are more likely to report incidents in the hope that change will be made. This again relates to severity, as doctors seemed to suggest that particularly severe and significant errors should be reported so that management action can attempt to promote change. However, this is another paradox: on the one hand professionals appeared to base the significance of an event on technical clinical grounds that relate to patient health care, which they suggest is beyond managerial appreciation, but they also prefer to report events that managers can remedy.

Complexity, uncertainty and non-medical groups

Underlying the subjective and interpretative basis of medical decision-making and reporting is the inherent complexity of medical work and the problem of uncertainty in medical knowledge (Fox 1975). As shown in the previous chapter, this has a major impact on how doctors struggle to come to terms with potential errors, and this is similarly an issue for the constructive processes relevant to reporting. A

predominant concern raised by many doctors was the view that errors are not easily definable with universal characteristics, and equally there was no clear basis on which to base decisions about reporting. The complexity of medical work and the “gaps” in medical knowledge were therefore central features in the construction of a reportable adverse event.

“People will find it difficult to report things because its not black and white: for example if I was doing an operation and we know that we need to avoid injury, lets say it’s a hernia operation so we need to avoid injury to a nerve during the time of dissection, we know the nerve is at risk and you try to identify it. So when you are doing the dissection and displaying the nerve you can have scissors almost cutting the nerve as you are looking for it. Now would that warrant an incident report, well no.” [P/D30].

Accordingly, it was further suggested that a problem with mandatory reporting relates to the imperfect character of medical work. As in the previous chapter medicine is seen as an imperfect “art” and is characterised by uncertainty. In consequence reporting every unexpected event is generally regarded as wasteful and would not provide information to assist in meaningful service improvement. An underlying issue in the medical construction of a reportable adverse event is the interpretation of this complexity and its relevance to non-medical groups.

“To fill out a bit of paper every time something isn’t perfect is just ludicrous.... We as individuals I think are never going to be perfect and, you know, whatever people say about a consultant provided service and things, mistakes are made like in any other profession” [P/D9].

“The majority of patients or over half the patients will have some sort of complication which can be treated; that’s the norm it’s not an adverse event necessarily. So I don’t believe all surgical complications should be reported as an incident” [P/D25].

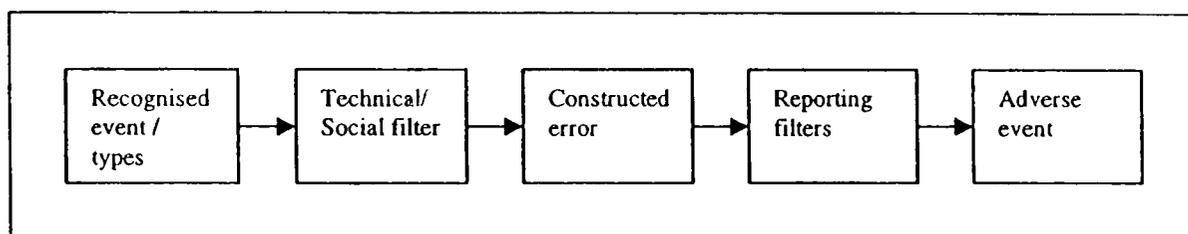
Summary

One of the major findings from this research is the way in which medical errors are constructed from the influence of medical knowledge and working practices. In the previous chapter these were explored at length, yet the relevance of these findings is also found in the way in which the meaning of error correlates with particular forms of social action. Of importance here is the way in which an error is constructed differently from an adverse event, with reference to issues of severity, complexity and uncertainty and in the context that a non-medical occupational group will appraise any report.

It is only when an error has been re-constructed that it will promote the social action desired by policy, namely reporting. The interpretation process (figure 7.1) involves

a range of stages, from the construction of an 'error' and its re-construction as an 'adverse event', and these are based on important social and cultural filters.

Figure 7.1. Overview of the social process of error construction and adverse event re-construction.



Medical culture, professionalism and reporting

The final substantive theme found in the data relates to the broad social and cultural features of medical work that seem to underpin the aversion towards incident reporting. It was widely and strongly argued by doctors that reporting is simply not an accepted feature of their work or culture; it was described as “alien” to their practice and not something that they were taught about in training. Even for those doctors working in areas where reporting was more established, such as Obstetrics, it was still apparent that an aversion to report was integrally bound up with medical culture.

“You might say it’s the culture and it’s not just being defensive” [P/D9].

“The consultants are even more reluctant to report, but that is very much the culture thing” [P/D17].

“I think we are perhaps just non-conformist in that sense.” [P/D14]

Although the culture of medical practice and professionalism has been widely discussed (Lupton 1998, Nettleton 1995, Rosenthal 1995), it is rarely the case that it has been explored in the context of incident reporting, the possible exception being the role of blame and collegiality in inhibiting openness (Kennedy 2001, Rosenthal 1995). Again the concern with blame figures prominently, but this study also found a range of other cultural facets of medical professionalism that impact upon incident reporting.

The inevitability of mistake

“It’s not good enough to be average, everybody’s expected to be above average and you can’t be” [P/D5]

“You will stop yourself and say: well, okay there but for the Grace of God, I am not going to do it again, I have learnt my lesson: I am not going to fill a form in about this” [P/D26].

As mentioned in the previous chapter doctors accepted the inevitability of mistakes in their work and the subjective character of their practice. Importantly, the cultural acceptance of this inevitability has a major impact on incident reporting. In the first instance it is suggested that those outside medicine do not always share the appreciation for the risks and mistakes of medical work. In consequence, doctors are fearful that external groups, particularly, managers, the media and the public may not be sympathetic, when in fact these problems are merely inevitable features of medicine. Secondly, although clinical risk management is seen as having some role in improving health care services, it is believed that they will never be able to fully eradicate the problem of error. Doctors are therefore more accepting of certain degrees of mistake, and give less priority to reporting. Furthermore, given this inevitability, managerial systems are often seen as intrusive and regulatory.

Fear and professional blame

Leape (1999) suggests that medicine is driven by the pursuit of perfection and where this is not attained there is a common professional response to blame those individuals that do wrong (Berwick and Leape 1999). This is seen as inhibiting doctors from being open about their problems and potentially leading doctors to conceal mistakes (Department of Health 2000, Leape 1999, Kennedy 2001, Rosenthal 1995). Fear is indeed a major aspect of medical culture that acts as a powerful barrier to reporting. However, as shown in chapter six, doctors are clearly aware that mistakes are an inevitable feature of their work and it is often suggested that the desire for perfection

rests less with medical practitioners and more at a societal level. Furthermore it has been found by Rosenthal (1995) that doctors are often supportive of 'problem doctors'. It therefore becomes necessary to understand more about the dynamics of fear and blame in medical culture.

It was rare for any doctor involved in the research not to mention the negative impact of blame; and it is not surprising to find that doctors frequently offered this to justify the professional reluctance to report. It was suggested that blame did not simply involve the apportioning of responsibility and penalties, but in the medical world its labelling effects could be long lasting amongst professional peers and on career prospects. One doctor mentioned the enormous impact that "scandals" can have on the family once they reach the media.

"Reporting on the medical side is perceived as a blame thing" [P/D9]

"And there's a culture of not wanting to fill these things in and wondering what sort of blame is going to come your way if you do" [P/D5].

"Doctors always complain that they won't fill in an incident form because it will just blame, look bad on their references and they'll get it in the neck from their consultants" [P/M6].

Although great efforts have been made to inform doctors about the non-punitive, “no-blame”, or “just” culture of incident reporting, it was still felt that these systems are a further “stick to beat doctors” and represent a new method for identifying and monitoring medical performance and then allocating responsibility or blame.

“It looks to me like a witch hunt, another witch hunt and lets face it from what is said earlier you are going to get errors, individual errors from people under pressure, perhaps being asked to do the jobs they are not trained for, and you are going to get system errors, and you are going to have that and if you start reporting to the DoH and don’t outline the reasons, then it is going to seem just like another witch hunt against clinical staff on the front line who are doing their best “ [P/D20]

“Although that culture has changed I still think there are a lot of people who would be reluctant if they could get away with it because there would still be a fear of retribution and no amount of mandatory will make any difference” [P/R27]

“People have so many things to do that I think it is unrealistic unless you can get it into the culture” [P/D10]

This culture of blame was also compounded by a fear of litigation. It was often suggested that society is much more litigious and medical work is more open to the

scrutiny of lawyers and the courts if patients feel they have been treated inappropriately. Doctors often discussed the legal implications of incident reporting, suggesting that hospital documents would provide the source from which future legal claims could be based. In this way, the lessons of Bristol (Kennedy 2001) may not have been fully learnt, as it still seems that doctors are wary of being open about their mistakes and inadequacy, despite being open about the imperfections of medicine.

“...it’s partly culture, its fear of litigation and litigation is on the increase, and its partly the old culture of preferment in terms of jobs and things and how consultants and seniors could blot your career” [P/M6].

The rejection of bureaucracy

Another interesting finding amongst doctors was their general revulsion of bureaucracy, paper work and managerial rule. This point was discussed earlier in terms of the time and effort required for participation in incident reporting, but it was also found that there was a more deep-seated loathing of complex and rule-based organisational structures. This was expressed as a general rejection of mandatory and managerial approaches to hospital control, and in particular with a rejection of reporting.

“So I think the culture is never going to be there for a mass of form filling, however much you say fill in forms, fill in forms, fill in forms. It will never happen” [P/D9]

“I think culturally doctors are the worst people to follow mandatory rule, if there is anything mandatory doctors will think of a way for somebody else to do it for them” [P/D14].

“To fill out a form is not in the medical culture as yet” [P/D30].

“We don’t like filling out forms” [P/D25].

This anti-bureaucratic sentiment within medical culture may be symbolic of the competing forms of organisational and occupational control found within the NHS. On the one hand, medical professionalism has a long history of occupational control based on a strict demarcation between roles and has traditionally been central to the social organisation and division of labour in health care (Freidson 1970). As shown in chapter two, there has been an increased management responsibility and authority in the NHS since the early 1980s and this has been interpreted as ‘challenging’ medical professionalism. It appears that a cultural and occupational response to such changes is the general rejection of managerial and bureaucratic forms of social organisation as they impact upon professional forms of social organisation (Freidson 2000), which in this case centres on incident reporting. This theme is developed in

chapter eight, but it was evident from the discussions with doctors that incident reporting represents a managerial process that does not reflect the way in which doctors work, in particular doctors present themselves as more reflective and less rule based.

Professional differences

Another important finding was the common medical view that incident reporting, although run by managers, is actually a “nurse” based scheme. It was often stated that reporting is an established feature of the nursing profession, where “form-filling” and “paper work” are accepted characteristics of this occupation. However, these are not found in medicine because doctors worked in a different way to nurses and had different expectations and procedures. Furthermore, it was frequently stated that incident reporting was more geared towards nursing issues and it did not easily translate to reflect medical work.

“Whereas the nurse will tend to fill in absolutely anything, that sounds a bit unfair, but they certainly have a lower threshold, which I'm sure arises out of genuine concern for patient care and quality of care, but there is also this element of ‘I'm filling this in to cover my self and I have passed it on’”.

[P/D26]

“I am sure nurses will feel obliged to do that, because they are trained to do that. You can see the strengths in both systems; while one system under-reports but avoids bureaucracy, you still fill in an incident form. Investigate what happened and don’t do it again. Whereas the other one is obviously very safe but creates a mass of writing and work.” [P/D26] (on the difference between nursing and medicine)

“And the trust policy is that the triplicate forms are used for patient falls, doctors regard those as nurse initiated and about falls in hospital” [P/D13].

The way in which doctors often talked about incident reporting was frequently ‘off hand’ and demeaning to the nursing profession. It may be the case that forms of reporting are indeed a more longstanding features of nursing, but for doctors it is associated with a different form of professionalism and certainty not one associated with medicine, which is seen as inherently more complex and based upon both expert medical knowledge and acquired experience.

Summary: culture, complexity and self-regulation

Underlying all these findings is the medical preference for forms of quality control associated with professionalism. The antipathy and even outright disregard for incident reporting seems to stem in many ways from an underlying cultural predilection for self-regulation couched in the belief that medical work is complex

and premised on expert knowledge. In consequence, medical professionals claim the ability and legitimacy to interpret and control issues of quality, while other occupational groups are excluded. Although this theme is explored more thoroughly in the following chapter, it obviously has a significant impact on incident reporting because by not reporting doctors are maintaining internal occupational control.

The 'self-regulatory' character of medical professionalism has been well discussed in chapter two, where it was shown that it is frequently regarded as a cornerstone of professionalism, along with a high degree of autonomy, public service ethic, and the possession of expert knowledge (Wilding 1980). Freidson (1970, 2000) argues that this regulatory framework is premised upon the acquisition of expert and esoteric knowledge by certain occupational groups, and where other groups cannot acquire and pass judgement on this knowledge, leading to claims for self-regulation. Its impact on incident reporting is found in the general feeling amongst doctors that errors relate to the complexity of medical knowledge and work, and as shown in the previous chapter, they are clouded by the interpretation of uncertainty. Consequently, the new managerial approach to error control is not seen as possessing the knowledge and experience necessary to understand medical errors, instead it is commonly seen as a politically-inspired initiative to acquire more control over the NHS and medical labour. Hospital based incident reporting is therefore seen as illegitimate. Even if it draws upon medical assistance, it cannot possess sufficient knowledge to meaningfully understand the incident.

“The consultants are even more reluctant to report, but that is very much the culture thing. The consultants have all grown up in a non-reporting era, reporting is relatively a recent thing as far as we are concerned.” [P/D17]

“They can’t understand what we mean... how can they” [P/D30]

“It’s a big brother thing...” [P/D5]

It was found that new styles of clinical risk management are regarded as monitoring medical work through external agencies and this represent a challenge to the time-honoured and revered regulatory arrangement for medicine. It can certainly be understood why medical professionals may feel this way, as incident reporting seemingly represents a form of external audit on medical quality, driven by political and managerial groups, which has the potential to delve to the very Achilles heel of medicine: errors. This not only has the potential to challenge a key aspect of professionalism, but for doctors it could represent an affront to medical knowledge itself. It was therefore not surprising for doctors to offer a range of other methods in which quality issues and errors are being addressed from *within* the profession. It was quite common for surgeons to refer to Morbidity and Mortality Committees, and Medical Audit as established collegial systems for addressing errors and providing local feedback. The view of some doctors and managers was that despite the calls for cultural change in policy, the underlying character of medical professionalism will not easily accept reporting as a technique of quality improvement.

“But I think on the medical side you will never get a culture where all these are picked up. That’s part of medical culture” [P/D9].

Discussion: a culture of reporting in medicine?

This chapter has described the systems of incident reporting found within the case study organisation. Managed and directed from the corporate centre, it was found that a hospital-wide incident reporting system has been in place since the mid-1990s, and over the course of the fieldwork it was clear that hospital managers were concerned with transforming and promoting this system in line with the emerging patient safety policy agenda. It was also found that hospital managers and leaders believed there was a problem with securing medical participation in this system and there was “medical under-reporting”. However, the study revealed that medical reporting varied across the directorates of the organisation and reflecting professional, organisational and cultural differences. It appeared that in some locations medical reporting pre-dated the hospital system and emerged as a professional response to external pressures, such litigation; whereas in other directorates more informal systems existed for the recognition of problems. Generally there was little inclination for medical participation in the hospital-wide system and a preference for systems of local medical control.

It appears that there are several issues that inhibit medical reporting. The first centres on the practical inability of managers to prove the worth of reporting through either feedback or acknowledged change, in addition to the practical problems of form design, time constraints and administrative support. These suggest that management change rather than professional change may be more fruitful in securing greater reporting. The second theme of reporting barriers centres on the attitude and culture of medicine. It is argued in policy and theory that cultural change is required to promote reporting yet beyond the ubiquitous concern with blame there is little detailed evidence of what aspects of medical culture inhibit reporting. As shown above there was a crucial conceptual and perceptual problem with understanding what constitutes a reportable error in addition to the professional rejection of bureaucracy and preference for collegial systems.

These factors can be seen as barriers to reporting that have emerged from the interactional context of medical work whilst also influenced by national professional expectations and norms. However, it is also possible to argue that medical culture is not just a barrier to reporting but from a 'radical' perspective (Parker 2000) it can be interpreted as resistant to reporting. In particular it appears that managerial attempts to encourage reporting fail to acknowledge what doctors consider to be the complexities and subtleties of medical work, whilst it represents managerial and bureaucratic intervention in medical work. The normative rejection of reporting therefore becomes a strategy for limiting the encroachment of managerial techniques in medical work, whilst reinforcing the medical norms of control and collegiality.

Given these cultural considerations it is not surprising to find that professional control was crucial to the promotion of medical reporting: where managerial/risk management approaches had been successfully introduced there was significant professional leadership and control to accommodate these processes and cultural barriers. This may suggest that the rejection of reporting may be an attempt to fend off increased managerial control in medical work.

These findings raise serious questions for the success of incident reporting within the National System. The policy has recognised the cultural problems of medical openness and transparency, and refers to the impact of blame and the need for cultural change to promote incident reporting. However, issue must be taken with policy in this regard. In the first instance policy lacks a detailed appreciation of medical culture, how it is theoretically conceived and how it operates in relation to incident reporting: blame is certainly an issue but as this chapter has shown there are other facets to consider. Secondly, both theory and policy advocate cultural change but, as discussed in chapter four and shown above, there is no appreciation of the theoretical debates surrounding organisational culture and the bearing these could have on policy implementation, especially the conflicts of culture between managerial and medical groups.

In policy organisational culture is conceptualised as a structural property of an organisation that can have a functional utility in aligning employees to managerial

goals, and importantly it can be modified through management activity. The policy seems to suggest that currently doctors do not appreciate or understand what reporting can do and therefore it is necessary to provide a “low-blame” environment to encourage participation and to acquire the normative compliance of doctors. However, other concepts and theories of organisational culture reveal the interactional and antagonistic aspects of organisational life. From this perspective it could be argued that the desire for cultural change actually represents a form of managerial control, ensuring medical compliance to managerial rule. It could also be argued that by failing to consider the interactional and radical aspects of culture, policy fails to consider that culture cannot easily be controlled or ‘tweaked’ from a top-down structural perspective.

Developing these alternative perspectives, it is argued here that medical culture, as it pertains to reporting, is indeed varied and based within the interactions and experiences of medical work at the directorate level of hospital organisation, as well as reflective of broader professional concerns. However, it is also possible to argue that medical culture is not just presenting barriers to incident reporting, but by adopting a more critical perspective it can be suggested that the culture of non-reporting in medicine is resistant to managerial systems that are trying to encourage medical reporting and openness. The medical attitudes and actions with regards to reporting therefore reinforce professional legitimacy and exclude non-medical groups.

8. The management and control of medical errors

Introduction

The proposed National System aims to enable hospitals and the NHS to learn about errors, but more importantly to promote safer and more risk controlled health care systems. Incident reports provide a key source of information about the occurrence and character of ‘adverse events’ and ‘near misses’, and it is through the analysis of this data that ‘lessons’ can be learnt and shared, and the risks of error managed. As shown earlier the Human Factors approach has made a significant contribution to health policy directing managerial attention towards both the “active” error and also the “latent” systemic factors. This “root cause analysis” involves examining the underlying factors that enable errors to occur through forms of risk stratification and then promoting safer systems (Department of Health 2000, 2001).

It is shown in chapter two, that medical professionals have well established formal and informal mechanisms for the regulation of their work. Yet alongside these ‘collegial’ approaches to quality control alternate ‘managerial’ approaches have developed, such as risk management. In this context the National System requires further managerial activity in the control of health service quality. In the first instance this is associated with encouraging professionals to be more open and report incidents, as discussed in chapter seven. In the second instance and of interest here the National System involves the analysis of incident data to inform organisational

change. Specifically, the policy introduces new management structures and procedures for analysing incident reports and making change. Of theoretical and empirical importance, these could represent new bureaucratic and documented forms of organisational control that furnish management groups with new structural powers in health care.

This chapter provides an account of the current managerial approach to clinical risk and error management in the case-study hospital. In the first section, a descriptive overview of the hospital-wide arrangements and procedures for clinical risk/error management is given, which is explicitly premised on the implementation of the National System. The chapter then gives an account of variations in error management found at the directorate level of the hospital. In a similar manner to the discussion of incident reporting, it is shown how different directorates within the hospital have developed distinct approaches to clinical risk management, ranging from those predominantly based on professional regulatory systems, to more corporate-style systems that reflect the ideals of policy. Following this descriptive account, the chapter turns to the normative views of doctors working in the case study showing the normative basis of such variations and why the hospital-wide approach is not widely adopted. In discussion the hospital-wide approach and the directorate variations are then discussed in terms of the changing organisational control and management of medical errors. Addressing the debates laid out in chapter four, it is questioned whether the policy does represent a new form of

bureaucratic control and to what extent it alters established medical approaches to quality improvement.

The hospital management of clinical risks and errors

Systems for the management and control of medical errors in the NHS have been both explicit and implicit. As shown earlier, changes in professional practice and regulation have implicitly promoted new techniques to control clinical performance and mistakes, couched within notions of professionalism. Alternatively, over the last ten years schemes such as CNST and the pressure of litigation have necessitated more explicit and pro-active managerial systems of clinical risk management. Although the implementation of the National System involves NHS Trusts meeting a collection of new 'requirements', it is also the case that this will inevitably build upon current hospital practices. This section shows how the management 'centre' of the hospital is attempting to introduce policy and introduce new error management systems that precede the collection of incident reports.

Despite the variations in incident reporting across the hospital, there remains a core corporate responsibility for the collection and analysis of reports, located within the Department of Corporate Affairs. During the course of the fieldwork corporate leaders in the hospital appeared eager to develop existing risk management systems in readiness for policy implementation. It has been possible to observe many of these changes as committee structures have been modified, new organisational groups

have emerged and new methods of analysis utilised. Not only do these changes demonstrate the desire to meet the requirements of policy, but also the character in which changes are occurring illustrates a desire for greater managerial control of errors.

The corporate collection of incident reports

As outlined earlier, the Department of Corporate Affairs has overall day-to-day responsibility for incident reporting and clinical risk management within the hospital. It is to this department that incident reports *should* be returned within the Trust. This system has been operating for over eight years and annually the department receives on average 3500 forms. The passage of incident reports from the 'form filler' to the 'corporate centre' can involve a range of different organisational actors some of which are also involved in the processes of clinical risk management. It was suggested the process of completing and returning a form can be such that it was common for Corporate Affairs to receive forms, sometimes, weeks after the incident had occurred and this limited the capacity for rapid corporate action where necessary.

“It does take time and sometimes we get them weeks or even months after [the event]... It means that we can't really do anything there and then”
[P/M33].

This is not to say that incidents are not managed or controlled effectively, but it could suggest that due to the line management structure of the hospital, with information passing from individuals, through directorates and divisions and then to the corporate centre the capacity for central management action can be limited by such processes. However, it is worth pointing out the more severe or serious untoward incidents are typically reported to Corporate Affairs with considerable speed and are 'flagged-up' using other communication systems, such as the telephone, e-mail or personal communications.

The corporate analysis of incident reports

After receiving the incident forms the Department of Corporate Affairs has responsibility for the collation and analysis of this information. At the outset of the research, a sub-group of this department had primary responsibility for clinical risk management, comprising two part-time and job-sharing risk co-ordinators. Their roles included cataloguing individual forms, recording the basic information, such as location and incident codes, and if required, liaising with the reporter or other staff in order to investigate the incidents in greater depth. This information was then stored using a general computer database.

At this time in the research process, the analysis of incident data was normally involved manual reading the forms and the collection of further information from professionals within the organisation. It was commonly suggested that this process

required the risk co-ordinators to possess a clinical background in order to understand what was reported. Without such experience and expertise it was believed that the information could not be used “effectively” to understand the events or promote organisational change.

“I think it’s essential for clinical risk management to have a clinical background not only... so that you understand different cases scenarios and errors and contributing factors to errors, because you have worked in that setting and you understand the language and process and that kind of thing is essential.” [P/M1].

The risk co-ordinators and also those with more senior managerial authority in the Department of Corporate Affairs, including the Director and Deputy Director suggested that they had acquired this expertise through previous nursing roles held earlier in their careers. It was believed that this enabled them to appreciate the technical details of the reports and appropriately analyse the data. However, as we shall see later it is not always common for this view to be shared by other professionals within the hospital who appeared more sceptical about the level and type of expertise found within the management of the hospitals

The initial analysis phase generally focussed on identifying the general character of the incidents: ascertaining what transpired, whether this was to be expected or whether it was uncommon or threatening to the patient. In many ways this process

was aided by the incident 'reporter' entering a specific 'incident code', this indicated what they believed to be the type of adverse event. The role of the risk co-ordinator therefore centred on verifying the assessment made by the reporter.

The second general phase of the analysis process typically involved using the amassed information from across the different hospital directorates to develop an understanding of incident patterns and trends. This "trend analysis" required the risk co-ordinator to identify the most common types of incident, where and when they occurred and to ascertain whether further action is needed from the corporate level. This 'trend' data was seen as important for identifying problematic and reoccurring service issues, where adverse events were consistent and where individual action may be influenced by accident-prone organisational systems or upstream decision-making. For example, the observations revealed that a common trend was for incidents to occur following a 'shift change' on the wards due to a range of possible effects, including fractured communication or disjointed care provision. In this way, trend data is used to guide further investigations or suggest where organisational change might be required.

As well as providing information about incident type and frequency, the clinical risk co-ordinators also used the information to provide a risk stratification of adverse events to more thoroughly inform management decision-making. Developed from the policy guidelines, this involved estimating the actual or potential frequency of the event, to which the trend data was pivotal, but also gauging the severity of harm

to the patient. This process was initially guided by a 3 by 3 risk matrix (see figure 8.1) with severity and frequency plotted on the different axis. In this way, the combination of these two dimensions could provide an initial risk stratification of the incident on which further action could be based. This process was also enhanced through the use of a ‘traffic-light’ colour coding system that indicated the level of action possibly required within the hospital. For example, a highly severe and highly frequent event would lead to a ‘code red’ risk that should lead to an immediate organisational response to control further risk. However, a low frequency and low severity incident would be classified as a “green” risk that would lead to minimal intervention presuming that immediate action taken by the relevant professional has dealt with the incident when it occurred. This information would be reported to the Clinical Risk Management Committee where ‘red light’ incidents could be discussed and detailed investigations co-ordinated.

Figure 8.1 Example of Risk Matrix

Severity	Low	Medium	High
Frequency			
Low	Green	Green	Amber
Medium	Green	Amber	Red
High	Amber	Red	Red

‘Trend data’ and ‘risk stratification’ are well-established methods of analysing incident forms within the Department of Corporate Affairs. Together they indicate to the risk co-ordinators where high risks of error and reoccurring service issues are

located around the hospital. Consequently, this information can be used to point out where detailed investigations or enquiries are needed to gain a more thorough understanding of clinical errors and risks. The representatives from Corporate Affairs involved in the research were eager to use this information to inform “root cause analysis” and respondents frequently spoke of the need to understand the latent factors underlying incidents

“And you know with OWAM [*Organisation with a Memory*] and the Patient Safety Agency we're meant to do root cause analysis of each error, which is great and so you should and people are trying to do that to analyse the errors in more detail now, so the person left holding the parcel when the music stops isn't the only person that's considered that had some responsibility within the process.” [P/M6]

However, it was also suggested that the capacity for the risk co-ordinators to thoroughly analyse all reoccurring events and high-risk reports was limited by excessive workload and as such only the most critical or severe events tended to acquire this analytical attention. In consequence, the corporate centre of the hospital frequently relied upon local risk managers, line managers and clinical directors at the directorate level to provide further investigations about the character and origin of errors. Moreover, while this information could have been used in a proactive ‘human factors’ fashion, it appeared that more frequently these findings were communicated to the Clinical Risk Management Committee which had overall

responsibility for over-seeing clinical risk management and incident reporting. The relationship between the risk co-ordinators and the committee structure of the hospital is highly important for the hospital's approach to error/risk management and is discussed below.

Changes in the corporate approach to risk management

During the course of the fieldwork several significant changes occurred within the within the Department of Corporate Affairs and the hospital's clinical risk management system. These changes were brought about by a desire to create greater vertical management accountability, to streamline the committee structure of the hospital and to prepare the hospital for the National System. At the organisational level, the committee structure of the hospital was modified including changes to the Clinical Risk Management Committee; whilst in the Department of Corporate Affairs the two risk co-ordinators terminated their positions for personal reasons, leaving the day-to-day responsibility for clinical risk management temporarily in the hands of the Deputy Director of Corporate Affairs. Prior to replacements being found for these roles it presented the Deputy Director with an opportunity to assess the risk co-ordinating function and how it might be improved to meet the requirements of policy.

The main changes that were introduced during the course of the fieldwork were the introduction of two new members of staff to fill the vacant positions, the purchase of

a specialist computer package to assist in data collection and analysis, and attempts to improve incident reporting. These developments were also mirrored by changes in the corporate committee structure, which are discussed later.

“The process as it stands at the moment...we have a clerical officer who inputs all the incident forms into a system called Datex as of the first of April. Before she does them there is a nurse who works a couple of hours a week who goes through them grading them for severity and the likelihood of them happening again. So what’s written on the form gets put in but also with a grading. Any incident that is graded as an amber or a red risk...she uses that to help her review whether we have got something that is a potential risk, either in the fact it could happen many times or the consequences to that individual are serious” [P/M28].

The main analytical changes were captured in the hospital’s strategy document for the *Management of Risk*. This document explicitly linked the hospital’s incident reporting and clinical risk management system to the wider changes in national policy, demonstrating the Trust’s readiness to adopt the National System. Accordingly, the document outlines an explicit Risk Management Cycle for the hospital, demonstrating a renewed vigour in the Trust’s approach to clinical risk management (figure 8.2). This shows how the identification of risks, primarily through incident reports, but also including complaints data and other similar

sources, should lead to analysis that informs particular forms of organisational control.

To improve the analysis of clinical risks the hospital also re-designed its risk stratification matrix in line with policy, replacing the three-by-three scoring tool with one composed of five categories for frequency and severity (figure 8.3) and leading to four categories of corporate response as opposed to the traffic light system. Again this information is communicated to the committee level where decisions are made about the appropriate investigation, risk calculation and remedial or proactive action, ideally reflecting the principles of “root cause analysis”.

Figure 8.2. The Risk Management Cycle

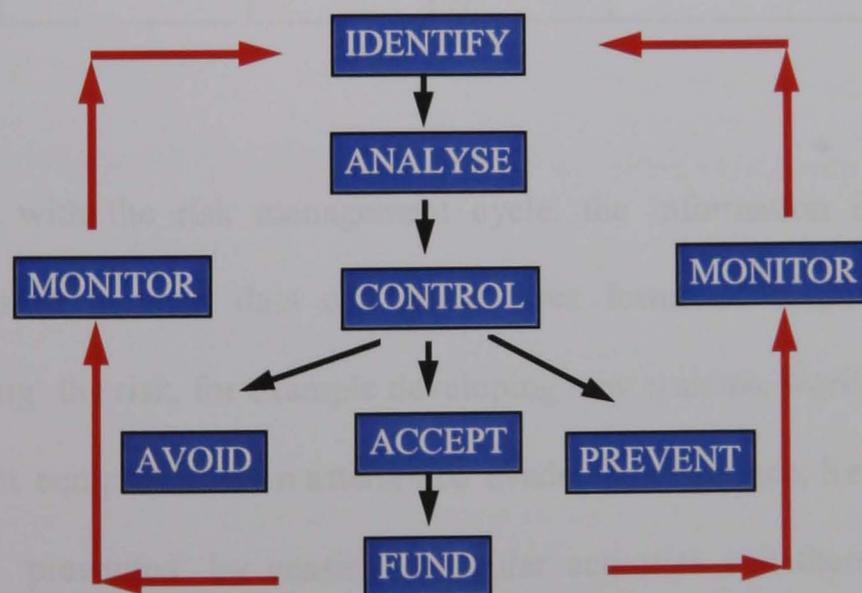


Figure 8.3. Revised Risk Matrix

		PROBABILITY / LIKELIHOOD				
C O N S E Q U E N C E / H A R M / H A Z A R D	Catastrophic					
	Severe					
	Moderate					
	Slight					
	Low					
		Improbable	Unlikely	Possible	Likely	Very Likely
	<i>Don't believe will happen – exceptional circumstances</i>	<i>Occurs annually in UK may occur within Trust in exceptional circumstances</i>	<i>Has occurred in Trust within last 1-5 years</i>	<i>Occurs annually within Trust</i>	<i>Occurs weekly/monthly within Trust</i>	

In line with the risk management cycle, the information acquired through the analysis of incident data can guide three forms of corporate action. First, is 'avoiding' the risk, for example developing new systems, working practices or using different equipment in an attempt to evade re-occurrence. Secondly, clinical risks can be 'prevented' by ceasing particular activities and therefore eliminating the chance of further incidents. Finally, risks can be "accepted" and in such cases the hospital must try to control their frequency and their impact, both in terms of costs and patient harm; this may include providing training to limit their frequency or developing safety-nets.

Despite the corporate analysis of incident data, two significant queries emerge from the study. First, the analysis of data at the 'corporate centre' does not fully reflect the expectations of policy in terms of "root causes analysis"; it appears that hospital still has some work to do to fully implement the requirements of policy. Second, managerial action and inspired change was not particularly evident in the hospital or reflected in the views of professionals. These limitations may relate to the problems in corporate structure of the hospital, given that the focal point for decision-making and action is split between the Committee level and the Department of Corporate Affairs. Within these arenas it appears that action can be confused and frequently protracted. The strategy document makes clear these arrangements and shows that the information collected and analysed should be used to inform hospital-wide action through the sub-committees of the Trust's Risk Committee and the Divisional Risk Committees across the divisions of the hospital. Furthermore, while the corporate centre can take a lead in analysis and decision-making, it is presumed that the bulk of any reforms are to be implemented at the local level of the organisation with management guidance.

The changes in the corporate approach to clinical risk management may appear small, for example altering the risk stratification tool, but they represent a major shift in the way the hospital manages clinical risks and incidents. Specifically, they represent the preparation of the hospital for the implementation of the National System for Learning from Adverse Events and Near Misses. Furthermore, it was

clear from talking with those responsible for incident reporting and clinical risk/error management that the language of national policy, in particular the human factors approach, are increasingly being incorporated within corporate practice. However, it appears that the systems described here are predominantly concerned with the collection and analysis of incident data with little explicit use of root causes analysis or demonstrable organisational change.

The Committee role

The Committee structure of the hospital is therefore the main corporate mechanism through which clinical risks and medical errors are controlled in terms of promoting organisational and occupational change. At the start of the fieldwork the Clinical Risk Management Committee, a sub-committee of the more general Risk Management Committee had responsibility for assessing information about incidents and risks, and recommending corporate action to the parent Risk Management Committee. The composition of this committee includes a range of professional representatives from across the hospital as well as key management roles from the corporate centre who met monthly on a formal basis to oversee the clinical risk management function of the hospital.

The Clinical Risk Management Committee received various sources of information about which it makes some form of analysis and recommendation. One major and regular sources of information comes from the Department of Corporate Affairs

which provides statistical data about incident trends and these were often presented in the meetings by one of the risk co-ordinators, accompanied by a risk analysis in terms of frequency and severity. This information enabled the committee to identify particular problem areas in the organisation and enabled the committee members to discuss emergent and important organisational issues, or recommend the need for further investigation to discover the latent factors. These further enquiries were normally conducted through a selected member(s) of the committee who would work alongside an individual from Corporate Affairs and a representative from the particular directorate. The basis of this selection could range from knowledge of the area, appropriate expertise, familiarity with the directorate, or simply possessing the time or interest to conduct the investigation. Following an enquiry a small written and visual report would normally be made at the following committee meeting where discussion and decision-making would take place.

These investigations and the regular trend analysis provided the committee with a major source of information to discuss potential and actual threats to patient safety. In this way, the corporate management function relies upon both centralised information from incident forms to locate potential issues and also more localised support from directorates to further investigate any issues.

In addition, the committee acquired information about risks and errors by inviting every department and directorate within the hospital to make an annual presentation or review of their established or estimated risks and errors. This would enable the

corporate centre to communicate with the local level of the hospital about errors and also enable them to make recommendations.

“The directorates would make their risk reports, they would be reviewed by the risk management committee, who would sort of approve them or say wait a minute and ask the directorates to answer certain points” [P/D2].

Through these presentations the committee receives a broad range of information about general directorate level risks, or about specific changes. For example, during the course of the fieldwork the Directorate of Rehabilitation presented an annual overview of reported incidents and trend analysis; the Critical Care Team presented an analysis of the risks associated with a particular item of equipment; while the Radiology unit presented an analysis of the potential risks associated with changes in its staff working practices. For the committee, these presentations provided an important insight into specific risks in the hospital and provided an opportunity for corporate involvement in local organisational issues. Whilst for the directorates across the hospital it was often seen as a way of facilitating change through gaining the support of the committee and improving the chances of receiving additional resources.

These monthly committee meetings were therefore typically characterised by the individual members listening to presentations and reports, discussing relevant information, raising questions and proposing particular strategies. It was seen as

important to gather as wide an opinion before making any decisions and this frequently involved lengthy deliberation within the group. It was suggested that the range of experience and expertise within the group enabled decisions to be broad and reflective of the hospital's various staff groups; whilst the information and decisions could be relayed back to the hospital directorates and departments through these committee members.

“So individual members of the committee take their expertise back with them. Together they also contribute to the decisions, which the group makes about various things that come before us” [P/D11].

However, it is worth pointing out that this group did not have full representation from across the entire organisational units of the hospital, but was comprised of individuals who had a specific clinical risk management or quality improvement role, or those particularly interested in the subject. Professional representation was therefore not always complete, and the direction of input and discussion sometimes appeared to undulate between the corporate perspective and the views of the most vocal professionals.

Additionally, it was claimed by members of the committee that sometimes its remit was too broad and unclear. Consequently, it was pointed out that it could only meaningfully give attention to the most serious events or risks that arise in the hospital. This means that the function of the risk co-ordinators within Corporate

Affairs is crucial to the work of Committee because it is these actors that make the initial assessment and stratification of risk, and therefore their decisions typically drive the clinical risk management function of the hospital, particular for the non-major or scandalous incidents that automatically attract wider attention.

“The clinical risk management committee for it to function it can only concentrate on the really serious ones.” [P/D2]

Through these discussions the committee would come to a decision about action, support or refine local initiatives and then relay these findings to the more general Risk Management Committee. This committee has overall responsibility for risk within the hospital, including financial, clinical and organisational risks. The main linkage between these committees was through the presentation of committee minutes and the dual position of the Medical Director and Director of Corporate Affairs sitting on each committee. This committee would then assess these clinical risks against the other risks in the hospital before promoting any form of organisational change, especially those that had resource implications. This organisational relationship appeared to create a degree of confusion amongst the members of the Clinical Risk Management Committee as they were often uncertain about what ‘their’ committee actually did and how much impact it had in developing safer organisational systems.

“So I think we are probably quite good at identifying what are the real risk and issues, but is a question of what we’ll do with it once we’ve identified, and that’s where I feels it falls a bit flat.” [P/D5]

“I am not sure that clinical risk management committee is clear about what its task is...I am not sure whether any of them would be able to apply a risk management tool to it and say they understand the issue about risks to reputation, the risks to finance, the risks to operations” [P/D12].

In consequence, it was often suggested that the Clinical Risk Management Committee was powerless to make change because this responsibility rests elsewhere in the hospital, namely with the Risk Management Committee which has the economic resources to make change.

“What it strikes me as, the clinical risk management committee doesn’t really make any decisions. It can agree things are or are not a major clinical risk, but it’s not a committee that weighs up the various risks.” [P/D2].

“It’s probably a reflection of the NHS: toothless and airy-fairy and nobody making decisions or taking responsibility. An awful lot of management strikes me as being a device to put the blame on somebody else’s doorstep” [P/D5].

Changes in the committee structure

As mentioned above, there were several important changes in the hospital during the course of the fieldwork. In terms of the committee structure it was suggested that there was a high degree of overlap between the Clinical Risk Management Committee and the Clinical Governance committee. This other group was a sub-committee of the Trust's Executive Board and had responsibility for wider quality improvement issues. In consequence, these two committees were merged to provide greater clarity and linkage between the analysis of clinical risks and wider governance issues. In addition, an Incident Reporting Steering Group was introduced at this time to provide leadership for incident reporting and oversee the day-to-day operation of reporting and analysis. Unlike the Clinical Risk Management Committee this new Incident Group consisted of key representatives from across the hospital, rather than the "enthusiasts", and in consequence has a more defined relationship with the local level of the hospital.

"There will be divisional representatives that are the lead for risk, there will be representation from the professional groups on top of that, so the professional issues and divisional issues. There will be a corporate representative from here because a lot of the wider trust information comes from here" [P/M28].

The remit of this new group appears to be twofold: first, improve the level of incident reporting in the hospital, and second, provide guidance for those working in

the Department of Corporate Affairs and simultaneously support the work of the Clinical Risk and Governance Committee. The observations of this group have further endorsed the view that the hospital is attempting to develop its systems in line with the National System. The major work of this group has thus far been to redesign the hospital-wide incident form in order to facilitate and improve participation; and the identification of training needs to raise awareness across the hospital about the utility of incident reporting.

Summary: the corporate management of medical errors

The corporate structure of the hospital has experienced a degree of change during the course of the research, and this can be regarded as an attempt to align the management function and capacity of the hospital with the emerging policy context. In particular, the hospital has tried to improve the management and analysis of clinical incident data and how this is utilised to promote safety. This information is being analysed both through the manual appraisal of data, but also through the introduction of a specialised computer package that is sophisticated in the analysis of incident trends. It is this information, and also the detailed reports from individual directorates, that provides the basis of corporate analysis and control.

What is interesting is the way in which the increased managerial activity in this area represents a break with established systems of quality improvement. Although risk analysis has become more prominent with the introduction of CNST, the current

approach is explicitly concerned with expanding the collection of clinical incident data, applying management techniques that are associated with the human factors approach, and ultimately introducing management-led change. In this way the corporate centre of the hospital is attempting to establish its duty and responsibility to evaluate and control medical errors. Although the previous chapter has discussed the issues associated with medical incident reporting, hospital management will still be required to investigate the active and latent features of medical performance that could or did lead to an adverse event. On the one hand it is clear that the changes in the hospital represent a more bureaucratic, formalised, inclusive and documented system of error management that draws on a specialised theoretical framework, especially when compared to professional regulatory systems. On the other hand, it is necessary to appreciate the activities at the directorate level of the hospital to ascertain the extent of this managerial influence in the control of medical errors.

The directorate control of medical errors

As shown in chapter seven, the hospital-wide incident reporting system is accompanied by variation at the directorate level. Similarly, the corporate management of clinical risks and errors is also matched by alternate approaches found at the local level of the hospital. These reflect established professional systems for performance review as well as variations in local management systems. The chain of events from filling out an incident form through to it being analysed in

the Department of Corporate Affairs, can include a host of line managers, clinical directors, risk managers and other divisional actors with responsibility for the quality of clinical care. These local actors can have various roles, from merely collecting, confirming and authorising reports; to actively investigating and analysing reports to inform local changes. One of the risk co-ordinators at the corporate centre highlighted the potential role at the local level.

“The process is about the form being filled in, maybe a discussion taking place, and then it being the line manager’s responsibility to investigate. And that’s okay and that’s fine, because they need to be part of it and they need to look at their own lessons.” [P/M3].

The extent of this local management activity varies considerably and does not necessarily reflect the corporate and national approach. In some areas it is indeed the case that local risk managers are pursuing styles of trend analysis that mirror the systems conducted by Corporate Affairs. It is also the case that other areas across the hospital are engaged in other forms of quality improvement associated with professional systems of quality control.

“We can see fairly wide variations in the way some departments and directorates operate. The sort of responsibility that the more senior people take, how often they tend to be around and that sort of thing” [P/D2]

“You know I’m sure there are directorates across the Trust just carrying on old-style health and safety meetings as opposed to root cause analysis or whatever” [P/M4].

These variations demonstrate the intersection of more established professional approaches with more contemporary managerial developments. For example, Medical Audit was frequently discussed as a relatively new style of quality improvement in medicine. It is therefore necessary to appreciate the local variations and understand how they converge with or diverge from the central hospital approach and the national agenda.

“The directorates have a very distinct area of practice and we all get on with our own thing unless you’ve got people coming to you saying this is happening” [P/M4].

Anaesthesia

As shown previously, this directorate is composed of two distinct areas of responsibility that overlap in the context of surgery; here attention is given to the medical speciality of anaesthesia. It was also shown that in the hospital this medical specialty is participating, almost exclusively, in a confidential and anonymous incident reporting programme co-ordinated by the Royal College of Anaesthetists as an alternative to the hospital system. The collection of these reports provides this

medical group with the opportunity not only to participate in the development of national professional research and guidance, but also to contribute to local service development.

Although premised on the 'professional-led' reporting system and directed by medical representatives with local risk management support, the analysis of incident data within the Directorate of Anaesthesia resemble in many ways the hospital's corporate approach, with attention given to the severity and frequency of events. However, this was co-ordinated by a designated doctor with responsibility for the incident reporting system ensuring that medical control over the process:

“She identifies trends and repeated problems then I bring it to the directorate and discuss policy” [P/D26].

This risk management function is most commonly performed in association with the Clinical Director who has overall clinical leadership responsibility and a duty to be aware of important clinical developments. Through regular directorate meetings the incident trend data is summarised, typically in terms of the frequency of events, event types and severity, and this information can be used to identify problems and inform potential procedural changes. As a technique of error management, the incident data is also used in conjunction with established collegial systems of medical quality regulation.

“One of the consultants’ jobs is to analyse incidents regularly and also for anybody else to report to this particular consultant if anything has gone wrong. Any incidents that occur are reported and then we have regularly morbidity and mortality meetings once a month, looking at a series of incidents that have occurred, plus we have regular directorate meetings where we can feedback” [P/D17]

Morbidity and mortality (M and M) meetings represent a longstanding mechanism through which professionals within a speciality and directorate can review and evaluate particularly important or interesting cases that have arisen in the care process. Traditionally these meetings would rely upon case-reviews and discussion amongst the relevant professionals but now the additional incident data contributes to this process. The character of these meetings is particularly self-regulatory, as those involved are professional peers also working in the same medical field or involved in the care process. Incident data was used in conjunction with more established and ‘traditional’ mechanisms of quality control and therefore served to enhanced rather than supersede this collegial approach.

“We do have morbidity and mortality meetings... so it runs in parallel if you like with critical incident reporting and it may be that some of these cases are identified as being important enough to discuss and identify properties. So there is a certain amount of cross over between critical incident reporting and M and M.” [P/D29]

“Every six months we all sit down, all the consultant surgeons and anaesthetists, and we look at our figures and there are ways of plotting graphs of performance with some sort of risk stratification” [P/D5]

The use of incident data within anaesthesia represents the blending of the collegial or “traditional” (Close 1997) with contemporary managerial and policy-based forms of quality control. The adoption of incident reporting and analysis in anaesthesia, however, demonstrates less of an adoption of hospital-wide systems, and more of the professional leadership in this area of medicine. It was often claimed that as a medical speciality, anaesthesia represented a serious threat to patient safety during the surgical process and in consequence over the last ten years developments in patient safety from *within* the profession have had a major impact on promoting the use of incident data to develop guidance. In other words, anaesthesia has had these systems in place long before the current policy context. Furthermore, it is necessary to recognise that the control of these systems resides *within* the profession. Despite these developments, however, there is little regular communication of incident data to the corporate centre of the hospital, except in particularly severe or critical cases. Moreover, the majority of this data is employed in an anonymous and confidential fashion. A further observation was that this speciality is particularly suited to such styles of error management and clinical risk management, because of the standardised character of the work which makes it more amenable to specified guidance.

“Because it is very much a sequential process, a lot of anaesthesia is the same, complex but the same, that if you detect faults that are occurring regularly you can prevent that from occurring again by reporting them, by dealing with them, by working out what is going wrong and coming up with solutions for preventing it to reoccur” [P/D17].

Therefore it may be the case that additional use of this incident data to guide and support established professional regulatory mechanisms is not only encouraged through a national professional research programme, but also the accessibility of risk management to this medical speciality.

Combined Surgery

In the previous chapter it was suggested that surgeons were less inclined to participate in the hospital-wide incident reporting system and, other than the recent introduction of a Clinical Governance lead at the Divisional level, there was little evidence of local mechanisms for systematically gathering information about adverse events and errors in accordance with policy. Despite the apparent absence of formal clinical risk management procedures it did appear that certain sections of surgery were involved in national and professional systems of performance measurement. One surgeon pointed out that external systems exist to monitor and assess their work, such as the Confidential Enquiry into Peri-operative Deaths, and

these could provide national and speciality specific guidance about surgical performance. However, the collection of this information and its analysis remains outside the remit of the hospital and it is used in a confidential professional fashion.

“The Society for 30 years, has voluntarily collected data, they’ve written to somebody in each unit around the country and asked them just to submit simple stuff: total number of cases, and how many have lived and died” [P/D5]

“We collect our own data and have an audit clerk employed by our directorate, nothing to do with hospital, who puts data in from all the cases we do and we’ve had that externally validated by outside bodies” [P/D5].

It appeared that the surgeons relied primarily on the established collegial systems of professional quality control to assess potential errors in their practice. Like those in anaesthesia, M and M meetings for combined surgery represent important formal mechanisms for highlighting and discussing surgical issues.

“Most of the more important events people get to hear about anyway, so most major events will be reported by other means and will usually come out to an M and M forum because that’s probably how you will get most out of it being discussed” [P/D29].

“They are and that is something we traditionally use, you know we look at patients, we have a duty to look at our morbidity and mortality and you know we review interesting cases and we can normally find something in that case that should have been done differently and I think the sign of a mature and competent clinician is somebody who can hold his hand up and say I think I made a mistake and I think if I’d done that differently I might have made a difference to that case” [P/D25]

“You know if there’s a really important issue it does get discussed in M and M meetings and so on. But if its just little things that happen in theatre, you know, or so trivial that it doesn’t really make much difference, you just remember to do it differently next time” [P/D5].

These M and M meetings represent the most commonly referenced forum in which surgeons raised, discussed and analysed potential and actual errors in their practice. It was claimed that the main purpose of these meetings is to review cases and identify potential lessons that could lead to improved practice. This can involve examining several different types of events, for example mortalities were a major interest, but also unexpected developments in surgery, or unique, interesting and uncommon cases. Through analysing such events it is suggested that individual practice and local service delivery can be improved through the development of guidance, trying alternate techniques or identifying training needs. Unlike those working in anaesthesia, however, there is a lack of regular incident data to guide or

inform these surgical meetings. Alternatively, it was pointed out that these meetings tend to draw upon other sources of information, such as case reviews, medical audit data or specific investigations, such as the rate of wound infections.

“Well every month have a mortality and morbidity meeting, in which our audit system throws up a list of all patients we have operated in the previous month and obviously with anybody who has died we talk about it. Any interesting cases we talk about, we quickly run through all the cases... periodically we’ll, you know if we think we’ve got a problem with wound infections, then the next time we’ll specifically get the audit clerk to pull out all the data on wound infections.” [P/D5].

“What we tend to do is have an annual rolling programme, so for example, we look at all deaths in the preceding month on a monthly basis, so we can see if anything could have been done differently” [P/D21].

“I mean there is no point in looking at all the hernia repairs that went well, because they went home and didn’t have any further problems and they have got rid of their hernia. But the hernia that went badly or had a complication you want to look at to see what went wrong in that case and how we can learn from it... you don’t fill out an incident form for that but you do review it as a part of clinical review” [P/D25].

As with anaesthetists, this forum represents a collegial and professional method of quality control, with the onus on doctors being open and honest about any problems that have arisen in their practice. Furthermore, the regulatory character of these meetings remains particular intra-professional, with surgeons discussing problems in a sympathetic environment where there is similar expertise and appreciation of the complexity and uncertainty inherent in surgical work. Again there was no direct relationship between these meetings and other forms of error management developed at the corporate-level of the hospital.

Alongside these formal approaches to addressing the quality of surgical work, it was also pointed out that informal approaches were common. Similar to Rosenthal's (1995) findings about the informal norms and mechanisms of dealing with "problem doctors", it appeared that surgeons were accustomed to discussing certain issues with their colleagues on a one-to-one basis that did not involve any kind of formal record and documentation.

"So there is a sort of formal thing for discussing important clinical issues, but if it's a sort of one person issue its not terribly formalised but we discuss it on an individual basis" [P/D5].

Informal procedures were discussed only briefly in the course of the research, possibly demonstrating the intimacy of these processes and the collegial features of medical culture. It may be the case that certain problematic events in surgical

practice, such as re-occurring minor problems or one-off blunders, are dealt with through these informal “chats” before they are addressed through more formal procedures. It was difficult to gather much information, but it did appear that these occurred mainly between colleagues who had worked with each other for a long period and where a bond of friendship would enable issues to be raised, but it also appeared that this must be undertaken in a non-critical manner. It may also be the case that there is greater significance of these informal processes in surgery because of the apparent lack of established formal procedures akin to clinical risk management.

Rehabilitation and Acute Medicine

Again the directorates of Rehabilitation and Acute Medicine are discussed here together, primarily because these two specialities have similar experiences in risk management and share a risk co-ordinator. Generally, it was found that these directorates were experienced in the collection and analysis of incident forms, particularly for non-medical groups. As shown in chapter seven, the reporting in these directorates was unlike that of the anaesthetists or obstetricians because it tended to replicate the hospital-wide system. Furthermore, the risk co-ordinator had an important role in co-ordinating the reporting and analysis processes across these specialities and communicating issues with the corporate centre.

“I decided it was just no good to just receive an incident form and sent it on, we want to know how things happen, so we have the data every three months, the data collection, pick up the falls, where did they fall, which ward and all that” [P/R22].

It was clear that the form of clinical risk management in these directorates was explicitly modelled on the system found at the hospital level and that advocated through policy. Specifically, the risk co-ordinator analysed incident data through assessing the frequency and severity of events and applied a “risk matrix” to stratify risks. The most common example of this process was with the analysis of patient ‘falls’ within the directorate of rehabilitation: identifying the time, location, and patient characteristics associated with the fall. In this way, the directorate has been able to develop risk assessment tools to identify patients at high risk and promote technologies to be used in situations associated with higher risks, such as bed alarms that inform staff members when a patient leaves their bed.

“So we have a series of things, I can show you an example. So you can see the issues we get out from the incident form. By doing that... you can correlate if lots of people are falling early in the hospital and that gives the opportunity to trigger something like falls risk assessment... when you do the data you actually see the differences from ward to ward, how many falls there are, the average we are is probably around a month... And also we look

at a mechanism to try and see if anything will trigger us to a potential faller who falls quite a lot. We have got this bed alarm.”[P/R22]

Alongside developing local organisational changes, the risk co-ordinator also makes regular reports to the corporate centre of the hospital, through annual presentations to the Clinical Risk Management Committee and through working closely with members of the Department of Corporate Affairs. In this way, it was suggested that the lessons learnt at the local level could be shared widely across the hospital, while wider changes at the hospital level can be introduced locally.

On first appearance it appears that the risk co-ordinator for these two directorates is indeed attempting to develop a form of clinical risk management that accords with the system promoted through policy and being developed at the hospital management level. Specifically, local investigations and analysis complements and supports the wider hospital system. However, in terms of the breadth of this local approach it also appeared, through discussion and observation, that its capacity to make change is often limited. This problem returns to the issues identified in the previous chapter where it was shown that reporting in these directorates was predominantly led by non-medical groups, and medical professionals remained disinclined to report using the hospital-wide form even to a local representative. In consequence, the ability of the risk co-ordinator to analyse and control for medical errors was extremely limited due to a lack of information. Furthermore, this risk co-ordinator appeared to be clearly apprehensive and disinclined to investigate any

incident forms that directly involved medical performance, and normally such forms were referred to the appropriate clinical director.

In consequence, the management of medical errors remained particularly collegial and where issues were raised these were dealt with by the relevant clinical director. One of the clinical directors from these directorates expressed real concern with the ability of the local directorates to make service improvements given the lack of medical reporting and under-developed systems, despite attempting to introduce a dedicated medical reporting system.

“I think there is a lot of concern about actually we don’t particularly learn from our mistakes, even as clinical director I think that is one of the main challenges as a director” [P/D15].

It was pointed out that while this alternate medical form did indeed gather some useful information, its lasting impact was negligible. In consequence, there remains a tendency for medical professionals working in these two directorates to rely upon established professional systems of quality control, including medical audit, case reviews, and directorate meetings. These various approaches all rely upon more collegial approaches to medical regulation and tend to develop change within individual or directorate practice, but not necessarily organisational systems. In many ways these findings reflect the experience of the Directorate of Combined Surgery.

“I think they work well and they are a very traditional approach to looking at things that went wrong. They have a certain random element to them, they might just review patients within a month who have died, and I think they are potentially the most effective way of using well-established clinical approaches to actually make changes” [P/D13].

“We have tried to do it in our medical firm, we have something that we call a significant event audit and every couple of months we will talk about cases we have got on the wards. And some of them are the really good things we have done, so we are trying to give positive feedback, and others are where things have not gone quite right. We keep it all anonymous but we talk through what were the issues about why this didn't go as well as it could have and try to think about how you can make it better for the future.” [P/D15].

The existence of a risk co-ordinator working within these two directorates was seemingly limited to non-medical realms of service delivery. Primarily, the lack of medical participation in incident reporting limited the capacity for the systematic management of medical errors, but it is also the case that established professional boundaries were also important in preventing non-medical groups analysing medical work. The regulation and control of medical errors, like with surgery, therefore

relied upon established professional systems of quality control and performance review.

Obstetrics

In the previous chapter it was shown how the Directorate of Obstetrics and Gynaecology has a high level of medical participation in the hospital-wide incident reporting system. Furthermore, it was shown how local “ownership” and control, in the form of a directorate risk management, appeared to overcome many of the fears and apprehensions that are commonly associated with reporting. This field of health care has a well-established background for monitoring the quality of care, for example the Confidential Enquiry into Maternal Deaths and other professional based audits. Given these developments, those working in this directorate were accustomed to the emerging policy approach to the management of clinical risks and errors.

At the directorate level, the local risk manager was the main actor responsible for collecting incident reports, and in a similar approach to that being developed at the corporate level, the reports are analysed for particularly severe or common events. This process benefits from greater levels of reporting and through these analytical processes the risk manager is able to identify a range of potential and actual threats to patient safety, also aided by their familiarity with local working practices.

“So every month I do a monthly summary of the incident and that can vary from the very trivial, a member of staff bangs their head on a shelf, something fairly trivial that really has no adverse outcome: to the very serious so that it would involve a very serious clinical incident” [P/R16].

Although this person has direct responsibility for risk management within the directorate, this role is supported through inter-professional discussion and analysis. Much of this work is done in close contact with reporters and involves working with a range of relevant organisational actors and important medical representatives. In other words, the analysis is co-ordinated by the risk manager but it is carried out in co-operation with medical professionals. So while the risk manager conducts collection and initial analysis, this information is further analysed and verified through wider professional involvement. Specifically, a consultant obstetrician within the directorate participates in the analysis of findings and the clinical director actively participates in those incidents that centre on medical performance. This not only promotes the purpose of the system throughout the directorate, but also ensures all relevant expertise is gathered and analysis occurs with the necessary technical insight and legitimacy.

“I think if it was a medical problem I would send it to [consultant’s name] who is a lead consultant” [P/R16].

“And then [the risk manager] and I have a monthly meeting, we keep all the incidents on a database, that we have, we update the database monthly on what action we have taken, so that we have documented evidence of all the actions taken on all reported incidents... So we keep a database and [the risk manager] and I meet monthly to go through everything and then they get sent to the Trust risk management group.” [P/D19]

The clinical risk management role within the directorate therefore benefits not from just the greater levels of reporting and a dedicated risk manager, but also from including other forms of information associated with medical professional regulation, specifically Medical Audit.

“The two ways of actually addressing risk from my perspective at least, is on the one hand have a risk management group, on the other arm have audit... Well the audit system is based on the audit cycle. The ingredients of the audit are twofold, there are national audits that we must actually attend to, there are also internal Trust audits, which we need to plug into, and there are also educational audits, which are more functional really. Okay we note that something is not right, somebody is asked to audit that straight away and then you see what is going on and then we change our practice and then run the cycle again. Now that is a very well oiled system and a very tight system when things go wrong we just go and do things very quickly” [P/D24].

The information from incident reports and audit therefore provides a rich source of information on which to base analysis and instigate service change. This information is disseminated and used in several ways. At the directorate level it is used to inform the local risk management group and the clinical governance group. This is done through monthly reports, co-ordinated by the risk manager, which enable professional representatives within the directorate to discuss specific problems and suggest service improvements. The information is also shared at the corporate level to gain support for services changes. In this way, error data can be used as a lever for organisational negotiations and requests for resources or support, primarily through the Clinical Risk Management Committee.

Of all the directorates involved in the research, Obstetrics was by far the most proactive in clinical risk and error management. As suggested previously, the developments in this speciality can be associated with increased litigation pressures; however, whereas other areas may be experienced in some form of quality control or risk management, it appeared that this area was particularly experienced in what was often referred to as “completing the circle”. This refers to not only establishing a practice of incident reporting and trend analysis, but also making and monitoring organisational change, therefore resembling the “risk cycle” developed at the corporate level of the hospital. Respondents from this directorate were extremely proud of the achievements that have been made in improving service quality, and many examples were given where problems identified through incident reporting had been managed through the analysis of data and organisational change.

Importantly, while this may reflect the ideals of policy, it is firmly based in professional practice, enabling it to contribute to established professional systems, rather than it running counter to medical regulatory systems.

“As I say we have been reporting for many years, I suppose the question you might ask is are we actually improving the services, because are the same things occurring every time... have we learnt our lessons. I think certainly when you look at the latest report our medical care of women seems to have improved.” [P/D7]

“If you look at the system they have got in place in maternity, although still not perfect, they have actually started to almost complete the circle, they need to go back and look at a some of the bits in the process, but incidents are getting reported and in some areas very highly reported which is good, they are making sure they are capturing it in their own system so they can track them, they are sitting down are reviewing the immediate action and going back and taking decisions about where individuals need to stop doing things and are not allowed to do things until training has been under-taken, so doing a lot of the more difficult side of it, and also using them to send me information through quickly about possible early warnings. [P/M28]

Summary: directorate control of medical errors

The experiences of managing and controlling medical errors at the directorate level of the hospital are clearly variable. They not only vary between each other but also diverge and sometimes converge with the approach being developed at the corporate level. There are many factors that influence the local developments in clinical risk/error management, such as litigation pressures in the field of obstetrics. It is also interesting to find that the role of a risk co-ordinator can have a variable impact on both reporting and the management of errors. In anaesthetics, the professional responsible for collecting and reviewing reports contributes to established forms of collegial quality control; in rehabilitation and acute medicine the risk co-ordinator has made attempts to apply more systematic forms of clinical risk management, but this has little medical participation; while in obstetrics the risk manager works closely with medical professionals and also the corporate centre of the hospital to promote clinical risk management.

Despite the inroads made in certain areas it remains clear that the hospital-wide corporate approach to clinical risk management, is largely peripheral to the systems in place at the directorate level. Moreover, it is extremely interesting to find that even where more managerial styles are being adopted, such as in obstetrics, there remains a reliance upon other established professional systems of quality control that tend to incorporate this new information within their practices. It is not surprising therefore to find during one conversation with a member of corporate staff that they

believed that the National System will have to be directed from the directorate level, possibly with support from the corporate, because there is little hope of getting doctors to work with a managerial driven scheme. What then are the attitudes of doctors about these systems and what impact do they have on the prospects of policy.

Attitudes towards the management of errors and clinical risks

It is not surprising to find a certain degree of uncertainty and apprehension amongst medical professionals, as it may appear that their professionalism (specifically clinical freedom and self-regulation) are further eroded by these management systems that seem to evaluate their work.

“J: Do you think it is a challenge to clinical freedom?”

P21: I think quite a few things are these days. I think the traditional consultant is a disappearing breed.” [P/D21]

It has to be pointed out, however, that while doctors may talk of the corporate centre of the Trust in a somewhat disparaging manner, this appears to be a rather symbolic gesture of difference and even resistance. It was clear that medical and managerial groups in the hospital frequently worked productively together in service

management, for example in committee meetings. What may be questionable, therefore, is the way in which the two different approaches to service improvement are reconciled and negotiated within the hospital particularly at the local level.

“I think everybody in the health service is pro for improving patient care, that’s not a problem, but I think sometimes we don’t show as a corporate organisation we’re serious about it, by dealing with some of the things that year after year cause trouble” [P/D9].

Nevertheless there are a range of beliefs, assumptions and attitudes that underpin medical involvement in these divergent approaches to error management. Attention therefore turns to these cultural and occupational characteristics that provide the context for the control of medical errors.

Managerial expertise?

Generally, medical professionals believed that the current approach to clinical risk management has indeed something important to contribute to service development. Although this view was most commonly found amongst medics aware of the wider policy context, it was still evident that hospital management was seen as having a useful function; associated with wider service issues often supportive to, but not directly related to, medical work. Furthermore, it was acknowledged that while

clinical risk management may be more commonly associated with managerialism, it is not necessarily dissimilar from medical models of quality improvement.

“I think it’s probably a two way thing, because from a clinicians point of view risk management is seen as perhaps a management way of approaching the situation and there does need to be input from management, and also the clinician. A lot of the aims are the same for both, but it is about how each side sees to that.” [P/D17]

Hospital managers were therefore regarded as possessing a legitimate expertise and this could indeed be related to issues of service quality. However, it appeared that this domain of managerial expertise was seen as distinct from that of medical work and concerned with different aspects of health care organisation. This was often elaborated along the lines that many of the factors that contribute to the patient’s journey through the hospital are not purely medical, but related to issues such as safety, hospitality and amenities. Doctors seemed to believe that these features of hospital organisation *were* the appropriate and legitimate concern for management

“A manager on the overhand will see the throughput, the waiting, the parking. I am not saying doctors are blind to that, so there may be errors or problems with parking or waiting and things like that; but doctors are primarily concerned with the medical product because that is what they have

an influence on and it's the management that deals with the throughputs. Its all patient care its just different dimensions of the same thing" [P/D14].

Furthermore, while doctors are indeed supportive of certain areas of management activity this support was conditional on clear boundaries with medical expertise. One respondent further emphasised the different domains of expertise demonstrating an implicit feeling that managerial knowledge is appropriate in a certain corporate context, but not in the medical.

"As a doctor we are trained in biological sciences so we think in terms of biological systems, which is maybe different to an engineer who is dealing with physics and mathematical formulas, or a manager who is dealing with systems...In a sense a lot of that isn't the biological system that doctors are used to, whereas managers are dealing with that all the time and they are thinking about throughputs and capacity and things like that. So that dimension is very important for someone with that expertise and experience"
[P/D14]

Doctors may therefore be happy for increased risk management, but seemingly this is only seen as legitimate in specific domains of health service quality where there is little medical claim to expertise or willingness to be involved. Accordingly, virtually all the doctors involved in the research expressed extreme dismay and scepticism about the management appraisal of medical practice. By far the biggest concern was

the ability of managers to interpret and analyse the details of medical work. In terms of receiving incident forms it was felt that managers would not be able to appropriately interpret and understand this information and as shown in chapter seven, this had a considerable effect on medical reporting.

“You can report but without an explanation as to why, its not going to get you anywhere is it!” [P/D20]

The data showed that there is widespread medical concern that managerial expertise cannot grasp the “reality” of medical work due to the lack of experience, training, and medical knowledge. This was frequently related to the role of hospital managers being able to analyse medical errors and assess aspects of medical practice and competence. The effect of this general feeling was to discourage doctors from reporting and therefore undermining attempt at corporate change.

“If we look at where problems arise I can see that the management could not really comment on the doctors medical assessment, the details of the history, the details of the examination, couldn’t really... isn’t best placed to judge that event” [P/D14]

“I think it has to be a professional thing because if it is a managerial thing I think it is going to lack reality.” [P/D31]

In consequence, the majority of doctors suggested that for incident reports and error management to have any 'real' meaning it would be necessary for medical professionals to lead the analysis of information and "sympathetically" interpret the information. In this way any decisions would be legitimately based upon the appropriate expertise.

"J: And that would mean evaluating skills and ability...

P/D31: Yes and managers would have a job to do that... only another clinician could probably do that."

As managers typically do not possess this expertise, doctors fear that their work will be evaluated unfairly without the necessary attention to detail or consideration of the complexity of medical decision-making. Consequently it can be seen that while managerial expertise is indeed endorsed for wider service quality, it is illegitimate in terms of the delivery of medical services. Furthermore, the increased penetration of managerial expertise into aspects of medical work was regarded as challenging the established patterns of medical work and professionalism.

Nevertheless, an important feature of the medical viewpoint is that the task of quality improvement should be shared amongst medical and managerial groups in accordance with the distinct realms of expertise. It is widely felt that managers do have a major contribution to make in terms of organisational analysis, but this

expertise cannot and should not extend to the areas of medical practice. The managers in the hospital have recognised this concern and attempted to involve experienced clinical staff in the analysis of incident data, while the committee structure of the hospital also has professional representation through clinical directors and the Medical Director. Seemingly, however, the distance between these representatives, at the centre, and the appropriateness of this clinical expertise, at the local, remains questioned by doctors in the hospital.

Inappropriate management focus

While doctors are becoming more open to the idea of risk management in general and clinical risk management specifically, there also remains a degree of scepticism about how the corporate approach is actually making service improvement. It was frequently suggested that rather than focussing on the “real things” that make a difference to health care, there is a tendency for the hospital to focus on the more “trivial” or non-clinical aspects of service delivery. All medical professionals, both those involved in the corporate committee structure and also those at the directorate level commonly expressed this view.

“We are getting an analysis... the trouble with that is that they are in my terms related to hotel or nursing matters more than they are to medical matters” [P/D11].

Crucially this demonstrates an inherent contradiction in the medical attitude towards the hospital's corporate approach to clinical errors and risks. While doctors may question what managers are achieving in terms of service improvement they are also critical of the managerial ability and legitimacy to analyse medical practice. So on the one hand, doctors prefer managers not to examine medical work and instead focus on wider organisational issues, but they are also critical of how this focus on organisational issues lacks any reality for medical practice. The management function therefore rests in a paradoxical position, in that to make changes that are meaningful it requires greater analysis of medical work, while doctors are unwilling to endorse such managerial activity.

Another concern amongst doctors was that managerial action would not necessarily be guided by the principles of "no blame" or fairness, but because of a lack of expertise, understanding and sympathy there may be a tendency for managers to be critical of medical performance.

"You are having a whole float of people up there who think that because management is easy and they sit up there, this power base, and then they try to throw their weight around without understanding the fundamentals." [P/D24]

"I think there is the potential problem of a them and us situation: with the people working hard in the clinical situation and some manager sitting in an

office somewhere is going to look at the incident form and come down on us in a judgmental way” [P/D25].

“Policing doesn’t work because we can’t police enough for it to work, we have to make people receptive to sorting their own house out” [P/D2].

There was certainly a feeling that increased managerialism would lead to greater evaluation and constraint on medical practice and these developments in clinical risk management represent a new development in the ongoing “saga” between doctors and managers in the NHS.

Professional expertise and leadership

Given the above misgiving about the capacity of managerial expertise to understand medical work and the fear of increased managerial control, it is not surprising to find that doctors are extremely vocal in their preference for medical leadership in clinical risk and error management. Doctors generally believed that the analysis of medical incidents should be operationalised through professional techniques of regulation, where there would be the appropriate knowledge and sympathy to interpret the complexity of medical work.

“If you are assessing clinical competence type risk issues then I think it can only be reviews by your colleagues with an expertise in it, but if you are

assessing other issues like process issues then it doesn't necessarily need clinician involvement" [P/D31].

"I think classifying them at a corporate level is impossible, I think a doctor needs to do it, to sort of itemise what happened at each step and recognise what it was that doctors can learn, because the work is extremely complex, when you look at how a diagnosis is made and what steps are taken when that diagnosis is made." [P/D13]

In consequence, it was often suggested that the responsibility for controlling medical errors and risks should be held by a medical professional who is experienced in the clinical environment and familiar with medical knowledge. Fears about inappropriate managerialism would, therefore, be alleviated, as medical involvement would ensure a legitimate basis for organisational quality improvement.

"I think a risk manager, whoever that would be... ideally it has to be a medical" [P/M6].

"So if you want quality, you want risk management, you want the guy who knows to see the patients" [P/D24].

It can be seen from the experiences of clinical risk and error management at the directorate level of the hospital that medical professionals are certainly more

inclined to rely upon more 'professional' forms of quality control. Moreover, where advances in more contemporary management systems have been made these techniques are brought *within* traditional systems where medical expertise can remain in control. However, the doctors involved in the research also made it clear that while they are familiar with more professional forms of medical regulation, they are somewhat unsure as to their own ability to analyse the wider range of contributing factors.

"I do feel and perhaps I'm talking about myself principally... that I don't feel fully competent in knowing how to assess the issues and priorities." [P/D10]

"I think there is a lack of managerial skill in senior doctors and there is a tendency to be personal in a way that isn't helpful in resolving problems"
[P/D13]

It is not surprising therefore to find that some doctors, especially those more familiar with the hospital management structure, suggested that the different bodies of knowledge and expertise found within medicine and management should work side-by-side and inform each others practice.

"I think the worry is that managers don't actually understand medicine so you do need medical input into the system. So again I think you would want to think that there were clinicians actually looking at the data again with the

managers to say how do you understand what we are collecting, how can you actually assimilate that data and find the fundamental problems and not get distracted by whether the clinicians have not got things quite right” [P/D15]

In this way it might be possible that organisational change could be more thorough and relevant to medical work, without the apprehensions of increased managerial control. However, given the apparent fears outlined above it may be questionable whether all doctors in the hospital would be open to such an approach.

Professional control

The preference for medical expertise and the incorporation of new managerial techniques within established professional approaches of quality control represent a broader desire for the occupational or collegial control of errors. It was widely argued that for meaningful clinical improvements to be made it is necessary to utilise medical expertise; specifically the experience and knowledge found at the local level of the hospital. Only through actually working within the hospital was it felt that incidents could be appreciated in the appropriate context, while service improvements could be instigated and implemented by those actually involved in the care process.

“I think it’s more likely, more likely to be effective if people on the ground in an influential position are themselves influenced to take on board the

messages and to deliver on those. I think that always works better and that's something we are very conscious of as a team to advise how we work with people to make them realise their problems rather than policing them."

[P/D2]

It is not surprising, therefore, that across all medical specialities there remains reliance on and preference for professional systems of quality control even where the more managerial techniques have been borrowed or adapted, for example, in obstetrics. However, this preference may go further than merely wishing to promote appropriate service improvement and instead reflects a desire to retain professional control. The full implementation of the National System would certainly introduce more rigorous managerial assessment of medical work and lead to service changes that may be seen as managerial. In consequence it is not surprising to find that doctors have a deep-seated desire to retain control over these aspects of their work.

"In terms of top-down assessment of clinical work I think doctors feel more comfortable if there is medical peer review as opposed to organisational NHS management assessment." [P/D14]

In this way the reliance on professional systems and the absorption of new management approaches within these collegial models could represent a professional strategy for maintaining occupational control at the local level of the health service.

“I suppose part of it is because there were processes already in place in directorates which preceded and so if you did have complications then this is how we used to do it. We are then being asked to do a different way of doing things which perhaps is not seen as clinically relevant and there is reluctance to do the same thing twice” [P/D21].

Important therefore is not only the appropriate expertise to guide analysis but also the requirement to protect medical work from external interference. This returns back to many of the themes discussed earlier in the thesis, and specifically the ideas developed by Freidson (1970). As discussed in chapter two, two popular characteristic features of medical professionalism are autonomy and self-regulation, and although these terms require greater clarity (Evetts 2002, Waring 2002), it is important to appreciate that doctors themselves may be engaged in strategies to maintain their established professional practice, and also perhaps in what they see as the best interests of the patient (Freidson 2001).

Summary

The doctors involved in the research all expressed some degree of scepticism and apprehension about the increased managerial involvement with regards to clinical errors. The most prominent amongst these was the suggestion that in order to understand errors fully and with meaning it is necessary to possess the expertise of the relevant doctor. This perspective obviously reinforces the idea that only those

groups with the appropriate expert knowledge and experience can legitimately appreciate the complexity of work. In consequence forms of self-regulation are reinforced and promoted. This could suggest that increased managerialism in this area of health service quality may indeed represent some fundamental threat to their professional decision-making (autonomy) and the control their performance (regulation), and by challenging the legitimate basis of these new managerial systems, the extent of managerial interference is minimised, whilst professional systems are reinforced. In this way the values and norms of medicine represent a further feature of medical culture that can be interpreted as a strategy for maintain the occupational control of quality.

However, it was also felt that medical knowledge cannot fully appreciate all the relevant organisational issues relevant to quality improvement, and implicit is a suggestion that corporate management does indeed have a useful role, associated with the 'legitimate' domains of expertise. Although doctors may subtly recommend such an approach, the findings of the research show that it is more common for medical groups to rely upon professional systems and 'incorporate' managerial approaches within existing professional practices, rather than working together.

Discussion: the management or control of medical errors

This chapter has provided an account of the various approaches to error management found in the case study hospital, specifically in the context of new patient safety health policies. At the corporate level it is evident that efforts are being made to implement forms of management that analyse the causes of error in line with policy. It could be argued that if these systems were fully established and the appropriate occupational action was secured then these systems would represent a substantial expansion of managerial duties and responsibilities in the area of medical work.

However, the findings reveal some major obstacles to the implementation of the National System. First questions are raised about the management capacity for analysing errors and making service improvements without increased incident reporting, which as shown previously is limited in certain hospital directorates. Second, doctors question the legitimacy of corporate groups to understand medical errors without the appropriate expertise or experience. Third, at the local level of the hospital it was found that well-established professional systems of quality control and regulation remained the preferred device by which medical professionals address errors in their work. Finally, and somewhat paradoxically, it was found that while doctors were often supportive of managerial attempts to address wider organisational safety issues, these were seen as trivial features of health care compared to 'real' medical issues. The capacity for the National System to make meaningful change therefore seems compromised as established professional

systems and attitudes towards management legitimacy undermine the developing approach.

It is possible to analyse these findings along two dimensions: the extent to which directorates utilise professional or managerial systems. Here “professional” refers to established systems, such as M and M meetings or Medical Audit, which are primarily based on the principles of collegiality and the legitimacy of medical expertise. Alternatively, “managerial” is used to describe developments in patient safety associated with national policy and Human Factors. The professional systems are more concerned with medical quality issues at the individual dimension of clinical performance; whereas the managerial approaches are more concerned with exploring trends and understanding the role of systems. Moreover, it is possible to suggest that the professional styles are characterised as methods of education and control that attempt to understand specific problems and control for that particular event (Harrison and Pollitt 1995); while managerial systems are predominantly concerned with making wider occupational and organisational changes in line with specific theories of quality assurance.

It was not surprising to find that all the directorates remained committed to more professional systems. However, it was interesting to find local variations in the degree to which managerial systems were incorporated *within* these professional approaches. For example, anaesthetics and obstetricians both used incident data to augment established professional systems. In order for this to be possible it is

seemingly necessary for these directorates to possess a local risk manager to collect and analyse incident reports, and importantly this person should work closely with medical professionals or be a medic. Alternatively where there was no risk management role or where it was confined to non-medical services there was a greater reliance on *pure* professional systems. It may be the case that rather than opening up medical work to contemporary managerial approaches and risk the evaluation of medical work, the absorption of some of these managerial practices within medical regulation ensures a degree of occupational control.

On a more theoretical level it is possible to analyse the implementation of this policy in terms of the bureaucratic control of professional labour in terms of quality improvement and the management of errors. Unlike previous quality initiatives in the NHS, this system represents a break with tradition as hospital management explicitly aims to analyse and evaluate aspects of medical work. Relying on organisational systems of incident reporting, data analysis and management-led change, this also draws on specialised knowledge about error management that resides predominantly in the hands of hospital management. Adapting Harrison's (2002) model of the medical labour process, the National System can be seen as a form of 'scientific-bureaucratic' control whereby the knowledge to direct improvements in medicine are derived from a formalised system external to medicine work and based on knowledge external to medical expertise, e.g. human factors. In terms of organisational theory, the National System could therefore be interpreted as an attempt to promote quality improvement through the cultural and

structural control of medical labour, both of which promote new forms of occupational surveillance.

However, the chapter has shown that the success of this policy is seriously in question and so too are the implications for changes to medical professionalism. The doctors working in the hospital remain adamant that while there is a role for management based quality improvement, its legitimacy and capacity in areas of medical work is limited. It is evident that the “external” knowledge of Human Factors operationalised in management practice is regarded as illegitimate in addressing the issues pertinent to medical work. Whilst it appears that forms of risk/error management within the hospital have either been *adapted* and brought *within* medical regulatory systems, or they have been virtually excluded or ignored. It could also be suggested that by bringing aspects of these new systems within medical practice it ensures that medical professionals retain control, whilst simultaneously staving off further managerial incursions into medical work. In this way, medical professionals are not only ensuring reliance upon their own realms of occupational control, but also limiting the penetration of managerial activity in medical work.

9. Conclusion: the social construction and control of medical errors

Introduction

The previous three chapters have revealed much about the forms of error management within the case study hospital and the attitudes of medical professionals with regards to these new managerial systems. This work has been developed along three lines of enquiry that have attempted to question the assumptions of this policy as well as exploring its impact on medical/managerial relations and medical professionalism. The first assessed the extent to which the prevailing conceptualisation of error found in theory and policy is coterminous with the meaning of error developed by doctors, whilst showing how a constructionist notion of error reveals important social differences that relate to social power. The second theme explored the forms of incident reporting within the hospital and the degree to which these systems were being taken up in medical practice; here attention was given to the factors that limited medical participation and the different perspectives on organisational culture. Finally, the thesis examined the hospital systems that have been developed to promote error management and the impact that these have had on medical work; in particular the extent to which these have structured and controlled medical work. This chapter is concerned with drawing together these findings and

developing an account of medical professionalism and managerialism in the context of this new policy.

It was shown in chapter two that there has been a recognised increase in management authority and responsibility in the NHS. Despite claims that this has led to a reduction in medical autonomy, there has not been a direct 'assault' on the technical aspects of medical autonomy by management groups, i.e. the application and evaluation of expert knowledge, as managers have typically been concerned with the periphery of medical work, such as the organisation of resources. The National System, however, offers to alter this situation by introducing a range of 'sites' on which organisational power and control is contested. Importantly, this policy provides management groups with opportunities to monitor and evaluate aspects of medical technical performance, and fundamentally it addressed what could be described as the Achilles heel of medicine: its errors. The chapter therefore commences with a review of the three main 'questions' that emerged from policy, guided this research and together represent locations in which occupational change may be occurring. In the light of the empirical data the impact on medical/managerial relations is then assessed.

The questions

One of the major aims of this research has been to understand the impact of a particular policy on the occupational character of medicine with regards to increased

management authority, responsibility and power. This policy context has developed in response to the perceived problem of health service errors culminating in the forthcoming introduction of the National System for Learning from Adverse Event and Near Misses. Of particular importance for this research have been three components of this system, first the conceptualisation of error, second the promotion of incident reporting through cultural change, and third new management structures to analyse and manage errors. Although this thesis has shown many problems associated with this policy, it is worth reviewing these themes as they represent the core “questions” with which the research has engaged or the “straw man” to be knocked down.

The prevailing concept of error

One of the most interesting features of the policy is the explicit preference and adoption of psychological and Human Factors theories of error and error management. The main contribution has been the development of an active/latent dichotomy in the conceptualisation of health service errors. Underlying this concept is the idea that errors are “real” events with fixed properties that can be technically evaluated and managed. The role of an error management system is therefore to gather objective information about active errors and make sense of the latent causes. The application of this approach has been the development of specific “types” of error associated with the objective and technical aspects of care delivery.

It was shown in chapter four, however, that a range of studies have revealed the social and cultural context of error (e.g. Bosk 1979); and in an attempt to develop a theoretical and philosophical framework for understanding error, a realist and constructivist dichotomy was advanced. From this perspective it was argued that the prevailing realist conceptualisation of error, advocated in theory and policy, neglects to consider the social and cultural dimensions of subjective perception, interpretation and meaning. In particular, drawing from a Foucauldian approach it was argued that the notion of error in policy is a construction that serves to define the social character of error and promote specific forms of surveillance and control. Taking this constructivist approach enabled the research to suggest that if the concept of error advocated in theory and policy is adopted within medical practice then it is likely to promote new forms of regulation. In the first instance it could influence the way in which doctors interpret and understand errors, and second it could encourage doctors to report errors to management groups within the hospital. Conversely, the socio-cultural and discursive approach also enabled the research to appreciate alternative constructions of error, and explore how medical groups could have divergent interpretations of error. The study has therefore been concerned to show the medical meaning of error.

A culture of reporting

A key feature of error management is the utilisation of incident reporting to gather information about errors and provide data on which change can be based.

Importantly, the policy encourages cultural modification in order to secure the appropriate occupational behaviour, i.e. reporting, which centres on “engineering” beliefs that endorse reporting and encourage openness.

Questions have been put forward about the theoretical interpretation of ‘culture’ within policy, and it has been argued that there is little explicit recognition of the multifaceted and emergent character of medical culture as it relates to incident reporting, other than the detrimental influence of “blame” and “fear of retribution”. The research has therefore aimed to account for the methods of incident reporting in the hospital and explore the customs, beliefs, and attitudes of doctors with regards to these systems.

It has also been suggested that the idea of cultural change has the potential to represent a new form of organisational control. Like other examinations of cultural change (e.g. Parker 2000) it could be argued that in addition to structures of control a feature of contemporary organisations are forms of cultural control; winning the hearts and minds of employees. It could be argued therefore that the idea of cultural change within policy represents an attempt to secure the normative and cultural compliance of medical staff. The policy is not clear how this is to be achieved, but it is likely to remain committed to promoting the prevailing concept of error and encouraging the reporting of incident and acceptance of management-led change.

Structures of control

Along with promoting forms of cultural change, the policy also introduces new management structures. These are associated with the collection of incident data, the analysis of errors and the promotion of organisational change. While forms of cultural control are associated with post-bureaucratic organisations, the policy can therefore be interpreted as creating new bureaucratic systems to monitor medical work. Importantly, these introduce clear roles and responsibilities for management groups to co-ordinate systems of incident reporting, the analysis of incident data in line with Human Factors theory and “root cause analysis”, and from this information instigate health service change. As a mechanism of quality improvement, this approach explicitly builds on theories of quality assurance while its application in the health service appears to be founded on experiences in clinical risk management, whilst being couched within the wider organisational changes associated with clinical governance.

Drawing on theoretical accounts of the medical labour process (Harrison 2002), it can be suggested that these bureaucratic systems have drawn on expertise that is external to medical practice, and through new hospital structures this knowledge will inform occupational and organisational change. For medical work this could include identifying tasks and activities that are commonly associated with error and then promoting occupational change. This policy could therefore represent new formal structures that serve to regulate aspects of medical work on an external and

managerial basis. In this way, a new technical knowledge that is external to medicine could provide the basis for new bureaucratic regulatory devices. Importantly, these could undermine the self- or internal regulatory character of medicine as they are premised on a divergent expertise that competes with that of medicine to understand the cause of medical errors. The research has therefore been concerned to understand the extent to which these new systems are being developed within the hospital and assess their impact on medical professional work and regulation.

A new frontier for medical/managerial relations?

These three components of policy can be interpreted as representing new forms of control in the health service, explicitly over medical errors, but implicitly over medical work. Previous managerial policies have sought to bring about greater efficiency and effectiveness in the service and in doing so it has been suggested that they have represented challenges to medical professionalism through structures of control (Flynn 1992) or countervailing power (Hunter 1994). However, it could be argued that these changes have not directly engaged with the technical aspects of medicine, rather they have addressed the organisational and contextual aspects of medical work. Alternatively, the National System for Learning from Adverse Event and Near Misses could be interpreted as confronting the technical aspects of medical expertise as it represents conceptual, cultural and structural forms of organisational

control that could empower hospital managers and erode features of medical professionalism, associated with autonomy and the regulation of quality.

As suggested above it could represent a new discursive paradigm within health care for the conceptualisation of error, which enables new forms of social control; structures of control are represented by bureaucratic forms of managerialism to analyse errors and promote change, whilst cultural modification strategies are seen as necessary to secure occupational compliance. However, the extent to which this prophecy will transpire has not necessarily been born out by this research.

The findings

Attention turns, therefore, to the findings gathered in this study. The previous three chapters have given an account of the empirical data and provided both descriptive and analytical dissections of the three features of the National System under scrutiny. These are summarised here to show how the assumptions underlying policy, the practical implementation of policy and the potential challenges to medical professionalism are in doubt.

The social construction of error: knowledge and power

In chapter six it was shown how managers within the case-study hospital had appeared to talk about errors in a way that reflected the conceptual assumptions of theory and policy. However, it was also shown that the manner in which doctors talked about errors was distinct from the technical language of Human Factors, but instead tended to reflect the technical basis of medical practice. In the first instance, doctors talked about error in terms of causality or aetiology and how certain types of medical work could lead to error. These included the decision-making aspects of diagnosis and treatment, the technical performance aspects of care delivery; and the contribution of equipment and organisational systems. This does appear to resemble the active/latent aspects of Human Factors, but rather than being based upon the theoretical assumptions of social psychology the medical 'technical' interpretation of error was based upon the esoteric knowledge of medical practice. It is this medical knowledge acting as a social discourse (Foucault 1970, Turner 1995) that contributes to the medical construction of error. So initially, doctors made sense of errors with reference to bio-medical knowledge.

In addition, when doctors talked about error along these technical dimensions it was apparent that this knowledge was characterised by complexity, gaps and uncertainties, reflecting the work of Fox (1975). Many doctors talked of their work as an "art" rather than a "science". In consequence, the medical interpretation of error appeared to be shaped by other social and cultural factors associated with the

transient character of errors. Here it was found that medical perception and interpretation were shaped and filtered with reference to issues such as complexity, expectation and severity. These reflect the tacit assumptions that guide medical practice and coalesce within the norms of medical work and together contribute to the interpretation of an event and the meaning of an error.

It is the combination of expert medical knowledge and the socio-cultural features of medical practice that provide the basis of the medical construction of error. Importantly, this construction is derived from knowledge distinct from the prevailing assumptions of Human Factors and so the medical meaning of error develops along different parameters from those of managers and policy-makers. Not only does this question the realist basis of the prevailing approach but it seriously undermines the capacity of policy to adequately manage errors as the medical construction of error promotes particular forms of social action, typically associated with professional systems, in a similar way that the policy construction promotes action in terms of incident reporting.

Medical culture: divergence and resistance

In chapter seven, it was shown how the system of incident reporting being developed in the case study hospital accords with the expectations of policy, but also how a variety of local or directorate approaches were developing concurrently. Importantly, it was shown how these variations emerged in response to pressure both

inside and outside the hospital. On the one hand directorate forms of incident reporting had developed in response to guidance from hospital management. however, it was also apparent that other pressures, such as litigation, professional recommendation and clinical leadership, all contributed to diversity within the hospital.

It was also shown that underlying the variations in medical incident reporting were important attitudes and beliefs that have been neglected in policy. Here it was shown that doctors frequently questioned the purpose of incident reporting, they were inhibited by blame, found difficulty with processes of form filling, had a general loathing for managerial bureaucracy, and also exhibited a constructive difference between what should and should not be reported. These can be interpreted as relevant cultural characteristics of medical work that influence incident reporting. In policy it is frequently stated that there is a need to change medical culture and this often focuses on the problem of blame. This was indeed an important component within the broader medical attitude towards reporting, but it was not the only one. Rather than theorising organisational culture in a structural-functionalist light, it was suggested that by exploring the emergent interactional qualities of medical culture it is feasible to appreciate occupational beliefs and values as representing the basis for occupational resistance, conflict and control. In this way it is possible to see the cultural traits of medicine, in the context of incident reporting, as not just passive barriers to reporting, but as active forms of resistant to further bureaucratic encroachment.

In this context, incident reporting was regarded as merely another “paper exercise” that was detached from the ‘realities’ of medical work. Although there was some appreciation of the need to recognise the organisational contribution to errors, doctors strongly believed that only they could interpret issues of quality given their expertise and experiences of working at the “coal face” and providing care. As such doctors were not merely critical of the purpose of incident reporting, but in order to limit its encroachment into medical practice, other underlying and emergent cultural characteristics were evident. These served to bind medical professionals together, within localised directorates and also across the hospital, in rejecting and resisting incident reporting; rendering the notion of cultural modification problematic on both conceptual and also practical dimensions.

Error management: professional control

Given the divergent construction of error and also the cultural resistance to reporting it is hardly surprising to find that the emerging corporate approach to error management was lacking in potency. It was shown in chapter eight that the hospital was developing its systems of clinical risk management in anticipation of the National System; however, it was also revealed that a multiplicity of risk management and quality improvement schemes existed at the directorate level of the hospital with varying degrees of integration with the hospital system. Underlying these differences was a clear preference for medical control or leadership in the

interpretation and analysis of errors. Reflecting the perceived illegitimacy of managerial expertise to understand medical errors, doctors tended to favour medical approaches to quality improvement, particularly those already established within medical practice, such as morbidity and mortality conferences and audit meetings.

Nevertheless it was found that forms of error management had indeed developed within certain directorates and reflected the principles of the corporate approach and policy. Two key factors appeared to influence these developments, the first was the socio-political context of the speciality, for example obstetrics was recognised as a high risk and high litigious area of health care and had therefore adopted forms of risk management. The second was the introduction of a risk co-ordinator at the directorate level who could promote risk management and provide a local lead. However, these actors had to work closely with medical leaders within each directorate in order to make meaningful change. Furthermore, where forms of risk management were being introduced at the directorate level it was found that rather than mirroring the desired corporate approach, directorates were more likely to “adapt” these systems to concur with the established techniques already in place within medical regulation.

In terms of analysing errors and promoting organisational or occupational change it was therefore the case that the hospital-wide approach was superseded by developments at the directorate level. In terms of promoting change there was little acknowledgement of the hospital’s approach, whereas at the directorate level where

such systems had been adapted, such as risk stratifications, it did appear that change was being made. Importantly, all directorates, with and without an explicit error management system, remained reliant upon established professional and collegial systems of quality control. In consequence while the implementation of the National System may indeed introduce new bureaucratic structures in order to learn from errors and promote change, the extent to which these structures are penetrating the occupational hierarchies of medicine is bounded within the context of existing professional systems. In essence, the systems are not having a direct impact upon medical work as yet, and the adaptation of these systems within medical work may also represent an attempt to maintain clinical leadership.

Summary

From these findings it is possible to draw several conclusions. First, by developing a constructionist account of medical error not only are the realist assumptions of policy questioned, but it also reveals how medical knowledge and culture underpin the medical construction of error in a way that provides the basis for divergent forms of social control. Second and following on from these findings, medical participation in incident reporting is inhibited by the lack of integration between the medical meaning of error and the purpose of incident reporting, whilst the cultural character of medical work is in many ways opposed to increased forms of management. Finally and bringing all the findings together, the capacity of a hospital-wide management system to penetrate medical work is limited by the divergent

conceptualisation of error, cultural resistance and also by the preference for localised systems of quality control that reflect the established principles of medical regulation and collegiality; where the medical interpretation of error is accorded the required sympathy and technical understanding. Individually and together these three themes contribute a serious critique to policy and question the extent to which the implementation of policy will radically alter medical/managerial relations and result in some of power transfer.

A policy in question

The two main conceptual questions that surround this policy are the realist notion of error and the structural-functionalist approach to organisational culture. In chapter three it was shown how policy is heavily influenced by the theoretical assumptions of human factors and social psychological accounts of error. It was then shown in chapter four how epistemologies of risk can be adapted for the study of error. This then provided the research with a socio-cultural and discursive base from which to empirically explore medical errors. From this perspective the research has not only shown the way in which doctors give meaning to errors in their work, but importantly it has demonstrated an important epistemological divergence with policy. Fundamentally the medical concept of error is not necessarily commensurate with that of policy. It is based upon different assumptions and theoretical foundations, where medical training and knowledge take precedent over the abstract

theory of cognition, where the experience and complexity of medical work have more importance than the rational and logical “chain of events” that produce error. Policy does not preclude these factors; it simply fails to give them any consideration, because it remains committed to a technical social psychological account. This thesis therefore questions the realist basis of policy, and as it has been shown, this has a serious consequence for medical participation in incident reporting.

The second questionable aspect of policy is the notion of cultural change. Reason (1999) recognises the various theoretical positions surrounding organisational culture, but endorses a structural-functionalist perspective (Parker 2000), whereby management interventions can manipulate and change occupational cultures. However, as shown in chapter four this fails to account for the various ways in which culture can be understood or how it operates within organisations. Specifically, by conceptualising culture as a structural property ‘of’ an organisation health policy fails to consider the interactional basis of culture and how cultures can represent the coming together of values and beliefs as expressions of power and resistance (Parker 2000).

It is the contention of this thesis that medical professionals exhibit cultural traits that emerge through the interacting influences of shared workplace norms, organisational issues and also wider professional standards of behaviour. In this way medical professional culture is not something that can be easily manipulated by external groups, but is an emergent feature of medical life. Furthermore, from a radical

perspective medical culture is not just divergent but can be resistant. Specifically, it is resistant to incident reporting and increased managerial activity in medical work. By not recognising the contested debates surrounding organisational culture the policy fails to have a meaningful basis for promoting increased medical reporting and also fails to recognise the normative resistance to the policy.

The policy therefore rests upon particular assumptions about the organisation of health services and the character of errors. By drawing on a narrow theoretical framework the policy is not open to the possible problems inherent in its assumptions, in particular the divergent construction of error that inhibits reporting and the cultural resistance to change. By revealing and exploring these assumptions this thesis is implicitly questioning the merits of policy and also the thoroughness of the theoretical field from which it was spawned. This is not to say that these ideas are necessarily “wrong”, but they fail to capture the whole picture.

Medical professionalism and the management of medical errors

Attention now turns to the broader theoretical debates that have framed this research. In chapter two reference was made to Titmuss’s (1963) observation that desired changes in the social services may draw upon expertise outside that of the professional groups that actually provide the services. Furthermore, this external knowledge may call into question the relationship between the professions and the

state. This thesis has directly addressed this issue in the context of health service errors and the medical profession. It is politically and socially recognised that mistakes in the delivery of health care are a major problem and they must be tackled in a manner that supersedes the established forms of quality control. Here policy has taken guidance from relatively new fields of management and quality improvement to develop a National System. Importantly, the “repository of expertise” guiding this policy is external to the knowledge and practices of the medical profession. In consequence the policy could be altering the relationship between the medical profession and the state as the established form of quality control or regulation in health care are joined by new practices that reside outside the realm of medical work.

Medical professionalism and managerialism

It was shown in chapter two that the medical profession within the NHS can be characterised as possessing particular forms of formal and informal regulation that are overtly concerned with ensuring the competency and quality of medical work (although it is also recognised that they also serve other functions in the maintenance of professional status and organisational control). Freidson’s (1970) study of the medical profession showed that professional regulation is premised upon the acknowledged expertise of occupational esoteric knowledge that is only acquired and controlled by members of the profession. The opportunity for other occupational groups to evaluate and assess medical work is therefore regarded as limited and

illegitimate. In consequence it has been suggested that professional groups can engage in their work with a high degree of autonomy and (sanctioned) self-regulation.

It remains necessary, however, to appreciate the bounded, contextual and political character of medical work, in particular the contingent relationship with the State and the way medical regulation is legitimised by political and social endorsement (Freidson 1970, Moran and Woods 1993). Nevertheless, the forms of quality control at the practitioner level of medicine have traditionally been associated with a range of formal and informal systems that can be seen as predominantly professionally-led. It is this important relationship between the profession, the state and the public (Salter 2000) within the context of health service errors and declining public trust that can be seen as driving changes in medical regulation. As mentioned in chapter four it is the special conceptual triangle between uncertainty, risk and error that contextualise the patient safety agenda in the NHS. This policy can therefore be interpreted as an attempt to re-establish the trust at the centre of triangle by bringing about greater certainty and control of medical errors and risks.

It was also pointed out that over the last twenty years there have been several organisational changes in the NHS introducing new management roles within the health service. These have been interpreted as altering the work of doctors and the professional status of medicine (e.g. Cox 1991, Elston 1991, Harrison and Pollitt 1995), and are associated with the political desire to acquire greater efficiency and

accountability in the organisation and delivery of health care. However, it was also argued that the extent to which these changes have fundamentally “challenged” medical professionalism is open to debate. Managers have indeed acquired new responsibilities for the co-ordination and planning of services, but there has been little direct involvement within clinical work. Alongside these developments there has been growing concern with not just the efficiency of services but also effectiveness and quality. In consequence, managerial techniques commonly found in private enterprise have increasingly been adopted in the NHS, for example forms of Total Quality Management and Risk Management. These have promoted new forms of management responsibility in health care and have recently culminated in clinical governance as a mechanism to align professional responsibility for quality with that of wider political and managerial aims.

Within this managerial context and also with reference to wider social and political recognition of health service errors, the National System for Learning from Adverse Events and Near Misses builds on the capacity of management to develop a more rigorous, formalised and bureaucratic system of quality improvement that could represent a break with established forms of professional regulation and introduce new forms of organisational control. What then are the implications for medical professionalism and medical/managerial relations given these findings? Does the policy represent a challenge to the basis of medical regulation and discretion, and introduced new forms of organisational control?

The discursive, cultural and structural management of medical labour?

As mentioned above, the National System is comprised of three key features that, through its full implementation, could offer to transform medical/managerial relations and alter the basis of medical professional regulation. Firstly, the concept of error advocated in policy provides for a construction of error that is fashioned from a particular theoretical and discursive context, associated with Human Factors. In this way, medical errors could be understood within the context of an expertise that is external to medical knowledge and practice, which has itself been found to reinforce professional status (Arluke 1977, Bosk 1979, Rosenthal 1995). This alternate theory of error and error management therefore has the potential to offer non-medical groups a legitimate expertise from which to make service improvements. Importantly, this knowledge calls into question medical expertise and provides a basis for social power: defining and controlling the social world of medical errors.

Secondly, the success of policy is said to rely on making cultural change within the health service to promote incident reporting and occupational acceptance to organisational change (Department of Health 2000). It was shown that the rise of culture management is associated with the emergence of post-bureaucratic organisations that are characterised by flat structures and devolved responsibility or 'relative autonomy'. In the place of rigid 'rule and role' hierarchies it has been suggested that managers should seek the compliance of the workforce through

normative and cultural alignment. Such an approach appears appropriate for the management of professional work, given that these occupational groups are said to possess high levels of autonomy, and therefore cultural control as opposed to rule-based control may be more successful. By interpreting policy in this way, it can be suggested that the promotion of cultural change to secure medical participation in incident reporting represents the normative control of medicine. Such cultural change could lead to doctors being more open about their practice, providing managers with detailed information about their performance, in particular their substandard performance, and it could encourage doctors to accept occupational and organisational change based upon the theoretical ideals of error management. In other words it could represent a substantial challenge to medical autonomy external to medical knowledge and driven by managerial action.

Thirdly, it could also be the case that the introduction of new bureaucratic procedures for incident reporting, analysing errors and making service changes could also represent new structures of control in the health service. Rather than relying on purely post-Fordist notions of cultural change, health policy is also introducing more traditional Fordist patterns of control (Harrison 2002). This is particular centred on the use of external knowledge, e.g. Human Factors, to guide organisational and occupational change. Where incident data is used to evaluate medical work through the principles of error management organisational change could serve to regulate medical performance and direct occupational change.

Taken together these components of the National System for Learning from Adverse Events and Near Misses could present hospital managers with new organisational powers and serve to change the regulatory character of medicine. However, it has been shown that for each of these potential domains of organisational power there are considerable reservations.

A new frontier for medical/managerial relations?

To what extent, therefore, does the National System for Learning from Adverse Events and Near Misses represent a new frontier for medical/managerial relations in the NHS?

Firstly, the data shows that the medical construction of error not only underpins how doctors make sense of errors in their work, but it provides a basis for social legitimacy and power. Returning to the works of Hughes (1951) and Freidson (1970), expert groups can claim legitimacy when defining the character of occupational labour and its consequences. For medical errors it remains the case that esoteric medical knowledge in conjunction with the tacit and cultural features of medical practice lead to a complex construction of error. This has several consequences. Firstly, it promotes or favours particular forms of social action, particularly associated with common experience, expertise, and collegiality. Secondly, by referring to expertise and the everyday character of medical work, doctors can legitimately “confuse” the meaning of error making external evaluation

difficult. Thirdly, these serve to reinforce medical legitimacy and also emphasise the illegitimacy of other bodies of knowledge that could attempt to make sense of medical errors. In this way, the policy construction of error does not have sufficient legitimacy with medical professionals and this key point ensures that all other features of the National System are conceptually undermined, including reporting and management-led change.

Second, there is an evident problem with “getting doctors to report”. There are important variations in medical reporting and these show that there are certain potential determinants. For example, reporting appears more prevalent when it contributes to existing professional systems, where professional associations have instigated it, or where there is local professional control of the reporting processes. It appears that there is a widespread rejection of hospital-based incident reporting. This raises serious questions about the extent of cultural control. Initially, policy seems vague as to what it expects of cultural change and managers appear disinterested in actually engaging with professionals on a normative level. It appears therefore that incident reporting has been introduced but there has been little dialogue or engagement with medical groups. In consequence, doctors seem to have developed, or reinforced, a culture that favours internal regulatory systems and actively rejects external systems of evaluation.

Thirdly, while the hospital may have developed new procedures and policies to inform the application of error management it appears that important occupational

variations have developed at the local level of the hospital and within existing professional regulatory systems. It was generally the case that doctors remained committed to established regulatory systems associated with internal collegiality, because these provide environments where issues of medical error could be discussed with like-minded peers who shared the necessary expertise. Furthermore, it was found that where variants of the hospital-wide system were being used in medical practice, there was a tendency to *adapt* and *adopt* the principles of error management. In other words, doctors did not subscribe to the managerial approach, but attempt to apply aspects of error management within existing professional regulatory systems. On the one hand this may demonstrate that doctors are indeed engaging with the policy agenda, but as Ashworth et al (2002) suggest this could represent 'paying lip service' to error management. On the other hand, it ensures that doctors retain control of these systems and are limiting the managerial evaluation of medical work.

In consequence, it can be argued that the patient safety agenda within the NHS, specifically the National System, could indeed represent a new frontier for managerial/medical relations. However, this research has found that important discursive, cultural and occupational features of medical professionalism serve to reinforce medical legitimacy in this area. The technical aspects of medical autonomy are being secured by the, well-documented, approach of presuming the superiority of medical knowledge and experience to exclude managerial expertise. In terms of the regulation of medical work, it appears that doctors still claim the ability to define the

basis of performance and are excluding non-medical groups from actively participating in these forms of quality control; perpetuating the perceived flaws of professional regulation (Ashworth et al 2002). This is achieved through 'adapting and adopting' these new forms of quality improvement within existing professional systems.

What may be of interest, however, is the extent to which this policy agenda develops in the future, especially if political pressure for change in the regulation of medicine persists. While it has been found that medical control is being retained through forms of discursive, cultural and structural power, it could be the case that the maintained commitment to policy implementation will prompt doctors to increasingly absorb the practices of error management within existing professional regulatory systems. Whilst these may appear to reinforce collegiality and occupational control, it may also begin to represent 'technologies of the self' and forms of 'governmentality' (Foucault 1991). Specifically, in attempting to maintain occupational control, doctors may be required to take on the responsibilities for error management in the format advocated in policy. Although this may require a radical cultural change in medicine, this may be seen as necessary to limit managerial interference, but it could actually lead to professional conformity as the 'messages' and 'practices' of error management are followed. Like Hoggett's (1996) notion of 'freedom within boundaries' medical autonomy may be directed and bounded by the expectations of policy.

Appendix 1. List of Codes

Accountability
Active errors
Adverse Event
Analysis
Audit
Autonomy
Background
Blame
Change
Clinical governance
Clinical judgment
College
Conflict
CRMC - general
CRMC – function
CRMC – conflict
CRCM – decision-making
CRMC - communication
Culture
Definitions
Directorate - acute med
Directorate - Anaesthesia
Directorate - character
Directorate - control
Directorate - Obs
Directorate - rehab
Directorate - reporting
Directorate - Surgery
Directorate variation
Division of labour
Error
Error - avoid
Error - causes
Error - complications
Error - example
Error - filter
Error - impact
Error - impact health
Error - judge
Error - pathway
Error - patient uncertainty
Error - perception
Error - technical
Error - types
Information cascade
Latent errors
Litigation
Management
Management-speak
Management - control
Management - devolve
Management - expertise
Management - future
Management - limited
Management - perception
Managerial - action
Media
Medical - awareness
Medical - Competence
Medical - control
Medical - expertise
Medical - involvement
Medical - working
Medical reporting
National
Near miss
NHS general
Non-medics on medics
Organisational links
Pathway
Person - clinical director
Person - clinical manager in management
Person - management
Person - medic
Person - medic in management
Person - risk manager
Professionalism
Regulation
Reporting
Reporting - codes
Reporting - control
Reporting - facilitator
Reporting - mandatory
Reporting - not for all
Reporting - perception

Reporting - problems
Reporting - responsibility
Reporting - types
Reporting barrier
Resistance
Resources
Risk - modelling
Risk - perverse incentives

Risk assessment
Risk management - example
Risk management 1
Risks - balancing
Service change
Sharing lessons
Tradition

Appendix 2. The Hospital Incident Reporting Form

Page One.

[REDACTED] HOSPITAL NHS TRUST UNTOWARD INCIDENT REPORTING FORM

PLEASE COMPLETE IN BLOCK LETTERS USING A BLACK PEN.

Please ensure that you record FACT and NOT OPINION. Reporting should be immediate if death or serious injury has occurred.

ORIGINATING DEPT/WARD DIRECTORATE..... DIVISION.....

Date of incident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		Day of week.....		Time of incident <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Please use 24 hour clock					
Subject	In-Patient <input type="checkbox"/>	Out-Patient <input type="checkbox"/>	Day-Case <input type="checkbox"/>	Ward-Attender <input type="checkbox"/>	Employee <input type="checkbox"/>
	Visitor/contractor <input type="checkbox"/>	Fire <input type="checkbox"/>	Vandalism or theft <input type="checkbox"/>	Equipment failure <input type="checkbox"/>	
Other, please specify:.....					
Untoward incident <input type="checkbox"/>	Near miss <input type="checkbox"/>	Serious Clinical Untoward Incident <input type="checkbox"/>	Major Injury <input type="checkbox"/>		
Dangerous occurrence <input type="checkbox"/>	Accident <input type="checkbox"/>	Violent incident <input type="checkbox"/>	(See guidelines)		
Place patient sticker here if patient involved			Details of person involved if not patient (ie. staff, visitor) SURNAME..... FORENAME(S)..... JOB TITLE..... GRADE..... Date of Birth <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Address.....		
Please state First Aid given to non patients:					
For patient related incidents					
Responsible Dr. notified of incident: YES <input type="checkbox"/> NO <input type="checkbox"/>		Time notified <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		Time examined by Dr. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Diagnosis at time of incident.....			Patient's Consultant.....		
Signature of examining Dr.			Name of examining Dr. (please print)		
Location of incident	Code <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	If other, specify location			
Incident category	Code <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	If other, specify			
DETAILS OF INCIDENT (Give brief factual account/outline of incident. What? Where? Staff involved? Equipment Failure? If injury has occurred please describe fully, including whether right or left side etc.) 					

Form completed by Signature Date Time

Countersigned by Signature Date

PART 1
47405

WITNESS STATEMENTS – to be completed by any person witnessing incident.
If there was no witness please write "no witness" and sign and date.
Witness statements to be documented accurately below.
Please document FACT and NOT OPINION. If a piece of equipment is involved please quote serial number of piece of equipment involved.

Witness name:	Job title:
Place of work:	Date of incident:
Witness address if non staff:	
.....	

SIGNATURE OF WITNESS:..... PRINT NAME:

DATE:

If more than one witness statement is to be made please photocopy this blank sheet and attach extra completed witness statements securely to the main Untoward Incident Form.

PART 2
47405

References

- Alaszewski, A. (1995) "Restructuring health and welfare professions in the United Kingdom: the impact of the internal market on medical, nursing and social work professions", in Johnson, T., Larkin, G. and Saks, M. (eds.) *Health Professionals and the State in Europe*, London: Routledge.
- Alberti, K. (2001) "Medical errors: a common problem" *British Medical Journal*: 322, pp.501-2.
- Alford, R. (1975) *Health care politics*, Chicago: Chicago University Press.
- Allen, J. (1992) "Fordism and modern industry", in Allen, J. Braham, P. and Lewis, P. (eds.) *Political and Economic Forms of Modernity*, Buckingham: Open University Press.
- Allsop, J. and Mulcahy, L. (1996) *Regulating Medical Work*, Buckingham: Open University Press.
- Andrews, L., Stocking, C. and Krizek, T. (1997) "An alternative strategy for studying adverse events in medical care", *The Lancet*: 349, pp.309-13.
- Annandale, E. (1998) *The Sociology of Health and Medicine: a critical introduction*, Cambridge: Polity Press.
- Archer, M. (1982) "Morphogenesis versus structuration: on combining structure and action", *British Journal of Sociology*: 33(4), pp.455-79.
- Archer, M. (1995) *Realist Social Theory: The Morphogenetic Approach*, Cambridge: Cambridge University Press.
- Arluke, A. (1977) "Social control rituals in medicine: the case of the death rounds", in Dingwall, R., Heath, C., Reid, M. and Stacey, M. (eds.) *Health care and Health Knowledge*, London: Croom Helm.
- Armstrong, D. (1997) "Foucault and the sociology of health and illness: a prismatic reading", in Petersen, A. and Bunton, R. (eds.) *Foucault, Health and Medicine*, London: Routledge.
- Ashworth, R., Boyne, G. and Walker, R. (2002) "Regulatory problems in the public sector; theories and cases", *Public and Politics*, vol.30(2), pp.195-211.
- Atkinson, P. and Hammersley, M. (1998) "Ethnography and participant observation", in Denzin, N. and Lincoln, Y. (eds.) *Strategies for qualitative inquiry*, London: Sage.

- Bailey, K. (1994) *Typology and Taxonomies. An Introduction to Classification Techniques*, Paper series on Quantitative Applications in the Social Sciences, London: Sage.
- Bailyn, L. (1977) "Research as a cognitive process: implications for data analysis", *Quality and Quantity*, vol.11, pp.97-117.
- Baldwin, R., Hutter, B. and Rothstein, H. (1998) *Risk regulation, management and compliance*, Special Paper for the Bristol Royal Infirmary Inquiry.
- Baptiste, I. (2001) "Qualitative Data Analysis: common phases, strategic differences", *Forum: Qualitative Social Research*: 2(3), <www.qualitative-research.net/fqs>
- Bartlett, W. and Harrison, L. (1993) "Quasi-markets and the National Health Service reforms", in Le Grand, J. and Bartlett, W. (eds.) *Quasi-markets and Social Policy*, London: Macmillan.
- Bartlett, W. and Le Grand, J. (1993) "The theory of quasi-markets" in Le Grand, J. and Bartlett, W. (eds.) *Quasi-markets and Social Policy*, London: Macmillan.
- Bates, D., Cullen, D., Laird, N. and Petersen, L. (1995) "Incidence of adverse drug events and potential adverse drug events", *Journal of the American Medical Association*: 274, pp.29-34.
- Battistella, R. and T. Chester. 1973. "Reorganisation of the National Health Service; Background and issues in England's quest for a comprehensive-integrated planning and delivery system." *Millbank Quarterly* 51: 489-530.
- Beck, U. (1992) *Risk Society: towards a new modernity*, London: Sage.
- Beck, U. (1994) *Ecological Politics in an Age of Risk*, Cambridge: Polity Press.
- Bell, D. (1973) *The Coming of the post-industrial society*, New York; Basic Books.
- Berger, P. and Luckman, T. (1991) *The Social Construction of Reality*. Harmondsworth: Penguin.
- Berwick, D. and Leape, L. (1999) "Reducing errors in medicine", *British Medical Journal*: vol.319, pp.136-7.
- Berwick, D. and Leape, L. (2001) "Not Again!", *British Sociological Association*, vol.322, pp.247-8.

- Bhaskar, R. (1979) *The Possibility of Naturalism*, Brighton: Harvester.
- Bhaskar, R. and Lawson, T. (1998) "Introduction: Basic texts and developments", in Archer, M., Bhaskar, R., Collier, A., Lawson, T. and Norrie, A. (eds.) *Critical Realism: essential readings*, London: Routledge.
- Bliss, W. (1999) "Why is corporate culture important?", *Workforce*, supplement, Feb. 1999, pp.8-9.
- Bong, S. (2002) "Debunking the myths of qualitative data analysis", *Forum: Qualitative Social Research*: 3(2), <www.qualitative-research.net/fqs>
- Bosk, C. (1979) *Forgive and Remember*, London: University of Chicago Press.
- Bosk, C. (1986) "Professional responsibility and medical error", in Aiken, L. and Mechanic, D. (eds.) *Applications of Social Science to Clinical Medicine and Health Policy*, Brunswick: Rutgers University Press.
- Brennan, T. and Leape, L. (1991) "Incidence of adverse events and negligence in hospitalized patients", *New England Journal of Medicine*: 324(6), pp.370-6.
- British Medical Association: Health Policy and Economic Research Unit (1996) *Risk Management in the NHS*, Briefing No.6, London: BMA.
- Bucher, R. and Stelling, J. (1969) "Characteristics of professional organisations", *Journal of Health and Social Behaviour*: 10, pp.2-13.
- Buetow, S. and Roland, M. (1999) "Clinical governance: bridging the gap between managerial and clinical approaches to quality care", *Quality in Health Care*: 8, pp.184-90.
- Burgess, R. (1989) "The Unstructured interview as a conversation", in Burgess, R. (ed.) *Field Research: a sourcebook and field manual*, London: Unwin Hyman.
- Burgess, R. (1990) *In the Field*, London: Routledge.
- Burns, T. and Stalker, G. (1966) *The Management of Innovation*, London: Tavistock.
- Butler, J. (1993) "Origins and early develops" in Robinson, R. and Le Grand, J. (eds.) *Evaluating the NHS Reforms*, London: King's Fund.
- Calnan, M. (1987) *Health and Illness: the lay perspective*, London: Tavistock.

Carr-Saunders, A. and Wilson, P. (1933) *The Professions*, Oxford: Clarendon Press.

Carter, N. (1991) "Learning to measure performance: the use of indicators in organisation", *Public Administration*, vol.69, pp.85-101.

Castel, R. (1991) "From dangerousness to risk" in Burchell, G., Gordon, C. and Miller, P. (eds.) *The Foucault Effect: studies in governmentality*, London: Harvester wheatsheaf.

Chandler, A. (1990) "Managerial hierarchies", in Pugh, D. (ed.) *Organization Theory*, Harmondsworth: Penguin.

Charmaz, C. (2000) "Grounded theory: objectivist and subjectivist methods", in Denzin N. and Lincoln, Y. (eds.) *Handbook of Qualitative Research*, London: Sage.

Clegg, S. (1998) "Foucault, Power and Organisations", in McKinlay, A. and Starkey, K. (eds.) *Foucault, Management and Organization Theory*, London: Sage.

Clements, R. (1995) "Essentials of clinical risk management", in Vincent, C. (ed.) *Clinical Risk Management*, London: BMJ Publishing.

Clinical Negligence Scheme for Trusts (CNST) (2000) *Clinical Risk Management Standards*, London: NHS Litigation Authority.

Close, A. (1997) "Quality management in health care and health care education", in Morton-Cooper, A. and Bamford, M. (eds.) *Excellence in Health Care Management*, Oxford; Blackwell.

Coburn, D., Rappolt, S. and Bourgeault, I. (1997) "Decline Vs. Retention of medical power through restratification; an examination of the Ontario case, *Sociology of Health and Illness*, vol.19(1), pp.1-22.

Coburn, D. and Willis, E. (2000) "The Medical Profession: knowledge, power and autonomy", in Albrecht, G, Fitzpatrick, R. and Scrimshaw, S. (eds.) *Handbook of Social Studies in Health and Medicine*, London: Sage.

Coffey, A. and Atkinson, P. (1996) *Making Sense of qualitative data*, London: Sage.

Costain Schou, K. and Hewison, J. (1996) "Health psychology and discourse: personal accounts as social texts in grounded theory", *Journal of Health Psychology*, vol.3(3), pp.297-311

- Cox, D. (1991) "Health service management – a sociological view: Griffiths and the neo-negotiated order of the hospital" in Gabe, J., Calnan, M. and Bury, M. (eds.) *The Sociology of the Health Service*, London: Routledge.
- Craddick, J. and Bader, B. (1983) *Medical Management Analysis: a systematic approach to quality assurance and risk management. Volume 1: introduction*, California: Auburn.
- Creswell, J. (1998) *Qualitative inquiry and research design: choosing amongst five traditions*, London: Sage.
- Crosby, P. (1979) *Quality is Free*, New York: McGraw Hill.
- Cullen, D. (chair) (2001) *Ladbroke Grove Rail Inquiry*, London; Health and Safety Executive.
- Davey, B. and Seale, C. (1994) "An historical approach to medical knowledge", in Seale, C. and Patterson, S. (eds.) *Medical Knowledge: doubts and certainties*, Buckingham: Open University.
- Davies, H. and Harrison, S. (2003) "Trends in doctor-manager relationships", *British Medical Journal*, vol.326, pp.646-9.
- Deal, T. and Kennedy, A. (1988) *Corporate Cultures*, Harmondsworth; Penguin.
- Dean, B., Schachter, M., Vincent, C. and Barber, N. (2002) "causes of prescribing errors in hospital inpatients: a prospective study", *The Lancet*, vol.359, pp.1373-8.
- Dean, M. (1999) *Governmentality: power and rule in modern society*, London: Sage.
- Deming, W. (1986) *Out of the Crisis*, Cambridge: Cambridge University Press.
- Dent, M. (1995) "Doctors, peer review and quality assurance", in Johnson, T., Larkin, G. and Saks, M. (eds.) *Health Professionals and the State in Europe*, London: Routledge.
- Department of Health (1989) *Working for Patients*, London: HMSO.
- Department of Health (1997) *A New NHS: modern, dependable*, London: TSO.
- Department of Health (1998) *A First Class Service*, London: TSO.
- Department of Health (1999) *Supporting doctors, Protecting Patients*, London: TSO.

- Department of Health (2000) *An Organisation with a Memory*, London: TSO.
- Department of Health (2001a) *Building a Safer NHS for Patients*, London: TSO.
- Department of Health (2001b) *Doing Less Harm*, London: TSO
- Department of Health (2001c) *Assuring the Quality of Medical Practice*, London: TSO.
- Department of Health and Social Security (1972) *The NHS Reorganisation*, London: HMSO.
- Department of Health and Social Security (1983) *NHS Management Inquiry*, London: HMSO.
- Department of Transport (1987) *MV Herald of Free Enterprise Report of Court No.8076, Formal Investigation*, (Mr Justice Sheen), London: HMSO.
- Dewar, S. (1998) *Clinical Governance under construction*, London: King's Fund.
- Dickson, G. (1995) "Principles of risk management", in Vincent, C. (ed.) *Clinical Risk Management*, London: BMJ Publishing.
- Dineen, M. and Walshe, K. (1999a) "Incident reporting in the NHS – part one" *Health Care Risk Report*, March 1999.
- Dineen, M. and Walshe, K. (1999b) "Incident reporting in the NHS – part two" *Health Care Risk Report*, June 1999.
- Dingwall, R. (1992) "Don't mind him – he's from Barcelona': Qualitative methods in health studies", in Daly, J., McDonald, I. and Willis, E. (eds.) *Researching Health Care*, London: Routledge.
- Dingwall, R. (1997) "Accounts, interviews and observations", in Miller, G. and Dingwall, R. (eds.) *Context and Method in Qualitative Research*, London: Sage.
- Donabedian, A. (1980) *The Definition of Quality and Approaches to its Assessment*, Ann Arbor: Health Administration Press.
- Donaldson, L. (1999) "Medical mishaps: a managerial perspective", in Rosenthal, M., Mulcahy, L. and Lloyd-Bostock, S. (eds.) *Medical Mishaps*, Buckingham: Open University Press.

Douglas, M. (1966) *Purity and Danger: an analysis of the concepts of pollution and taboo*, London: Routledge and Kegan Paul.

Douglas, M. (1975) *Implicit Meaning*, London: Routledge and Kegan Paul.

Douglas, M. and Wildavsky, A. (1982) *Risk and Culture: an essay on the selection of technological and environmental dangers*, Berkley: University of California Press.

Dovey, S., Meyers, D., Phillips, R., Green, L., Fryer, G., Galliher, J., Kappus, J. and Grob, P. (2002) "A preliminary taxonomy of medical errors in family practice", *Quality and Safety in Health Care*, vol.11, pp.233-8.

Drife, J. (1993) "Errors and accidents in obstetrics", in Vicent, C., Ennis, M. and Audely, R. (eds.) *Medical Accidents*, Oxford: Oxford University Press.

Drummond, H. (1992) *The Quality Movement*, London; Kogan Page.

du Gay, P. (1996) *Consumption and Identity at Work*, London: Sage.

Eagleton, T. (2000) *The Idea of Culture*, London: Blackwell.

Ellen, R. (1993) (ed.) *Ethnographic research*, London: Academic Press.

Elliot, A. (2002) "Beck's Sociology of Risk: a critical assessment", *Sociology*: 36(2), pp. 293-315.

Elston, M. (1991) "The politics of professional power: medicine in a changing health service", in Gabe, J., Calnan, M. and Bury, M. (eds.) *The Sociology of the hEalth Service*, London: Routledge.

Enthoven, A. (1985) *Reflections on the management of the National Health Service: a American looks at incentives to efficiency in health service management in the UK*, London: Nuffield.

Etzioni, A. (1969) *Modern Organizations*, New Jersey: Prentice Hall.

Etzioni, A. (1970) "Compliance Theory", in Grusky, D. and Miller, G. (eds.) *The Sociology of Organisations*, London; Free Press.

Evetts, J. (2002) "New directions in state and international professional occupations: discretionary decision-making and acquired regulation", *Work, Employment and Society*, vol.16(2), pp.341-53.

Fairclough, N. (1993) "Critical discourse analysis and the marketization of public discourse; the universities", *Discourse and Society*: 4(2), pp.133-68.

- Fairclough, N. (1995) *Critical discourse analysis. The critical study of language*, London: Longman.
- Fetterman, D. (1989) *Ethnography: step by step*, London: Sage.
- Feyerabend, P. (1975) *Against Method*, London: New Left Books.
- Flynn, R. (1992) *Structures of control in health management*, London: Routledge.
- Flynn, R. (2001) "Clinical governance and governmentality", paper presented to the *BSA Medical Sociology Conference*, September 2001.
- Foot, M. (1997) *Aneurin Bevan*. London: Indigo.
- Foucault, M. (1969) *Madness and Civilisation*, London: Tavistock
- Foucault, M. (1970) *The Birth of the Clinic*, London: Tavistock.
- Foucault, M. (1980) *Power/Knowledge*, London: Harvester Wheatsheaf.
- Foucault, M. (1991) "Questions of method" in Burchell, G., Gordon, C. and Miller, P. (eds.) *The Foucault Effect: studies in governmentality*, London: Harvester wheatsheaf.
- Foucault, M. (1998) *The History of Sexuality Part One*, Harmondsworth: Penguin.
- Fox, D. (1988) *Health Policies, Health Politics*, New Jersey, Princeton University Press.
- Fox, N. (1997) "Is there life after Foucault? Texts, frames and *differends*", in Petersen, A. and Bunton, R. (eds.) *Foucault, Health and Medicine*, London: Routledge.
- Fox, R. (1975) "Training for Uncertainty", in Cox, C. and Mead, A. (eds.) *A Sociology of Medical Practice*, London: Collier-Macmillan.
- Fox, R. (2000) "Medical uncertainty revisited", in Albrecht, G, Fitzpatrick, R. and Scrimshaw, S. (eds.) *Handbook of Social Studies in Health and Medicine*, London: Sage.
- Freidson, E. (1970) *The Profession of Medicine*, New York: Harper Row.

Freidson, E. (1994) *Professionalism Reborn: theory, prophecy and policy*, Cambridge: Polity Press.

Freidson, E. (2001) *Professionalism: the third logic*, Cambridge: Polity Press.

Freund, J. (1968) *The Sociology of Max Weber*, Harmondsworth; Penguin.

Fuchs, V. (1974) *Who Shall Live: health, economics and social choice*, New York: Basic Books.

Fuller, S. (1999) "The reflexive politics of constructivism revisited", in Velody, I and Williams, R. (eds.) *The Politics of Constructionism*, London; Sage.

Gabe, J. (1995) "Health, medicine and risk: the need for a sociological approach", in Gabe, J. (ed.) *Medicine, Health and Risk*, Oxford: Blackwell.

Gambetta, D. (1988) "Can we trust trust?" in Gambetta, D. (ed.) *Trust: Making and Breaking Co-operative Relations*, London: Blackwell.

Gamble, A. (1992) *The Free Economy and the Strong State*, London; Macmillan.

Garfinkel, H. (1967) *Studies in Ethnomethodology*, London: Prentice Hall.

General Medical Council (2000) *Revalidation*, London: GMC.

Giddens, A (1984) *The Constitution of Society*, Cambridge: Polity Press.

Giddens, A. (1990) *The Consequence of Modernity*, Cambridge: Polity Press.

Gladstone, D. (2000) "Regulation, accountability and health care", in Gladstone, D. (ed.) *Regulating Doctors*, London: Institute for the Study of Civil Society.

Glaser, B. and Strauss, A. (1967) *The Discovery of Grounded Theory*, Chicago: Aldine.

Gold, R. (1969) "Roles in sociological field observations", in McCall, G. (ed.) *Issues in Participant Observation*, London: Addison Wesley

Goode, W. (1960) "Encroachment, charlatanism and the merging profession: psychiatry, sociology and medicine", *American Sociological Review*, vol.25, pp. 902-14.

Green, J (1992) "From accidents to risk: public health and preventable injury", *Health, Risk and Society*: 1(1), pp.25-39.

- Green, J. (1997) *Risk and Misfortune: the social construction of accidents*, London: UCL Press.
- Hakim, C. (1987) *Research design*, London: Unwin Hyman.
- Ham, C. (1992) *Health Policy in Britain*, London: Macmillan.
- Ham, C. (1997) "The background", in Ham, C. (ed.) *Health Care Reform*, Buckingham: Open University.
- Hammersley, M. (1989) *The Dilemma of Qualitative Method: Herbert Blumer and the Chicago Tradition*, London: Routledge.
- Hammersley, M. (1992) *What's wrong with Ethnography?*, London: Routledge.
- Hansson, J. (2000) "Quality in health care: medical or managerial?" *Managing Service Quality*, vol.10(2), pp.78-81.
- Harris, A. (2000) "Risk management in practice: how are we managing?" *British Journal of Clinical Governance*: vol.5(3), pp.142-149.
- Harrison, S. Morgan, M. and Wood, B. (2002) "Policy emergence and policy convergence: the case of 'scientific-bureaucratic medicine' in the United States and United Kingdom", *British Journal of Politics and International Relations*: 4(1), pp.1-24.
- Harrison, S. (1988) *Managing the National Health Service: shifting the frontier?*, London: Chapman and Hall.
- Harrison, S. (1999) "Clinical autonomy and health policy: past and futures", in Exworthy, M. and Halford, S. (eds.) *Professionals and the New Managerialism in the Public Sector*, Buckingham: Open University Press.
- Harrison, S. (2002) "New Labour, Modernisation and the Medical Labour Process", *Journal of Social Policy*: 31(3), pp.465-85.
- Harrison, S. and Ahmed, W. (2000) "Medical autonomy and the UK State: 1975-2005", *Sociology*, vol. 34(1), pp. 129-46.
- Harrison, S. and Pollitt, C. (1995) *Controlling Health Professionals*. Buckingham: Open University Press.
- Hart, A. (1997) "Monitoring quality in the British Health Service – a case study and a theoretical critique", *International Journal of Health Care Quality Assurance*, vol:10(7), pp.260-266.

Haug, M. (1973) "Deprofessionalization: an alternative hypothesis for the future", in Halmos, P. (ed.) *Sociological Monograph: Professionalisation and Social Change*, Keele: University of Keele.

Health and Safety Executive (1998) *Reporting of Injuries, Diseases and Dangerous Occurrence Regulations*, London: HSE.

Health and Safety Executive (2001) *Strategic Plan*, London; HSE.

Heritage, J. (1984) *Garfinkel and Ethnomethodology*, Cambridge: Polity Press.

Heydebrand, V. (1989) "New Organizational forms", *Work and Occupations*: 16(3), pp.323-57.

Hippocrates (c400BC) *On the Epidemics*, translated by Adams, F., <www.classics.mit.edu/hippocrates/epidemics.mb.txt>

Hoggett, P. (1991) "A new management in the public sector?", *Policy and Politics*:19(4), pp.243-56.

Hoggett, P. (1996) "New modes of control in the public services", *Public Administration*:74, pp.99-132.

Hollis, M. (1998) *Trust within Reason*, Cambridge: Cambridge University Press.

Hood, C. (1991) "A Public Management for all Seasons?" *Public Administration*: 69, pp.3-19.

Hughes, D. and McGuire, A. (1992) "Legislating for Health", in Dingwall, R. and Fenn, P. (eds.) *Quality and Regulation in Health Care*, London: Routledge.

Hughes, E. (1951) "Mistakes at work", *The Canadian Journal of Economic and Political Science*: 17(3), pp.320-327.

Hughes, G., Mears, R. and Winch, C. (1997) "An inspector calls? Regulation and accountability in three public services", *Policy and Politics*: 25(3) 299-313.

Hunter, D. (1994) "From tribalism to corporatism; the managerial challenge to medical dominance", in Gabe, J., Kelleher, D. and Williams, G. (eds.) *Challenging Medicine*, London; Routledge.

Illich, I. (1976) *The Limits of Medicine – medical nemesis: the expropriation of health*, London: Marion Boyars.

- Irvine, D. (1999) "Dysfunctional doctors: the General Medical Council's new approach" in Rosenthal, M., Mulcahy, L. and Lloyd-Bostock, S. (eds.) *Medical Mishaps*, Buckingham: Open University Press.
- Irvine, D. and Irvine, S. (1997) *The Practice of Quality*, Oxford: Radcliffe Medical Press.
- James, A. (1994) *Managing to Care*, London: Longman.
- Johnson, T. (1972) *Professions and Power*, London: Macmillan.
- Jost, T. (1992) "Recent developments in medical quality assurance and audit", in Dingwall, R. and Fenn, P. (eds.) *Quality and Regulation in Health Care*, London: Routledge.
- Junker, B. (1960) *Fieldwork: An introduction to the Social Sciences*, London: University of Chicago Press.
- Juran, J. (1989) *Juran on Leadership for Quality*, New York: Free Press.
- Kennedy, I. (Chair) (2001) *Bristol Royal Infirmary Final Report*, London: TSO.
- Klein, R. (1991) *The Politics of Health*, London: Longman.
- Kluge, S. (2000) "Empirically grounded construction of types and typologies in qualitative social research", *Forum: Qualitative Social Research*: 1(1), <www.qualitative-research.net/fqs>
- Knight, D. and McCabe, D. (1999) "Are there no limits to authority?: TQM and organizational power", *Organizational Studies*: 20(2), pp.197-224.
- Knorr-Cetina, K. (1981) *The Manufacture of Knowledge*, Oxford: Pergamon.
- Kuhn, T. (1970) *The Structure of Scientific Revolutions*, Chicago: University of Chicago Press.
- Kuper, A. (1996) *Anthropology and Anthropologists*, London: Routledge.
- Lapsey, I. (1994) "Market mechanisms and the management of health care: the UK model and experience", *Journal of Public Sector Management*, vol.7(6), pp.15-25.
- Larkin, G. (1995) "State control and the health professions in the United Kingdom: a historical perspective", in Johnson, T., Larkin, G. and Saks, M. (eds.) *Health Professionals and the State in Europe*, London: Routledge.

- Larson, M. (1978) *The Rise of Professionalism*, Los Angeles; University of California Press.
- Layder, D. (1998) "The reality of social domains: implications for theory and method", in May, T. and Williams, M. (eds.) *Knowing the Social World*, Buckingham: Open University Press.
- Leape, L. and Brennan, T. (1991) "The nature of adverse events in hospitalized patients", *New England Journal of Medicine*: 324(6), pp.377-84.
- Leape, L. (1999) "Error in medicine" in Rosenthal, M., Mulcahy, L. and Lloyd-Bostock, S. (eds.) *Medical Mishaps*, Buckingham: Open University Press.
- Leape, L. and Berwick, D. (2000) "Safe health care: are we up to it?", *British Medical Journal*: vol.320, pp.725-6.
- Lopez, J and Scott, J. (2000) *Social Structure*, Buckingham: Open University.
- Luhmann, N. (1991) *Risk: A Sociological Theory*, Berlin: de Gruyter.
- Lupton, D. (1997) "Foucault and the medicalisation critique", in Petersen, A. and Bunton, R. (eds.) *Foucault, Health and Medicine*, London: Routledge.
- Lupton, D. (1998) *Medicine as Culture*, London: Sage.
- Lupton, D. (1999) *Risk*, London: Routledge.
- Lupton, D. and Tulloch, J.(2002) "Risk is part of your life: risk epistemologies among a group of Australians", *Sociology*: 36(2), pp.317-334.
- MacDonald, K. (1995) *The Sociology of the Professions*, London: Sage.
- Marquand, P. and Miller, E. (1997) "An introduction to clinical risk management", in Holdaway, K. and Kogan, H. (eds.) *The Healthcare Management Handbook*, London: Kogan Paul.
- Mason, J. (1996) *Qualitative Research*, London: Sage.
- McGregor, D. (1990) "Theory X and Theory Y", in Pugh, D. (ed.) *Organisation Theory*, Harmondsworth: Penguin.
- McKeown, T. (1979) *The role of medicine: dream, mirage or nemesis*, Oxford: Blackwell.
- McLamb, J. and Huntley, R. (1967) "The hazards of hospitalization", *South Medical Journal*, vol. 60, pp.469-72.

- MDA (2002) *Medical Devices Agency Safety Notice*, MDA SN2002(01).
- Meek, L. (1988) "Organizational culture: origins and weakness", *Organization Studies*: 9(4), pp.453-73.
- Merrison, A. (chair) (1979) *Royal Commission on the National Health Service*, London: HMSO.
- Merton, R. (1970) "Bureaucratic structure and personality", in Etzioni, A. (ed.) *Sociological Reader on Complex Organizations*, London: Holt, Rinehart and Winston.
- Miller, J and Glassner, B. (1997) "The 'inside' and the 'outside': finding realities in interviews", in Silverman, D. (ed.) *Qualitative Research: Theory, Method and Practice*, London: Sage.
- Miller, G. (1997) "Building Bridges: the possibility of analytical dialogue between ethnography, conversation analysis and Foucault", in Silverman, D. (ed.) *Qualitative Research: Theory, Method and Practice*, London: Sage.
- Ministry of Health (1955) *National Health Service – Reporting of Accidents*, H.M.(55)66.
- Moore, W. (2000) *Why doctors make mistakes?* , London: Channel Four Publications.
- Moran, M. and Woods, B. (1993) *States, Regulation and the Medical Profession*, Buckingham: Open University Press.
- Morgan, M., Calnan, M. and Manning, N. (1985) *Sociological Approaches to Health and Medicine*, London: Routledge.
- Murphy, E., Dingwall, R., Greatbatch, D., Parker, S. and Watson, P. (1998) "Qualitative research methods in health technology assessment", *Health Technology Assessment*, 2(16).
- National Patient Safety Agency (2002) *Pilot Evaluation Project: National System for Learning from Adverse Events and Near Misses*, London; NPSA.
- Navarro, V. (1978) *Class Struggle, the State and Medicine*, London: Martin Robertson.
- Neale, G. (1995) "Reducing errors in medical practice" in Vincent, C. (ed.) *Clinical Risk Management*, London: BMJ Publishing.

- Nettleton, S. (1995) *The Sociology of Health and Illness*, Cambridge: Polity.
- Nicholls, S., Cullen, R., O'Neill, S. and Halligan, A. (2000) "Clinical governance: its origins and its foundations", *British Journal of Clinical Governance*: 5(3), pp.172-78.
- O'Leary, M. (2002) "The British Airways human factors reporting programme", *Reliability Engineering and System Safety*, vol.75, pp245-55.
- O'Neil, A., Petersen, L., Cook, F. and Bates, D. (1993) "Physician reporting compared with medical-record review to identify adverse medical events", *Ann Internal Medicine*: 119, pp.370-76.
- Oppenheimer, M. (1973) "The proletarianization of the professional", in Halmis, P. (ed.) *Sociological Monograph: Professionalisation and Social Change*, Keele: University of Keele.
- Ouchi, W. (1981) *Theory Z*, Reading: Addison-Wesley.
- Outhwaite, W. (1998) "Realism and social science", in Archer, M., Bhaskar, R., Collier, A., Lawson, T. and Norrie, A. (eds.) *Critical Realism: essential readings*, London: Routledge.
- Ovretveit, J. (1985) "Medical dominance and the development of professional autonomy in physiotherapy", *Sociology of Health and Illness*, vol.7(1), pp.76-93.
- Owen, D. (1976) *In Sickness and in Health*, London; Quartet Press.
- Packwood, T., Keen, J. and Buxton, M. (1991) *Hospitals in Transition*, Buckingham: Open University.
- Parker, M. (2000) *Organizational Culture and Identity*, London: Sage.
- Parson, T. (1951) *The Social System*, London: Routledge and Kegan Paul.
- Patient Safety Training (2003) *Course Handbook*, Manchester: Manchester Royal Infirmary.
- Paton, C. (1999) "New Labour's health policy: the new healthcare state", in Powell, M (ed.) *New Labour, New Welfare State?*, Bristol: Policy Press.
- Peters, T. and Wateman, R. (1982) *In search of Excellence*, New York: Harper Row.
- Pfeffer, J. and Salancik, G. (1978) *The external control of organizations*, New York: Harper and Row.

Pollitt, C. (1993) "The struggle for quality: the case of the National Health Service", *Policy and Politics*, vol.21(3), pp.161-170

Pope, A. (1709) *An Essay in Criticism*, <<http://classiclitt.about.com/library/bl-etexts/apope/bl-apope-essaycrit.htm>>

Powell, J. E. (1976) *Medicine and Politics: 1975 and After*, Tunbridge Wells, Pitman.

Powell, M. (1997) *Evaluating the National Health Service*, Buckingham: Open University Press.

Power, M. (1997) *The Audit Society: rituals of verification*, Oxford: Oxford University Press.

Prior, L. (1997) "Following in Foucault's Footsteps: Texts and Context in Qualitative Research", in Silverman, D. (ed.) *Qualitative Research: Theory, Method and Practice*, London: Sage.

Ranade, W. (1996) *A Future for the NHS? Health care in the 1990s*, London: Longman.

Rasmussen, J. and Jensen, A. (1974) "Mental procedures in real-life tasks: a case study of electronic troubleshooting", *Ergonomics*, vol.17, pp.293-307.

Reason, J. (1993) "The Human Factors in medical accidents", in Vicent, C., Ennis, M. and Audely, R. (eds.) *Medical Accidents*, Oxford: Oxford University Press.

Reason, J. (1997) *Managing the Risks of Organizational Accidents*, Aldershot: Ashgate.

Reason, J. (2000) "Human error – models and management", *British Medical Journal*, vol. 320, pp.768-70.

Rhodes, R. (1997) *Understanding governance: policy networks, governance, reflexivity, and accountability*, Buckingham: Open University Press.

Robert, I. (1997) "The Culture of Ownership and the Ownership of Culture", in Brown, R. (ed.) *The Changing Shape of Work*, London: Macmillan.

Roethlisberger, F. and Dickson, W. (1970) "Human Relations", in Grusky, D. and Miller, G. (eds.) *The Sociology of Organisations*, London; Free Press.

Rosander, A. (1991) *Deming's 14 point applied to services*, New York: Marcel Dekker.

Rosenthal, M. (1995) *The Incompetent Doctor*, Buckingham: Open University Press.

Rosenthal, M. (1999) "How doctors think about medical mishaps" in Rosenthal, M., Mulcahy, L. and Lloyd-Bostock, S. (eds.) *Medical Mishaps*, Buckingham: Open University Press.

Rosser, R. (1983) "A History of the development of health indicators" in Smith, G.T. (ed.) *Measuring the Social Benefits of Medicine*, London: Office of Health Economics.

Salaman, G. (1992) "Work design and corporate strategies", in Allen, J., Braham, P. and Lewis, P. (eds.) *Political and Economic forms of Modernity*, Cambridge: Polity Press.

Salter, B. (2000) "Change in the governance of medicine: the politics of self-regulation", in Gladstone, D. (ed.) *Regulating Doctors*, London: Institute for the Study of Civil Society.

Sandars, J. and Esmail, A. (2001) "The nature and frequency of error in primary healthcare", <[www.publichealth.bham.ac.uk/psrp.pdf/threats to patient safety in primacy care - esmail.pdf](http://www.publichealth.bham.ac.uk/psrp.pdf/threats%20to%20patient%20safety%20in%20primacy%20care%20-%20esmail.pdf)>

Scally, G. and Donaldson, L. (1998) "Clinical governance and the drive for quality improvement in the new NHS in England", *British Medical Journal*: 317, pp.61-65.

Scrivens, E. (1988) "The management of clinicians in the National Health Service", *Social Policy and Administration*, vol.22(1), pp.22-34.

Seale, C. (1994) "Health and healing in an age of science", in Seale, C. and Pattison, S. (eds.) *Medical Knowledge: doubts and certainty*, Buckingham: Open University Press.

Silverman, D. (1997) "Introducing qualitative research", in Silverman, D. (ed.) *Qualitative Research: Theory, Method and Practice*, London: Sage.

Silverman, D. (2001) *Interpreting Qualitative Data*, London: Sage.

Smircich, L. (1983) "Concepts of culture in organizational analysis", *Administrative Science Quarterly*: 28, pp. 339-59.

- Stacey, M. (1992) *Regulating British Medicine: the General Medical Council*, Chichester: Wiley.
- Stacey, M. (2000) "The General Medical Council and Professional Self-regulation", in Gladstone, D. (ed.) *Regulating Doctors*, London: Institute for the Study of Civil Society.
- Stake, R. (2000) "Case studies", in Denzin, N. and Lincoln, Y. (eds.) *Handbook of Qualitative Research*, London: Sage.
- Starey, N. (1999) *What is clinical governance?*, London: Haywood Medical Press.
- Strangleman, T. and Robert, I. (1999) "Looking through the window of opportunity: the cultural cleansing of workplace identity", *Sociology*: 33(1), pp.47-67.
- Strauss, A. (1987) *Qualitative Analysis for Social Scientist*, Cambridge: Cambridge University Press.
- Strong, P. and Robinson, J. (1990) *The NHS under new management*, Buckingham: Open University Press.
- Tansey, J. and O'Riordan, T. (1999) "Cultural theory and risk: a review", *Health, Risk and Society*: vol.1(1), pp.71-90.
- Taylor, F. (1970) "Scientific Management", in Grosky and Miller, (eds.) *The Sociology of Organizations: basic studies*, London: Macmillan.
- Taylor, S (1997) "'Empowerment' or 'Degradation'? Total Quality Management and the Service Sector", in Brown, R. (ed.) *The Changing Shape of Work*, London: Macmillan.
- Titmuss, R. (1963) *Essays on the Welfare State*, London: Unwin University Books
- Toft, B. (chair) (2001) *External Inquiry into the Adverse Incident that occurred at Queen's Medical Centre, Nottingham*, London; TSO.
- Tremblay, M. (1998) "Of confidence and identity: the doctor in management", in Spurgeon, P. (ed.) *The New Face of the NHS*, London: Royal Society of Medicine.
- Turner, B. (1995) *Medical Power and Social Knowledge*, London: Sage.

Turner, B. (1997) "Forward: from governmentality to risk, some reflections on Foucault's contribution to medical sociology", in Petersen, A. and Bunton, R. (eds.) *Foucault, Health and Medicine*, London: Routledge.

Turner, S. (1999) "The limits of social constructionism" in Velody, I and Williams, R. (eds.) *The Politics of Constructionism*, London; Sage.

Tyler, E. (1924) *Primitive Culture*, London:

Vaughan, D. (1999) "The Darkside of Organizations: mistakes, misconduct and disaster", *Annual Review of Sociology*: 25, pp.271-305.

Veoldy, I. and Williams, R. (1999) "Introduction", in Velody, I and Williams, R. (eds.) *The Politics of Constructionism*, London; Sage.

Vincent, C., Neale, G. and Woloshynowych, M. (2001) "Adverse events in British hospitals: preliminary retrospective review", *British Medical Journal*: 322, pp.517-9.

Vincent, C. (1997) "Risk, safety and the darkside of quality", *British Medical Journal*: 314, pp.1775-6.

Vincent, C., Taylor-Adams, S. and Stanhope, N. (1998) "Framework for analysing risk and safety in cultural medicine", *British Medical Journal*: 316, pp.1154-57.

Vincent, C. and Reason, J. (1999) "Human Factors approach in medicine" in Rosenthal, M., Mulcahy, L. and Lloyd-Bostock, S. (eds.) *Medical Mishaps*, Buckingham: Open University Press.

Vincent, C. (1993) "The Study of errors and accidents in medicine", in Vincent, C., Ennis, M. and Audley, R. (eds.) *Medical Accidents*, Oxford: Oxford University Press.

Waddington, I (1990) "The movement towards the professionalisation of medicine", *British Medical Journal*, vol.301, pp.688-90.

Walshe, K., Bennett, J. and Ingram, D. (1995) "Using adverse events in health care quality improvement: results from a British acute hospital", *International Journal of Health Care Quality Assurance*: 8(1), pp.1-14.

Walshe, K. (1998) *The Validity and Reliability of Adverse Event Measure of Quality in Health care*, PhD Thesis, Birmingham: University of Birmingham.

Walshe, K. (1999) *Bristol Royal Infirmary Inquiry Paper on Medical and Clinical Audit*, London: TSO/Bristol Royal Infirmary Inquiry.

- Walshe, K. (1999a) "Medical accidents in the UK: a wasted opportunity for improvement", in Rosenthal, M., Mulcahy, L. and Lloyd-Bostock, S. (eds.) *Medical Mishaps*, Buckingham: Open University Press.
- Walshe, K. (1999b) *Bristol Royal Infirmary Inquiry paper on Medical and Clinical Audit*, London: BRI Inquiry.
- Walshe, K. (2000) "Adverse events in health care: issues in measurement", *Quality in Health Care*: 9, pp.47-52.
- Walshe, K. (2002) "The rise of regulation in the NHS", *British Medical Journal*, vol.324, pp. 967-70.
- Waring, J. (2000) *Towards an integrated organisational framework of hospital performance*, Birmingham: Aston Business School Research Paper Series.
- Waring, J. (2002) "Clarifying the sociological application of medical professional autonomy in the British National Health Service", *Social Science Paper Publisher*, vol.5(1), pp.1-13.
- Watson, T. (1997) "Theorising Managerial Research: a pragmatic pluralist approach to interdisciplinary research" *British Journal of Management Research*: vol. 8 p.3-8.
- Weber, M. (1970) "Bureaucracy", in Grusky, D. and Miller, G. (eds.) *The Sociology of Organisations*, London; Free Press.
- Weber, M. (1992) *Max Weber: selection in translation*, Runciman, W. (ed.), Cambridge: Cambridge University Press.
- West, E. (2000) "Organisational sources of safety and danger: sociological contributions to the study of adverse events", *Quality in Health Care*: 9, pp.120-6.
- Wilding, P. (1982) *Professional Power and Social Welfare*, London: Routledge.
- Wilensky, H. (1964) "The professionalization of everyone?" *American Journal of Sociology*, vol.70, pp.137-158.
- Wilkinson, A., Redman, T., Snape, E. and Marchington, M. (1998) *Managing with Total Quality Management*, London; Macmillan.
- Willmott, H. (1993) "Strength is ignorance; slavery is freedom: managing culture in modern organizations", *Journal of Management Studies*: 30(4), pp.515-52.

Wilsford, D. (1994) "Path dependency or Why history makes it difficult but not impossible to reform health care systems in a big way", *Journal of Public Policy*, vol.14(3), pp.251-83.

Wilson, T. and Haraden, C. (2001) "Words, words and more words" *Clinical Governance Bulletin*; 2(5), p.13.

Wilson, R., Runciman, W., Gibberd, R. et al. (1995) "The quality of Australian healthcare study", *Medical Journal of Australia*, vol.163(4), pp.58-71.

Wilson, J. (1999) "Applying clinical risk modification in practice", in Wilson, J. and Tingle, J. (eds.) *Clinical Risk Modification*, Oxford: Butterworth Heinemann.

Wolff, A. and Bourke, J. (2000) "Reducing medical error: a practical guide", *The Medical Journal of Australia*; 173(5), pp.247-51.

Wright Mills, C. (1983) *The Sociological Imagination*, Harmondsworth: Pelican.

Wright, S. (ed.) (1994) *Anthropology of Organizations*, London: Routledge.

