STAFF PERCEPTIONS OF THE QUALITY OF PATIENT INFORMATION IN THE MEDICAL RECORD AND OF THE FACTORS THAT AFFECT THAT DOCUMENTATION

A Study Submitted in Partial Fulfilment of the Requirements for the Degree of Master of Science in Health Informatics

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by

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Abstract

**Background:** An accreditation process revealed the extent of poor medical record documentation within a hospital. The literature revealed that this is a worldwide phenomenon which affects the effectiveness of the medical record as a valuable information resource in providing patient care.

**Aim:** The aim of the study was to evaluate the perceptions of healthcare providers within the hospital and to identify factors that the users considered had an affect on the quality of documentation.

**Methods:** A mixed-methods approach was used for this applied policy research. A questionnaire was developed, based on the findings in the literature. After piloting, the questionnaire was sent, by internal mail, to medical, nursing and support services staff. The response rate for the questionnaire was 49%. The findings obtained from the questionnaire were used to develop the topics for the interviews. Eleven interviews were carried out, with representatives from the three groups. Framework analysis was used to explore the data obtained in the interviews.

**Results:** The questionnaire results revealed that 52% of the respondents considered the standard of documentation to be sufficient while 46% considered it to be deficient. The questionnaire respondents regarded high workload, high staff turnover and poor training as the top three major factors affecting documentation. The chi-squared test was used to demonstrate significant differences in the variables. The more in-depth data generated by the interviews showed that the interviewees considered the views of the questionnaire respondents to be overly optimistic. Poor training and education was perceived to be the main factor affecting documentation. Two additional factors, identified by both the questionnaire and the interviews, were lack of enforcement and lack of awareness.

**Conclusions:** It was concluded that a lack of understanding is the reason for the high opinion of the standard of documentation. Education is required to ensure awareness and knowledge of guidelines. Enforcement is essential to ensure compliance. Regular audits and feedback are necessary to maintain awareness.
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Contents

Abstract ii
Acknowledgements iii
Table of Contents iv
List of Appendices vi
Table of Figures vii

Chapter One Research Introduction 1

1.1 Introduction 1
1.2 Background 1
1.3 Organisation Environment 2
1.4 Research Motivation 2
1.5 Aims and Objectives 5
1.6 Research Questions 6
1.7 Outline of the Research Report 6
1.8 Conclusion 7

Chapter Two Literature Review 8

2.1 Introduction 8
2.2 Search Strategy 8
2.3 Literature Review 10
2.4 Literature Review Summary 23
2.5 Conclusion 24
<table>
<thead>
<tr>
<th>Chapter Three</th>
<th>Research Perspective and Methodology</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Introduction</td>
<td>25</td>
</tr>
<tr>
<td>3.2</td>
<td>Consideration of Methodologies</td>
<td>25</td>
</tr>
<tr>
<td>3.3</td>
<td>Research Design</td>
<td>25</td>
</tr>
<tr>
<td>3.4</td>
<td>Research Methods and Process</td>
<td>28</td>
</tr>
<tr>
<td>3.5</td>
<td>Validity and Reliability</td>
<td>35</td>
</tr>
<tr>
<td>3.6</td>
<td>Research Limitations</td>
<td>36</td>
</tr>
<tr>
<td>3.7</td>
<td>Conclusion</td>
<td>36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Four</th>
<th>Research Results for Stage One (Questionnaire)</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Introduction</td>
<td>38</td>
</tr>
<tr>
<td>4.2</td>
<td>Response Rate</td>
<td>38</td>
</tr>
<tr>
<td>4.3</td>
<td>Presentation of Results</td>
<td>39</td>
</tr>
<tr>
<td>4.4</td>
<td>Questionnaire Results: Quantitative</td>
<td>39</td>
</tr>
<tr>
<td>4.5</td>
<td>Questionnaire Results: Qualitative</td>
<td>47</td>
</tr>
<tr>
<td>4.6</td>
<td>Conclusion</td>
<td>48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Five</th>
<th>Research Results for Stage Two (Interviews)</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Introduction</td>
<td>50</td>
</tr>
<tr>
<td>5.2</td>
<td>Interview Participants</td>
<td>50</td>
</tr>
<tr>
<td>5.3</td>
<td>Thematic Analysis</td>
<td>51</td>
</tr>
<tr>
<td>5.4</td>
<td>Recommendations</td>
<td>58</td>
</tr>
<tr>
<td>5.5</td>
<td>Conclusion</td>
<td>59</td>
</tr>
<tr>
<td>Chapter Six</td>
<td>Discussion</td>
<td>61</td>
</tr>
<tr>
<td>-------------</td>
<td>------------</td>
<td>----</td>
</tr>
<tr>
<td>6.1</td>
<td>Introduction</td>
<td>61</td>
</tr>
<tr>
<td>6.2</td>
<td>Perceptions of Documentation</td>
<td>61</td>
</tr>
<tr>
<td>6.3</td>
<td>Reasons for Poor Documentation</td>
<td>64</td>
</tr>
<tr>
<td>6.4</td>
<td>Strategies to Improve Documentation</td>
<td>68</td>
</tr>
<tr>
<td>6.5</td>
<td>Limitations of the Research</td>
<td>71</td>
</tr>
<tr>
<td>6.6</td>
<td>Conclusion</td>
<td>73</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Seven</th>
<th>Conclusion and Recommendations</th>
<th>75</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>Introduction</td>
<td>75</td>
</tr>
<tr>
<td>7.2</td>
<td>The Findings and the Research Questions</td>
<td>75</td>
</tr>
<tr>
<td>7.3</td>
<td>Key Messages</td>
<td>77</td>
</tr>
<tr>
<td>7.4</td>
<td>Future Research</td>
<td>78</td>
</tr>
<tr>
<td>7.5</td>
<td>Conclusion</td>
<td>79</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>References</th>
<th>80</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Appendices</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix I</td>
<td>Ethics Approval: University of Sheffield</td>
</tr>
<tr>
<td>Appendix II</td>
<td>Ethics Approval: Place of Work</td>
</tr>
<tr>
<td>Appendix III</td>
<td>Participant Information Sheet</td>
</tr>
<tr>
<td>Appendix IV</td>
<td>Covering Letter for Questionnaire</td>
</tr>
<tr>
<td>Appendix V</td>
<td>Interview Consent Form</td>
</tr>
<tr>
<td>Appendix VI</td>
<td>Research Questionnaire</td>
</tr>
<tr>
<td>Appendix VII</td>
<td>Semi-structured Interview Guide</td>
</tr>
<tr>
<td>Appendix VIII</td>
<td>Transcribed Copy of Interview Seven</td>
</tr>
<tr>
<td>Appendix IX</td>
<td>Responses &amp; Descriptive Codes for Questionnaire Q.16</td>
</tr>
<tr>
<td>Appendix X</td>
<td>Example of Qualitative Data Charting Process</td>
</tr>
</tbody>
</table>
Figures and Tables

Figures

4.1 Factors that affect documentation 45

Tables

4.1 Questionnaire response rates 38
4.2 Views on whether documentation would pass re-accreditation today 40
4.3 Views of current medical record documentation 41
4.4 Sufficient/deficient grading for the standard of discharge summaries 41
4.5 Ratings for completeness, timeliness and legibility 42
4.6 Results for opinion on whether documentation is indicative of care 42
4.7 Training received – & sufficiency of – as a student and in current position 43
4.8 Breakdown of training received as a student by group 43
4.9 Top 3 major, moderate and minor factor that affect documentation 46
4.10 Summary of grading for ‘high workload’ factor by group 46
4.11 Factors that are considered to have no affect on documentation 47
4.12 List of topics [factors] generated by descriptive and structural coding 48
4.13 Respondents’ comments to Q. 17 48
5.1 Summary of interviews conducted 50
5.2 Themes and sub-themes for interview Q. 1 52
5.3 Summary of themes and responses for interview Q.2 52
5.4 Summary of themes and sub-themes for interview Q.3 53
5.5 Summary of themes and sub-themes for interview Q.4 54
5.6 Summary of themes and sub-themes for interview Q.5 56
5.7 Summary of themes and sub-themes for interview Q.6 57
5.8 Summary of additional themes 58
5.9 Summary of recommendations themes and sub-themes 59
Chapter One: Research Introduction

1.1 Introduction

This chapter presents the background and context for this Health Informatics research dissertation. It provides an overview of the background of and the motivation for the research, specifically the improvement of medical record documentation. From this the aims and the objectives of the project are established and summarised. The key research questions are identified. The research was carried out within the workplace of the student, the environment of which is described.

1.2 Background

“Complete medical records are the cornerstones of quality health care” (Murphy, 2001: 258) with the medical record being a key informatics tool in the co-ordination of patient care. A medical record should contain a complete history of a patient’s medical information, including examination and test results, clinical courses and medications prescribed and should facilitate communication between healthcare providers (Wood, 2001). As medical history information is vital for actual patient care, information is therefore a resource that no healthcare facility can function without. However it is a resource that must be managed and communicated appropriately in order to be of value. Joint Commission International (JCI, 2007) stipulate that providing patient care is highly dependent on the communication of information between healthcare providers and that failure in communication is one of the root causes of patient safety incidents. In order to deliver appropriate healthcare, patient related information should be timely, up-to-date and accurate. However Hersh (2002) reports that concerns have been raised regarding the quality of medical records with research showing that they can be incomplete. This is supported by Cox et al (2003) who conclude that the documentation of important clinical information is poor, even for patients with severe and/or chronic illnesses. Poor documentation could mean that if the healthcare provider changed there may not be sufficient information for the patient to be treated safely. (Murphy, 2001).
1.3 Organisation Environment

The workplace of the author is a 343-bed military hospital, which provides secondary and tertiary care, based in the Middle East. The mission statement of the hospital is to ‘deliver care, including preventive, curative, palliative and rehabilitation services, to the armed forces and their families.’ To meet this end an inpatient service, twenty outpatient clinics and a 24-hour Emergency Department are available. The medical services offered include cardiology, paediatrics, infectious diseases, oncology, neurology, nephrology and psychiatry. The surgical services available include cardiac surgery, general surgery, maxillofacial surgery, neurosurgery, ophthalmology, orthopaedics and plastic surgery. The Support Services Department consists of diagnostic imaging, laboratory, pharmacy, physiotherapy and medical records. The annual activity report for 2011 showed that there were 7,699 admissions with 3,063 procedures carried out. The outpatient department registered 101,418 visits with a further 35,742 visits to the emergency room.

The district health authority is the regulative body of the healthcare sector in the region. Part of the role of the health authority is to enforce standards and to encourage the adoption of best practices and performance targets by all healthcare providers within the country.

1.4 Research Motivation

The district health authority has decreed that all healthcare organisations must be accredited (El Shammaa, 2008). The health authority views accreditation as important for two reasons; first, to improve patient safety and second, to act as an indicator of quality. Joint Commission International (JCI) is the accreditation standard followed by the majority of hospitals in the region. The JCI mission is “To continuously improve healthcare for the public, in collaboration with other stakeholders, by evaluating healthcare organisations and inspiring them to excel in providing safe and effective care of the highest quality and value” (Joint Commission Resources, 2007). The JCI manual has a chapter dedicated to the ‘Management of Communication and Information’ and a specific standard that
relates to the completeness of records. Indeed many of the chapters within the JCI manual contain standards relating to documentation of information thereby underlining the importance of information in providing safe and effective care of the highest quality. The chapters relevant to this research project are:

- ‘Access to and Continuity of Care’ (ACC) which contains a standard relating to discharge summaries that are sufficiently detailed to enable adequate follow-up care.
- ‘Assessment of Patients’ (AOP) which contains a number of standards related to the initial assessment of patients. An initial assessment should be completed by physicians, nurses and other clinical disciplines on the first patient encounter. It is critical in identifying a patient’s needs and developing a care plan.
- ‘Management of Communication and Information’ (MCI) which contains standards relating to the completeness, timeliness and legibility of medical records.

(JCI, 2007)

In order to achieve accreditation, a survey is carried out by JCI surveyors. The application for accreditation was made 18-months prior to the actual survey in order to allow time to prepare. Medical record documentation audits carried out in that time had revealed the extent of poor documentation within the organisation. This resulted in a hospital-wide re-education drive. The documentation guidelines were re-issued to all medical staff. Continuing medical education (CME) sessions were held with all clinical and nursing departments, at which attendance was compulsory. Medical record documentation audits were carried out for each department with the results being forwarded to the relevant Head of Department and their attention being drawn to the particular problem areas.

Despite the efforts taken the official accreditation survey report revealed that many of the documentation issues remained. While improvement was noted, a significant number of the documentation-related standards received a result of ‘partially met’ (JCI, 2011). The deficient documentation, in relation to the JCI chapters mentioned above, included the discharge summary, the initial assessment and legibility. The final report revealed that the discharge summaries reviewed showed that 40-percent
of them did not mention significant medications and 36-percent did not give follow-up instructions. With regard to the initial assessment, 44-percent of the initial assessments reviewed were not comprehensively completed. Legibility was also poor with the surveyors reporting that 43% of the records reviewed contained documentation that was impossible to read.

Accreditation is granted for a period of three years only and the survey process will have to be repeated on a regular basis. Although unconfirmed, and unlikely to ever be, it is generally regarded that the JCI accreditation surveyors tend to be somewhat lenient during a first survey. As an organisation is advised to continually strive for improvement, follow-up surveyors will have higher expectations and it is highly unlikely such results will be acceptable in the future. The hospital has now implemented goals of 100% compliance for the discharge summary and the initial assessment, along with a goal of 95% compliance for legibility. Of course, and more importantly, the safety of patients is paramount and that should be the main motivation for improving documentation standards within the organisation. This organisation is not alone in receiving poor documentation standard results from an accreditation survey. Examples can be seen from across the world, for instance accreditation results for French healthcare organisations, revealed in 2003, showed that the quality of medical records was in need of “substantial improvement” (Corriol et al, 2008: 216).

The JCI results show that much work is required in the area of medical record documentation. For physicians, completing paperwork is the secondary side of medicine and ensuring complete medical records can be a regular battle for health information employees.

In order to support this work an understanding of the healthcare provider – the person who actually documents in the medical record – is essential. How do healthcare providers actually perceive documentation within their own workplace? What factors affect the quality of information, as viewed by the healthcare providers? Staff perceptions will have a direct impact on the actual quality of the patient record. This is important as, in the social sciences, the goal of understanding is to examine the different ‘phenomena’ – such as intentions, experiences, attitudes
and culture – that characterise human beings and the environments in which they live and work (Johnson and Onwuegbuzie, 2004). Only by understanding these views can an approach and environment conducive to better medical record documentation be reached. As the medical record contains a large amount of various types of information, for this project the research will cover the documents and issues mentioned above: the discharge summary, the initial assessment - a tool used by all categories of healthcare providers, and legibility. The research will be carried out based on paper records. However the findings will be relevant for both paper and electronic records as a high quality of information is vital no matter what the format. This is supported by the fact that the JCI standards are designed to be compatible with both computerised and non-computerised systems (JCI, 2007).

1.5 Aims and Objectives

The overall aim of this research is to gain an understanding of the factors perceived to affect documentation by examining the end-users’ point of view for the purpose of achieving better documentation in the medical records. To that end, the healthcare providers’ perceptions of good quality information is obtained. Furthermore, a better understanding of the factors that affect the quality of medical record documentation is sought from the healthcare providers. Research is an effective tool in helping to develop an understanding of a group of people and it is anticipated that by engaging with the end-users, concerns will be identified. Moreover it is hoped that the research will identify areas where improvements can be made and/or identify areas that require further research.

Accordingly, the main objectives of the study can be summarised as follows:

1. Carry out a literature review to gain an overall picture of medical record documentation:
   • The significance of medical record documentation
   • Issues encountered with documentation globally
   • Suggested factors that affect documentation
   • Recommendations to improve documentation
2. Design a questionnaire and carry out a survey to assess perceptions of good quality information within the organisation and to gain information on factors that affect the same.

3. Analyse the data received from the questionnaires.

4. Carry out follow-up interviews based on the analysed data.

5. Code the data received from the interviews.

6. Determine the factors that may affect documentation as perceived by the participants and recommendations that may improve documentation.

7. Discuss and reflect on the way forward in ensuring good quality medical record documentation.

1.6 Research Questions

In summary, the key research questions are:

1. What perceptions do healthcare providers have of the quality of documentation within the organisation?

2. What factors affect good quality documentation as determined by the participants?

3. What steps could be taken to improve documentation?

1.7 Outline of the Research Report

This report continues in the research context of literature review, research questions, data collection and data analysis. Chapter two gives a comprehensive summary of the literature relating to this research topic. Chapter three discusses the methodology options, the methodology selected and the data collection and analyses processes. Chapters four and five present the results of the research, with chapter four detailing the results from the first stage of the research (a questionnaire) and chapter five presenting the results from the second stage of the research (interviews). The results of the research are integrated and discussed in chapter six, along with limitations of the research project. The research project is concluded in chapter seven with a review of the objectives and key research questions and an evaluation
on whether these have been met and answered. Recommendations for healthcare providers and for further research are given.

1.8 Conclusion

This chapter has given a review of the background and motivation for the research, specifically the deficiencies in medical record documentation as conveyed by an accreditation process. The main aims and objectives of the project have been identified. The main aim of the research is to work towards improving standards of medical record documentation. To support this aim, the objectives will be to identify, from the end-users’ perspective, the factors that affect documentation and the steps that could lead to improved documentation quality. The layout for this research report is described. The next chapter details the literature search carried out along with an account of the findings.
Chapter Two: Literature Review

2.1 Introduction

This chapter reviews the current literature which is related to the aims and objectives of this research project; namely the factors that affect medical record documentation. It briefly outlines the literature search strategy: covering the inclusion/exclusion criteria, the search terms and process, and the critical appraisal checklist used to identify relevant research articles. Following this each section in this chapter looks at different aspects of medical documentation, with sub-sections covering specific elements. The main aspects that are discussed include the consequences of poor documentation, incidents of poor documentation, reasons for poor documentation and recommendations made by researchers to improve documentation. Finally the chapter summarises the overall findings and identifies an area that requires further research.

2.2 Search Strategy

The purpose of reviewing the literature is to obtain a complete picture of a particular issue. When a piece of research is reviewed on its own, the overall picture is incomplete (Aveyard, 2010). A review of all identified research can give new insights and information. The literature review was carried out from two angles:

1) Documentation quality, documentation errors and factors that affect the same.
2) Perceptions of good quality documentation.

2.2.1 Inclusion and Exclusion Criteria

A number of criteria were developed to streamline the search process and to ensure a manageable number of articles considering the timeframe of the project. Inclusion criteria consisted of English-language only research, published in peer-reviewed journals. As the healthcare organisation involved in this research project has a multi-national workforce, research articles from all parts of the world were included. The timeframe for the publication of the research was 2005 onwards. Latitude was
given for publications from 2000, and earlier, if the article was identified as being relevant. Literature that specified that the research was carried out only on electronic medical records was excluded.

2.2.2 Search Terms


2.2.3 Search Process

All primary searches were carried out electronically. The electronic sources used were the CINAHL and BNI databases, and the Google Scholar and Web of Knowledge search engines. In addition, three journals were also searched electronically: ‘Quality and Safety in Health Care’, ‘The Health Service Journal’ and ‘Health Care Management Science’. Abstracts were reviewed for relevance to this research project, following the inclusion criteria mentioned above. Secondary searches were carried out by following up on citations of relevant articles and by reviewing the references of relevant articles.

2.2.4 Literature Appraisal

It is important to critically appraise research articles in order to identify strengths and weaknesses in the research (Young & Solomon, 2009). A straightforward checklist can be used to evaluate research articles. Using the Critical Appraisal Skills Programme (CASP) appraisal tools (CASP, 2011) as a guide, a checklist was prepared. The screening questions were as follows:

- Is there a clear statement of the aim of the research?
- Is the research method suitable?
- Is there clear data analysis?
2.2.5 Literature Search Results

The literature search revealed a substantial number of relevant articles and research concerning medical record documentation, in particular with regard to deficiencies in documentation. A number of these also discussed reasons for the inadequate documentation, based on the researchers’ viewpoints. Only one article however surveyed the viewpoints of the healthcare providers themselves. The majority of the articles/research also gave suggestions for improving documentation although a number of these were not supported by evidence or facts. A large number of countries were covered by the research. Unfortunately, even though this project is based in the Middle East, only one relevant research article for this region could be located. Also the search result for relevant articles on perceptions of good quality documentation was minimal. Articles relating to perception and documentation were largely connected to the implementation of and/or transition to an electronic medical record.

The resulting articles from the literature search were reviewed and analysed. The similarities and differences in the papers are explained and the main issues with regard to documentation are identified.

2.3 Literature Review

2.3.1 The Medical Record

“"The biggest single factor in delivering high quality, safe healthcare is the timely availability of accurate relevant information about the patient” (RCP, 2008, p.2). As Murphy (2001) states, a new healthcare provider should know, by reviewing the record, what the patient is being treated for, the course of the treatment and the future plan of care. The accurate communication of patient information between healthcare providers is of utmost importance in providing care that is safe and of high quality (Bjorvell et al, 2002). Such information is essential for making
decisions about a patient’s treatment and care (Lewen et al, 2010). The medical
record is used, primarily, for patient care but it also has other uses. As So et al
(2010) point out; the medical record can also be used for quality improvement
programmes and research and also as evidence in legal cases. As reported in
Chapter One, medical record documentation is a priority for the American
accreditation system. It is also a priority for the UK Clinical Negligence Scheme
the four factors recommended by the Institute of Medicine for medical record
information quality as legibility, accuracy, completeness and meaning. Three of
these factors will be taken into account during the literature review discussion,
specifically legibility, accuracy and completeness. As this is not clinical research,
the actual meaning of the information is beyond the scope of the project.

2.3.2 Consequences of Poor Documentation

There are a number of consequences that can arise from poor medical record
documentation, the majority of which will impact the care of the patient. When
summarised, these can be grouped into four areas of significance: patient safety,
continuity of care, medico-legal implications and the quality assurance process.
Documentation may also be seen as an indicator of the quality of care given.

report that communication failures are the leading causes of unintentional patient
harm. Leonard et al (2004) report that communication issues caused 70% of the
sentinel events reported to the Joint Commission for Hospital Accreditation. Of
these events, 75% ended in death. Similarly, Haig et al (2006) report that
communication failure was a contributing factor in 65% of sentinel events at an
Illinois hospital. Likewise, Zegers et al (2011) find that insufficient patient
information was associated with more adverse events.

Patient care and continuity of care can also be affected by poor documentation.
Inadequate information that has a direct bearing on the treatment of patients is a
concern (Cox et al, 2003). Inaccurate and/or incomplete information can lead to
incorrect decision-making which could then affect the clinical outcome of a patient.
Incomplete information could also affect the long-term follow-up of a patient, as an undocumented condition will not be monitored adequately (Kripalani et al, 2007).

The medico-legal implications of poor documentation are of incalculable importance for a defending physician. Chamisa and Zulu (2007) state that incomplete and illegible notes are a common source of weakness in a surgeon’s defence. Physicians will be judged on the quality of their documentation. Of a concern is the fact that 30% of proper care events were not documented despite the fact that proper care had actually been given (Neuss, 2009). The ‘golden rule’ in documentation is ‘if it isn’t written, it didn’t happen’ (Murphy, 2001).

A fourth consequence of poor documentation is the effect on the quality assurance process. Timely and complete records allow quality auditors a clear picture of a patient visit and also facilitate collection of data for research and education purposes (Murphy, 2001). Inadequate information does not give a quality surveyor a true picture of the course of a patient’s treatment (Abernethy et al, 2009).

2.3.2.1 An Indicator of Quality of Care

A number of research articles suggest that the quality of documentation is an indicator of the quality of care. So et al (2010) suggest that the link between quality of care and quality of documentation is conceivable, especially as one of the key functions of the medical record is to provide effective and timely communication between healthcare providers. This implication is further supported by Dunlay et al (2008) who report that their data demonstrates that quality of the medical record does reflect on the care processes that determine outcomes. The Health Informatics Unit of the Royal College of Physicians (RCP) (2012) supports this theory, declaring that patient care can be improved by improving medical records. However Neuss (2009) comments that evaluating the quality of care based on the medical record can be “fraught with hazard” (p 175). This is a view initially reported by Donabedian (1966) who suggests that good, or even excellent, practice quality is not incompatible with lack of sufficient records. Furthermore, Abernethy et al (2009) stress that there must be a differentiation between the quality of care provided and the quality of documentation of that care. This however would have an impact on the legal aspect of documentation as mentioned above.
Whilst all the articles mentioned above discuss one or two consequences of poor documentation, none of the articles go into detail on the overall effects. It is important for a healthcare provider to understand the full impact of poor documentation in order to understand the importance of documenting effectively.

2.3.3 Results of Documentation Reviews in the Literature

2.3.3.1 International Issue
Poor medical record documentation is a problem experienced in healthcare organisations around the world as can be seen by the results of research in a variety of countries. As the organisation involved in this research has a multi-national workforce it was decided to review research from as many different countries as possible. As reported in Chapter One, the medical records in French hospitals required considerable improvement (Corriol et al, 2008). In Ireland, the home country of this student, an ombudsman reported that medical records he had reviewed, in relation to patients’ complaints, were “atrocious” (Birchard, 2001). The literature search revealed documentation research and documentation concerns from the following countries: Australia, Canada, Kingdom of Saudi Arabia, Nepal, The Netherlands, New Zealand, Nigeria, Pakistan, South Africa, Spain, Sweden, Switzerland, the United Kingdom and the United States of America. This is a wide variety of countries, both first and third world, from all continents.

2.3.3.2 Deficiencies in General Documentation
Maintaining good standards of clinical documentation is a problem in many organisations. In a review in Saudi Arabia, general documentation results showed 61.7% of records meeting the benchmark for good quality (Farhan et al, 2005). In The Netherlands, 23% of records were deemed to be inadequate with 15% of them incomplete (Zegers et al, 2011). In a hospital in America, 62% of a randomly selected group of records showed at least one documentation error (Carroll et al, 2003). Carroll et al (2003) also reported a rate of 18.2% for medication omissions, and a rate of 93.7% for records that did not contain a dose for correctly-documented medications.
The types of documentation, and therefore the possibility for errors, in the medical record are vast. As discussed in Chapter One, this review will concentrate on certain aspects of the medical records, specifically the documentation of the discharge summary and the initial assessment along with legibility. The Health Informatics Unit of the RCP (2012) identify admission and discharge as two of the key areas where clinical record keeping is of particular importance.

2.3.3.3 Deficiencies in the Discharge Summary

The discharge summary is a summary of a patient’s hospital admission and it is an essential tool for communicating relevant patient information to ensure continuity of care. Complete and detailed summaries are essential for General Practitioners (GPs) as it is usually their only source of information (Perren et al, 2009). High quality discharge summaries lead to better continuity of care (Stetson et al, 2008 and Mishra et al, 2009). Kripalani et al (2007) claim that GPs estimate that in approximately 24% of cases follow-up management is adversely affected by incomplete or delayed discharge summaries. The expectations are that a discharge summary should be complete, accurate, up-to-date, thorough and relevant (Stetson et al, 2008). Key elements of a discharge summary would include the diagnosis, the hospital course, discharge medications, and follow-up instructions.

Again, research has shown that these requirements are not always met. The Audit Commission in the UK (2010) report that poor sources of documentation include discharge summaries with inadequate information while a survey in a hospital in Switzerland showed that 66% of discharge summaries reviewed revealed inaccuracies. Mann and Williams (2003) report that of 87 discharge summaries reviewed, 17% did not contain a diagnosis and 21% did not have any follow-up instructions. In a hospital in Nepal, Mishra et al, (2009) found that discharge instructions were missing in 96% of summaries reviewed. These were all cases in which discharge instructions would have been important. The review carried out by Kripalani et al (2007) showed that discharge medications were missing from between 2 and 40% of discharge summaries. Perren et al (2009) show similar results with 44% of discharge summaries revealing omissions of discharge medications. Of the medications omitted, 32% were considered to be potentially harmful. The same situation was found with pending test results. If information
Regarding pending test results is omitted from discharge summaries, follow-up of these tests may not occur. This can have an adverse affect on a patient’s care (Walz et al, 2010). Kripalani et al’s review (2007) shows that pending test results were omitted in up to 65% of discharge summaries. Walz et al (2010) found such omissions to be as high as 89%.

Taking these results on poor documentation together, the median result for inadequate discharge summaries is 44%. This is marginally higher than the JCI result for this hospital which showed a mean of 38% for inadequate discharge summaries.

2.3.3.4 Deficiencies in the History and Physical (H&P) Examination
The first step in effective care delivery is an assessment of the patient (Crooks et al, 2004). This is carried out by both medical and nursing staff; with Bjorvell et al (2002) describing the assessment as the first stage of the nursing process. The expectations are that an H&P should contain details of the chief complaint, any medical history, an assessment of functional and risk factors and a comprehensive examination (Wood, 2001) and that it should be completed within the first 24-hours of admission (Murphy, 2001).

Nonetheless, the research has shown that these expectations regularly are not met. Zegers et al (2011) report that 12.4% of H&Ps were inadequate. This number is greatly increased in Pakistan were only 11% of H&Ps were deemed to be good, with 31% being regarded as poor and 9% not documented at all (Mahmood et al, 2007). Many initial assessments were found to be missing what would be regarded as key elements. Dunlay et al (2008) report that key elements of H&Ps were omitted, and these included cardiac history. This is of significance in that the review was of patients with acute coronary syndromes. The cardiac history was missing in 23.6% of the records and the cardiac risk factors missing in 22.9% of the records. Similar findings were reported by Cox et al (2003) who reviewed the records of myocardial infarction patients and noted that 58% of records did not contain history for prior cardiac conditions. Hess et al (2011) report that 91% of records reviewed did not contain a cardiac history, despite the admitting diagnosis warranting it. Chamisa and Zulu (2007) report on the absence of past medical history in 24% of
records, with allergies missing in 41% of records and medication history missing in 53% of records. Pain assessment and management is one of the standards that the JCI surveyors review. It is of high importance in many countries including Sweden where it is one of the legally required assessments (Lewen et al, 2010). Lewen et al (2010) report that 48% of records reviewed did not have pain assessment documented. This percentage was only slightly lower, at 39%, in Switzerland.

Taking these results on poor documentation together, the median result for inadequate History and Physical Assessments is 40%. This is only slightly less than the JCI finding for this hospital with 44% of H&Ps reviewed not being completed adequately.

2.3.3.5 Legibility Deficiencies

Although the move is toward an electronic record, the continued existence of paper records/ partial paper records will ensure the need for handwritten notes and signatures for some time to come (Glisson et al, 2011). Poor handwriting can lead to a delay in treatment, to unnecessary tests being carried out (Sokol, 2006) and can also lead to medical errors (Glisson et al, 2011). Glisson et al (2011) claim that over 61% of support staff have spent more than ten-minutes trying to clarify illegible orders. Any time saved by writing quickly is lost.

Once more, the literature reveals the extent of the legibility problem. Kripalani et al (2007) report legibility as a concern in 10 to 50% of records. Zegers et al (2011) show that 8% of records are illegible while Rodriguez-Vera et al (2002) report that 15% of records reviewed were so illegible that the meaning was unclear. Chamisa and Zulu (2007) find illegible writing in 35% of records. Legible signatures are also important but Mishra et al (2009) report that only 20.7% of discharge summaries reviewed had legible signatures.

Taking these results on poor documentation together, the median result for illegible documentation is 25%. The findings of the JCI survey for this hospital were notably higher at a rate of 43%
2.3.4 Factors that Affect Documentation

Cox et al (2003) suggest that further investigation is required in order to determine the cause of incomplete and/or inadequate documentation: is it a problem of record-keeping, a performance gap, a knowledge gap or a combination of all three? Whilst all the articles reviewed reflect on the causes of poor documentation, only one research team (Mahmood et al, 2011) sought the insight of the documentation end-users: the staff who document in the medical record and who utilise the documentation therein to carry out patient care.

The reasons given in the research can be broken down into four main areas: training, the human factor, the work environment and the medical record.

2.3.4.1 Training

Very often effective communication between healthcare providers is assumed and there is little in the way of training and assessment (Leonard et al, 2004). Stetson et al (2008) agree, pointing out that while writing high quality notes is a training issue, residents actually receive minimal formal training in the art of documentation. Perren et al (2009) report on one survey which revealed that junior doctors received almost no guidance on how to prepare a discharge summary. This is in spite of the fact that the art of documentation is not necessarily a natural attribute.

2.3.4.2 The Human Factor

There are a number of human factors that can affect the performance of staff including stress and fatigue, and human memory limitations. Such human factors mean that even the most competent healthcare provider can make mistakes (Leonard et al, 2004). Another factor that can cause errors is the difference in communication styles between physicians and nurses (Haig et al, 2006 and Leonard et al, 2004). These differences, with nurses generally documenting descriptive and detailed notes and physicians documenting brief and salient points, are brought about by different training methods and can cause frustration amongst healthcare providers. Farhan et al (2005) note that a factor resulting in deficient documentation is the failure of the healthcare provider to follow documentation guidelines. This is also referred to by Perren et al (2009) when discussing the issue of ‘untreated diagnoses’ in discharge
summaries. The decision not to treat a particular diagnosis may have been a sound clinical judgement but the failure to document this implies that the diagnosis may have been ignored.

2.3.4.3 Work Environment
The conditions of the work situation can have an affect on work performance resulting in errors. Foremost of these would be considered to be workload volume. Omission of information can be, as claimed by Rodwell et al (2010), as a result of the busy nature of the work environment. However Chamisa and Zulu (2007) report that workload is not a significant factor in poor medical record documentation, referring to studies that show that nursing staff with similar work pressures have considerably more complete documentation than physicians. Carroll et al (2003) point out that because of the overwhelming amount of information that must be dealt with daily; discrepancies in documentation are to be expected. Each time entries are written into the medical record there is the possibility for error.

The physical work environment can also have an affect on documentation standards. Mahmood et al (2011) report that poor work area design is a factor in documentation errors. Mahmood et al (2011) carried out a survey of healthcare providers, composed of nursing staff, with a number of questions covering the nursing unit environment. Included questions related to layout, availability of space, design and arrangement of furniture and noise levels. All of these were found to be problematic or somewhat problematic. Two in particular, with 56.6% of respondents reporting noise levels to be problematic or somewhat problematic and availability of space receiving a score of 60.2%

Although contradictory, studies have shown that the patient’s condition, diagnosis and length of stay can also have an impact on documentation. So et al (2010) show that the proportion of well-documented records was affected by a patient’s condition; with a diagnosis of diabetes or cancer leading to good documentation, along with patients who had many medical conditions. This questions a previous study of physiotherapy entries (Phillips et al, 2006). This study shows a higher completion rate for surgical cases, surmising that these were more straightforward
than medical or trauma cases. This supports a previous finding by Carroll et al (2003) who suggest that a longer length of stay, for patients with complicated conditions and courses, leads to more potential for documentation errors.

A number of the articles located during the search report that physician speciality and hospital status can impact standards of documentation. So et al (2010) report that physician speciality is a significant factor in documentation quality: their study showed that only 19.1% of general surgery medical records were well documented compared to 44.1% of vascular surgery medical records. Rodriguez-Vera et al (2002) report that, in relation to legibility, medical departments performed better than surgical departments. Both Yusuff and Tayo (2008) and Dunlay et al (2008) suggest that speciality also impacts the depth of documentation in the medical record. Yusuff and Tayo claim that physicians document medication history that is relevant to their own speciality with, for example, cardiologists showing a high quality of documentation with regard to compliance while chest physicians showed a higher quality of information with regard to drug allergies. Dunlay et al (2008) show that in patients with acute coronary syndrome the cardiologists more consistently documented risk factors and cardiac history (78.7% versus 73.2%) whereas non-cardiologists were more likely to document pertinent laboratory values (42.5% versus 29.6%). Dunlay et al (2008) and So et al (2010) also contend that hospital status is a factor in medical record documentation. Both assert that a teaching hospital has more complete and well-documented records. Dunlay et al (2008) show that teaching hospitals are more reliable in documenting laboratory results (69.7% versus 51.7%). So et al (2010) show that teaching hospitals had a proportion of well-documented records of 53.4% whereas non-teaching hospitals showed a proportion of 24.7%.

2.3.4.4 The Medical Record
Carpenter et al (2007) report that the contents of the medical record should have a standardised structure and layout. Law et al (2010) report that the lack of standardisation in medical record keeping causes confusion and duplication of information. In addition Law et al (2010) state that a number of their survey’s respondents reported that the language in nursing documentation was ambiguous.
The management of medical records in general is perceived to be a low priority amongst healthcare providers (Pullen and Loudon, 2006).

2.3.5 Recommendations made in the literature

‘To err is human’. Many errors are committed by well-intentioned people working with systems that are predisposed to mistakes (Suresh, 2003). This sentiment is supported by Mahmood et al (2011), who stress that it is essential to address the underlying systems and faults and not to focus on individuals. The articles located during the literature search identify a number of areas where recommendations can be made to improve documentation standards with a number reporting on the success, or not, of these recommendations.

2.3.5.1 Documentation Standards

Leonard at el (2004) advice that “simple rules are best for managing complex environments” (p.i85). They suggest the SBAR (situation, background, assessment and recommendation) documentation guideline as a suitable way to bridge the communication differences between healthcare providers. It is a structured tool that allows the clear communication of essential patient information. Mann and Williams (2003) support such structured notes, recommending the use of the SOAP (subjective, objective, assessment and plan) format. Both these formats act as a reminder of what needs to be documented in each entry. Another tool to improve documentation is pre-printed proformas (Chamisa and Zulu, 2007). Templates for discharge summaries and admission assessments can improve the quality of the documentation. Such formats, in both paper and electronic records, can again act as a guide for the completion of documentation (Wood, 2001). Ho et al (2005) showed marked improvements in the documentation of admission details with the implementation of an admission proforma. The implementation of an ‘initial health assessment’ form (Crooks et al, 2004) did improve documentation: for example the overall recording of supportive needs rose from 26% to 49%. However even with this form, the recording of social needs and activities of daily living remained low at 10% and 25% respectively. Kripalani at el (2007) report that a standardised format for a discharge summary results in a shorter and clearer account of the hospital visit, thereby providing easier access to the most relevant information for
follow-up. On the other hand, a separate review reported that only 26% of structured summaries contained the full information required by GPs (Mahmood et al, 2007). Guidelines and pre-printed proformas have been shown to have some success although there is criticism that they are a mechanical process and do not encourage independent history taking or reasoning (Walters, 2009).

2.3.5.2 Training
Bjorvell et al (2002) show that with appropriate training and intervention, nursing documentation not only improved but the improvements remained over time. Perren et al (2009) suggest that senior staff editing of discharge summaries could lead to improvement of the quality of the same although there is little in the way of research on this issue. Such peer review would likely improve discharge summary documentation; provided that such peer review was discussed in detail with the junior physicians. Glisson et al (2011) reviewed the results of legibility education for residents. The project involved issuing name stamps to physicians to encourage the printing of the name beside the signature. Legibility of the signature increased from 26% to 60%. The increase amongst the attending physicians was from 1.4% to 86%. The results also showed that the general handwritten documentation within the medical record also improved as a result of this education intervention.

2.3.5.3 Audits and Feedback
Both Chamisa and Zulu (2007) and Lewen et al (2010) recommend regular audits and feedback as a way of improving documentation. As explained by Phillips et al (2006) an audit is a means of evaluating the quality of medical record documentation and identifying areas of concern. Feedback is given on the areas that require improvement and follow-up audits monitor the rate of improvement. As far back as 1997, Opila reported that regular review and feedback improved junior physicians’ medical record documentation. Ho et al (2005) show that repeated audit cycles ensure that the high quality of documentation remains a priority. Repeated audit cycles allowed Ho et al (2005) to identify areas of concern, specifically the recording of physician identification details, which resulted in the implementation of an admission proforma that led to an improvement in the recording of these details.
2.3.5.4 Work Environment
Stress, brought about by a high workload, within the workplace can lead to errors being made. Increasing the number of staff per unit was perceived by healthcare providers to be an important solution (Mahmood et al, 2011). Bjorvell et al (2002) did report that an increase in the percentage of qualified nursing staff led to an increase in the quality of patient care; it is highly likely that the efficiency of documentation would also increase. Mahmood et al (2011) also recommend the configuration of the physical work environment to be considered as it is perceived to have an affect on documentation.

2.3.5.5 Electronic Medical Records
Tsai and Bond (2008) show that electronic medical records are 40% more complete than paper records. Carroll et al (2003) suggest that electronic information systems have the potential to decrease documentation errors but also noted that errors were still made when utilising electronically generated progress notes. Both Abernethy et al (2009) and Zegers et al (2011) support this suggestion, claiming that while the electronic medical record can be a reliable tool which will help to achieve standardisation, completeness, and availability of patient information; it is also dependent on the humans who enter the data and is therefore prone to error. These statements endorse Pullen and Loudon’s (2006) claim that complete, integrated and legible electronic medical records are of great value but the implementation of electronic information is not the lone solution; highlighting the importance of the information attitude of healthcare providers. Mann and Williams (2003) suggest that transferring non-standardised paper records to an electronic format will create more problems stating that “a mess computerised is a computerised mess” (p. 330).

2.3.5.6 Human Factor
There are a number of human factors that can affect work performance and improvement. In order for a successful change the group involved must recognise the need for change and acknowledge that the current situation is not acceptable (Bjorvell et al, 2002). Likewise, the group involved must perceive the changes as being of benefit and not as ‘more work to do’ (Leonard et al, 2004, p.i90). Another human factor that is important in the workplace is that of leadership. It is possible that poor leadership is reflected in poor documentation (Lewen et al, 2010), as it is
important to involve all staff in the process of reaching standards and to take action if standards are not met. Forms and guidelines alone will not improve documentation, but endorsement by the leadership and the ability to motivate staff will have an impact (Crooks et al, 2004). This is supported by Leonard et al (2004) who maintain that there are two requirements for change: visible support from the organisation’s leadership and strong clinical leadership. It is also important for staff to feel that their work environment is conducive to reporting safety concerns (Leonard et al, 2004). Poor documentation does affect patient care and should be brought to the attention of leadership (Pullen and Loudon, 2006).

2.4 Literature Review Summary

The literature review has addressed a number of topics related to medical record documentation. Many of the articles discussed the various consequences of poor documentation. The literature review also revealed the extent of the problem of poor documentation worldwide, with results being located from many different countries. The completion of the discharge summary and the initial assessment and the issues relating to legibility has been covered in these articles. All of these areas have been identified as key components of a good medical record.

Many of the articles also discussed factors that affect documentation, as perceived by the researchers. Only one research project considered the views of the documentation end-users by surveying nursing staff. As the support of healthcare providers is fundamental in improving documentation, their opinion on what is required to ensure improvement is important. Therefore this research project will look at the factors affecting documentation from the end-users point of view.

The majority of the articles also discussed ways to improve documentation, with many of them also discussing the success, or not, of these solutions. A number of the articles report improvement in documentation but also proffer cautionary comments. Only three of the articles actually give data to show the improvement levels.
2.5 Conclusion

This chapter has detailed the process of the literature search and the resultant findings. The research articles located have been reviewed and analysed, and the research results along with similarities and differences have been presented in a narrative format. The areas covered have included the importance of documentation, consequences of poor documentation, factors that affect documentation and recommendations that may improve documentation. The literature has shown that documentation is elemental to the safety and quality of care provided to patients. However the literature has also shown that poor quality documentation is a global concern. A gap has been identified in the literature. Of the articles located only one had surveyed the end-users for their opinions on the reasons for poor documentation. The factors affecting documentation mentioned in the rest of the articles were the opinions of the researchers themselves. Therefore research will be undertaken to obtain healthcare providers’ views on factors that affect documentation. The methodology for this research is detailed in the next chapter.
Chapter Three: Research Perspective and Methodology

3.1 Introduction

In the previous chapter the literature review was discussed and an area of research was identified: the aim of the research being to determine the factors that affect medical record documentation from the users’ point of view. This chapter explains how the research was carried out. The various methodologies are briefly considered and the chosen design discussed. Each section within the chapter describes the steps followed in order to complete the research. The main aspects that are explained will cover the research participants, the data collection tools and processes, and the data analyses. Finally the chapter summarises the overall research process.

3.2 Consideration of Methodologies

Once the aim of a study has been identified, the next step of choosing the appropriate research methods is essential (Bowling, 2010). Bowling (2010) explains that this has two parts: the research design and the research method. The design is the overall approach to the project while the research method refers to the processes of collecting and analysing the data. In determining the design and methods, two factors were taken into account:

- The suitability of the method to achieve the aim of the project.
- The most practical methods in relation to the available timescale and resources.

3.3 Research Design

The literature review had identified a persistent issue with the quality of medical record documentation. The goal was to identify the factors that affect the quality of documentation and thereby construe steps to improve the quality. The issue of poor documentation is a practical problem and therefore applied policy research is a practical approach to this project. Applied research begins with a social problem,
progresses through a research process and makes practical recommendations, possibly action-related, for dealing with the problem (Dukeshire & Thurlow, 2002).

There are essentially three design strategies (Robson, 2011), all of which are relevant to applied research:

- Fixed, also known as quantitative, strategy.
- Flexible, also known as qualitative, strategy.
- Multi-strategy, also known as mixed methods.

For this research, the terms quantitative, qualitative and mixed methods will be utilised.

### 3.3.1 Quantitative versus Qualitative Approach

For many years there were two basic choices to be made when carrying out social research: whether to use the quantitative or the qualitative method (Robson, 2011). Quantitative research is focused on numerical data and is useful to discover the extent of a problem whereas qualitative research focuses on non-numerical data and is useful for obtaining insightful data on the problem (Smith, k et al, 2009). Each method has strengths. The quantitative method allows for quick collection of data, leads to precise numerical data and is suitable for a larger group of participants. The qualitative method provides understanding and can also provide local responses to local situations. (Johnson and Onwuegbuzie, 2004). Quantitative research answers the what, where and who questions while qualitative research answers the more in-depth questions to give a clear picture of the problem (Srivastava and Thomson, 2009). As both these aspects are important in research, a third approach has developed over the past decade which is to draw on the strengths of both methods and utilise a mixed-methods approach.

### 3.3.2 Mixed-Methods Approach

Srivastava and Thomson (2009) suggest that applied policy research is not limited to one particular methodology. In their view the use of a mixed-methods approach
allows the researcher to validate the findings and thereby increase the reliability of the same. The mixed-methods approach combines the precision of quantitative research with the in-depth understanding of qualitative research (Rudestam and Newton, 2007). Johnson and Onwuegbuzie (2004) list the strengths in using a mixed-methods approach which include:

- Words can add meaning to numbers
- One approach can be used to develop and inform the second approach
- Quantitative and qualitative research together can produce more complete knowledge.

This is supported by Risjord et al (2002) who suggest that the mixed methods approach provides a “richness of detail” (p.269) that would not be available by using just one method.

One of the weaknesses of a mixed-methods approach is that it is more time-consuming. Despite this, it was decided that the mixed-methods approach was the most suitable design for this project. This is supported by Richie and Spencer (1994) who suggest that in the field of applied policy research, qualitative research may need to be linked to statistical inquiry.

Richie and Spencer (1994) explain that in applied policy research, qualitative methods can be used for a number of different objectives, which can be summarised into four categories: contextual, diagnostic, evaluative and strategic. For this project, the aim is related to three of these objectives:

- Contextual: to explore people’s perceptions of what exists.
- Diagnostic: to examine the reasons for what exists.
- Strategic: to generate new ideas and plans for action.

3.3.2.1 Mixed-Methods Sequence and Relationship
Once a mixed-methods approach has been determined it is important to specify the sequence of the quantitative and qualitative data collection and analysis. The approach for this research was to use a sequential, rather than concurrent, design.
Stage one consisted of the collection and analysis of the quantitative data and stage two consisted of the collection and analysis of the qualitative data (Robson, 2011). The qualitative data was used to explain and explore the findings from the quantitative stage, giving more depth to the issues raised. These two stages transform into a mixed-methods research with the integration of the findings from both stages (Johnson and Onwuegbuzie, 2004). The relationship between the two methods will be ‘nested’. Onwuegbuzie and Collins (2007) explain this as the fact that the participants in one phase of the study are a subset of the participants in the other phase of the study.

3.4 Research Methods and Process

3.4.1 Ethics Approval

Ethics refers to the rules of conduct (Robson, 2011), a set of principles which should be followed when carrying out research. For this research project, ethics approval was sought from both the University of Sheffield, through the University Research Ethics Committee, and from the Ethics Committee at the student’s place of work. Both submissions for ethics approval included a summary of the research project. The summary detailed the aims and methodology for the research along with particulars on how participants would be identified and approached, and how confidentiality and privacy would be maintained. Copies of the ‘Participant Information Sheet’ and the interview consent form were also attached. Approval was received from both committees, in March and June 2012 respectively [Appendix I and Appendix II]. The research was viewed by the University of Sheffield to be of low risk. The reason for this rating was that the project did not cover sensitive issues and did not involve vulnerable people. The approval from the student’s workplace stipulated that the names of the hospital and respondents were not to be mentioned.

The ‘Participant Information Sheet’ was utilised to ensure all participants were fully informed of the reason for the research and what would be involved. It clearly stated that all participation was voluntary and that participants’ information,
including all details that could identify them, would be kept confidential. [Appendix III]. A covering letter was attached to all questionnaires which advised participants that the student was available to answer any other questions that they may have had. [Appendix IV].

The interview consent form was given to interviewees in advance of the interview being carried out. The consent form briefly explained the purpose of the interview and made clear that an interviewee could withdraw from the interview at any time. The consent form also stated that the interview would be recorded and confirmed that the identity of the interviewee would be kept confidential. A copy of the signed consent form was given to the interviewee for their records. [Appendix V].

### 3.4.2 Research Tools

There are a number of methods available for data collection. In order to find out what people think or believe, questionnaires, attitude scales or interviews can be used (Robson, 2011). For this project all three were used.

#### 3.4.2.1 Research Tool for Stage One (Questionnaire)

Self-completed questionnaires are good for gaining an overview of a subject (Smith, K et al, 2009). Structured questionnaires result in unambiguous and easy-to-count data (Bowling, 2010). For this reason the decision was taken to use a structured questionnaire for the first stage of the research. The questions were drafted based on the findings from the literature review. The review had identified areas that were deemed to affect documentation and the idea of the questionnaire was to establish if these were minor or major factors. The student also wished to gain a view of the healthcare providers’ perceptions of the quality of the medical record documentation within this hospital. This was in order to develop a point of reference, to understand if the end-users’ opinions compared with the reality. Every effort was made to keep the questions and language clear and straight-forward (Bowling, 2010). This was particularly important as English is a second language for the majority of the participants. One of the disadvantages of a questionnaire is that the misunderstanding of questions may not be detected by the researcher. However this is balanced by the fact that a questionnaire is a reasonably efficient and simple
approach to collecting large amounts of data in a short timeframe (Robson, 2011). In order to simplify the process for participants, attitude measurement scales were used (Bowling, 2010). This involved using the Likert scale: one of the most popular scaling methods in social research. A series of attitude statements were given for each question, each differing significantly to cover all aspects of opinion. As advised by Robson (2011), the number of open-ended questions was kept to a minimum. Two were included at the end of the questionnaire to allow participants to add comments that they felt were important (Booth, 2005). The questionnaire was reviewed by the student’s supervisor and a number of suggestions were made. The questionnaire was also pre-tested by six people within the hospital, equally divided amongst doctors and nurses. The pre-test raised a minor concern with regard to the wording of a question. All comments were helpful and were incorporated into the final design. The questionnaire was prepared in a professional format; clearly laid out to encourage a good response rate. [Appendix VI].

3.4.2.2 Research Tool for Stage Two (Interviews)

Qualitative research has a key role to play in providing explanations for social behaviour (Richie and Spencer, 1994). Robson (2011) suggests that face-to-face interviews allow a researcher to adapt a line of enquiry and to follow-up on interesting responses. Using interviews as a research tool can be a time-consuming process, including the preparation time, the interview itself and the transcription of the interview session. However, the benefits of the additional information obtained are invaluable and for this reason the decision was taken to carry out a small number of interviews. A semi-structured interview format was selected. This allows for more flexibility, with the wording and the order of the topics being based on the flow of the interview (Robson, 2011). The interview topics were prepared based on the findings from the questionnaire in order to elicit more information on those findings. The items followed a proposed sequence. The topics were reviewed by the student’s supervisor and were pre-tested on two people. The feedback from both was incorporated into the interview guide. [Appendix VII].
3.4.3 Participants

3.4.3.1 Participants for Stage One (Questionnaire)

If the goal is to obtain insight into experiences, then the participants should be selected purposefully in order to maximise understanding (Onwuegbuzie and Collins, 2007). This is a non-random approach for choosing participants. For this research the aim was to obtain the views of all healthcare providers who utilise the medical record, either by documenting in or obtaining information from it. The healthcare providers who utilise the medical record are the doctors, the nurses and the support services staff which include physiotherapists, dieticians and clinical pharmacists. The actual names for this “population of interest” (Bowling, 2010, p. 196) were obtained from the relevant department heads. For example, a list of the nursing staff was obtained from the Director of Nursing’s office. Due to the manageable size, all doctors, physiotherapists, dieticians and clinical pharmacists were included in the first stage of the research process. However the number of nursing staff was too large to include in total considering the timeframe for the project. In order to reduce this number to a manageable amount, convenience sampling was used (Bowling, 2010). From the list of nursing staff, all Nurse Managers, Charge Nurses and Clinical Resource Nurses (CRNs) were chosen. This was due to the fact that these members of the nursing staff work regular day shifts, as does the student, which allowed for ease of communication if required.

3.4.3.2 Participants for Stage Two (Interview)

The questionnaire invited participants to fill in their name if they were willing to volunteer for an interview. The completed questionnaires showed a good response of individuals who were willing to be interviewed. No completed questionnaires were received from the physiotherapists. For the nested sampling design, Onwuegbuzie and Collins (2007) recommend interviewing three (greater than or equal to) participants from each subgroup. Considering the limited time allowed for the interviews, this was the number taken. The process of selecting the participants for interview was based on the experiential relevance of the participant’s comments in the initial questionnaire (Rudestam and Newton, 2007) and also on availability to attend the interview.
3.4.4 Data Collection

3.4.4.1 Data Collection for Stage One (Questionnaire)
An envelope was prepared for each participant which contained the questionnaire, a covering letter and the ‘participant information sheet’. The covering letters and envelopes were individually addressed. A self-addressed envelope was also included to encourage participants to return the questionnaire. A total of 146 questionnaires were distributed with a 2-week turnaround time. Completed questionnaires that were received were assigned a study number and were logged in an Excel spreadsheet. The study number consisted of the job title and a sequential number (for example Consultant 1). A separate list was maintained of individuals who had indicated a willingness to be interviewed. An additional 1-week was given before analysis began and this resulted in a much improved return rate. This coincided with the return from vacation of a number of hospital staff.

3.4.4.2 Data Collection for Stage Two (Interview)
The interviews took place within the hospital during regular working hours. They were held in a quiet room and at a time that was convenient for the participant. The length of the interview depended primarily on the participant and was dependent on the time they had available and on the amount of clarity they wanted to give. The introduction for the interview was prepared and given verbatim, covering the facts listed in the consent such as the rights of the participant with regard to confidentiality and the ability to end the interview at any time. Permission was asked to record the interview, with the explanation that a permanent full record leads to a more accurate analysis of the interview. The signed consent was obtained before the interview began. Following the interview the recording was transcribed and returned to the participant for member-checking. For an example of a transcribed interview please see Appendix VIII.

3.4.5 Data Analysis

The mixed-methods research approach involves several phases of data analysis. A number of these are defined by Johnson and Onwuegbuzie (2004) as follows:
- Data reduction (such as descriptive statistics, thematic analysis)
- Data display (tables, charts)
- Data comparison (comparing data from the quantitative and qualitative approaches)
- Data integration (the integration of both sets of data into a logical whole)

3.4.5.1 Data Analysis for Stage One (Questionnaire)
There were two categories of information obtained from the questionnaire which required different analysis. The first category was numbers (quantitative) which were taken from the closed questions with the summated rated approach. The second category was words (qualitative) which were taken from the two open-ended questions. The initial step taken was to analyse the completed questionnaires for missing data. All questionnaires had been completed in full.

- Quantitative Data
The preliminary step was to transfer the data into a Microsoft Excel spreadsheet. In order to assess the accuracy of the data entry, each computer data set was compared to the original set. In addition, outliers were also checked for accuracy. Numbers are beneficial for showing patterns and relationships in the data. Descriptive statistics describe the patterns of behaviour (Rudestam and Newton, 2007). Consequently the quantitative questionnaire questions were analysed using a Microsoft Excel spreadsheet, with answers being allocated a numerical value. The data were then entered into an SPSS database. All the data were initially reviewed for the frequency distribution. This involved totalling the number of times each response was given. Tables and charts are used to show the results. Both the frequency (n) and the percentage (%) are shown in the tables. Percentages were rounded to the nearest whole number. The statistical significance of a number of the findings was assessed with a chi-squared test (Rudestam and Newton, 2007). This is a test of association between two categorical variables (Harris and Taylor, 2008) and shows the degree of correlation between two particular variables.
• **Qualitative Data**

The two open-ended questions in the questionnaire were analysed using content analysis. This is an elemental method of analysis which is a primary approach to qualitative data (Saldana, 2009). An amalgam of two methods of coding was used to analyse the data. Descriptive coding was used to assign a word or short phrase to the topics raised in the open-ended questions. This identified new categories raised by respondents. Themes that had already been covered in the closed-questions were removed from the final list of themes as the initiative of the open-ended questions was to get new topics. Structural coding was then used to identify the number of participants who had mentioned a particular theme thus identifying the most common themes and ideas. The responses given and the descriptive code assigned for Question 16 are shown in Appendix IX.

3.4.5.2 **Data Analysis for Stage Two (Interview)**

Framework analysis is a qualitative analysis approach that is suitable for applied policy research. As Srivastava and Thomson (2009) report, framework analysis is a good tool to assess policies and processes with the very people that they affect. Actions taken to improve procedures will have a greater compliance rate if they reflect the needs and wants of the people involved. This type of analysis allows the raw data to be analysed into concepts that explain social behaviour (Furber, 2010). Adhering to the phases of framework analysis, the interview transcripts were read through for familiarisation, and key ideas and recurrent themes were noted.

Codes were then assigned to the data. An ‘affective’ method of coding, namely evaluation coding, was used. Affective coding methods are suitable for investigating subjective qualities of human experience (Saldana, 2009). Evaluation coding focuses on analysing data that judges the merits of policies and processes, by describing them, comparing them and predicting what is required. The evaluation codes reflected the nature and content of the inquiry. The data was given a descriptive code. A recommendation tag (REC) was given for suggested actions.

Once the coding was completed, themes were identified. Themes were identified by repetitions in the data, metaphors, and similarities and differences (Robson,
2011). This was followed by charting of the data. Charting was carried out in a table prepared in Microsoft Word, using an A3 layout. Charting involved relating the data to the themes, reducing it into manageable segments of text (Furber, 2010). Analysis was then carried out, by noting plausible patterns and trends and reviewing the frequency of occurrence of themes. The interpretation was carried out from the perspective of the three categories relevant to applied policy research as mentioned above (Section 3.3.2): to explore perceptions, provide explanations and develop strategies.

### 3.5 Validity and Reliability

All research, whether it is quantitative or qualitative, needs to be trustworthy. Evidence for methodological rigor is vital. Whilst terms such as validity and reliability are associated more with quantitative research and terms such as credibility and transferability are associated more with qualitative research, it is nonetheless essential that the findings are based on critical investigation (Rudestam and Newton, 2007). Johnson and Onwuegbuzie (2004) report that there are a number of recognised strategies to ensure high quality qualitative research and these include member-checking and triangulation. These, along with peer review and external validity, were utilised for this project.

- **Member-checking**
  
  Member-checking was used with regard to the transcribed interviews. Member-checking involves utilising a participant to confirm the accuracy of information they have given (Rudestam and Newton, 2007). In this research, the transcribed interviews were returned to the interviewees for their comments on the accuracy of the text.

- **Triangulation**
  
  Triangulation is used in research to cross-check and corroborate findings by obtaining data from different sources or by different methods (Rudestam and Newton, 2007). Two advantages of triangulation are that it leads to more confidence in the results and it leads to richer data (Johnson et al, 2007). In this project the data was obtained by using two different methods; the
qualitative method was used to further investigate responses given in the quantitative stage. This integration is a blended theory of triangulation which results in the benefits of completeness (Risjord et al, 2002).

- **Peer Review**
  Peers or colleagues can encourage valid research by querying all aspects of the study. The student’s supervisor provided professional support throughout the research by asking searching questions of the student in order to ensure adequate data collection, analysis and interpretation.

- **External Validity**
  External validity is related to the generalisability of a research study; to allow for the transfer of the study and its findings to other similar settings. Every effort was made to ensure that the “thick description” (Rudestam and Newton, 2007, p.113) of the research - the facts of the participants and the setting - was detailed enough to allow for transferability.

### 3.6 Research Limitations

Time constraint has been a major limitation for this research project, in particular with regard to the ethics approval. The nine-month turnaround-time within the hospital from submission to approval severely hampered the time to collect and analyse the data. With regard to the participants’ response rate, the student had to rely on, and appreciated, the goodwill of hospital employees in a busy work environment.

### 3.7 Conclusion

This chapter has described the research methodology for this project. The types of research design were discussed along with the rationale for the chosen design of mixed-methods research; this method being suitable for applied policy research. The decision was made to use a questionnaire to obtain the views of as large a group as possible. More insight to the information gained from the questionnaires was obtained by interviewing a smaller number of participants. The chapter has
identified that the questionnaire data was analysed using descriptive statistics while coding was used to analyse the textual data gained from the interviews. A number of steps were taken to ensure the trustworthiness of the project and these been explained. These included triangulation of the results and peer review. These details, as a set of directions, should allow for the replication of this study in similar settings. The results of the analyses will be discussed in the next two chapters.
Chapter Four: Research Results for Stage One (Questionnaire)

4.1 Introduction

The previous chapter outlined the methodology for this research project. This chapter presents the quantitative and qualitative results derived from the questionnaire. These results were obtained using the statistical techniques outlined in Section 3.4.5.1. The study cohort and response rates are discussed and presented. This is followed by a presentation of the data for each of the four sections on the questionnaire, showing the main findings for each. These sections are relevant to the overall research objectives, namely the perceptions of the quality of documentation and the factors that affect this. The chapter then concludes with a brief summary of the topics for further investigation.

4.2 Response Rates

A total of 146 questionnaires were distributed to the study cohort. Table 4.1 shows the response rate by role type.

Table 4.1 Questionnaire response rates.

<table>
<thead>
<tr>
<th>Role</th>
<th>Distributed N</th>
<th>Responses N</th>
<th>Proportion of Responses %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Staff</td>
<td>76</td>
<td>38</td>
<td>50</td>
</tr>
<tr>
<td>Nursing Staff</td>
<td>35</td>
<td>23</td>
<td>66</td>
</tr>
<tr>
<td>Support Services</td>
<td>35</td>
<td>11</td>
<td>31</td>
</tr>
<tr>
<td>Physiotherapists</td>
<td>19</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Clinical Pharmacists</td>
<td>10</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>Dieticians</td>
<td>6</td>
<td>4</td>
<td>67</td>
</tr>
<tr>
<td>Total</td>
<td>146</td>
<td>72</td>
<td>49</td>
</tr>
</tbody>
</table>

The overall response rate was 49%. At this hospital the physiotherapy, pharmacy and nutrition departments are combined under the Support Services Department. The grouping together of these departments ensures that \( n \) is greater than 5, thus allowing for more reliability in statistical analysis. Though the response rate from the
clinical pharmacists and the dieticians was good (70% and 67% respectively), the lack of response from the physiotherapists meant that the overall response rate for support services was 31%.

All questionnaires were completed in full, with no missing data, and therefore all returned questionnaires were included in the analysis.

4.3 Presentation of Results

Due to the overall low numbers in the research, the totals reported are for the three groups combined. Notable differences between the groups are commented on. When reporting results by groups, in order to ensure an \( n \) equal to or greater than 5, when necessary the results for Nursing Staff and Support Services Staff are combined. The percentages shown in each table are applicable to the group in the particular row.

4.4 Questionnaire Results: Quantitative

4.4.1 Section One: ‘About You’

4.4.1.1 Role (Q1)
Sixty-three percent (\( n=24 \)) of the doctors who responded were consultants, with 24% being specialists and 13% residents. Of the nursing staff responses, 44% (\( n=10 \)) were clinical resource nurses (CRNs) with 39% being charge nurses. Although the nurse managers’ response rate is a small percentage of the overall nursing total (17%, \( n=4 \)), it did equal a 100% response rate for the nurse managers currently in position.

4.4.1.2 Specialty (Q2)
Amongst the physicians, 58% (\( n=22 \)) of the respondents had a medical specialty, with 37% (\( n=14 \)) having a surgical specialty and 5% a specialty of critical care.
4.4.1.3 Gender (Q3)

The breakdown of the respondents by gender showed that 39 (54%) were male and 33 (46%) were female. This relatively even distribution did not replicate the gender breakdown in the individual groups. This showed that the majority of doctors who responded were male (76%, n=29), whereas the majority of the nurses who responded were female (83%, n=19). This does imitate the gender structure of these two groups within this hospital.

4.4.2 Section Two: ‘Perceptions of Documentation’

4.4.2.1 Has the standard of documentation changed since accreditation was awarded? (Q4)

Forty of the respondents (67%) believe that documentation has improved since June 2011. Twenty-percent consider it to have remained the same while 10% (n=6) consider it to have deteriorated.

4.4.2.2 Would the current standard of documentation pass re-accreditation today? (Q5)

Table 4.2 shows the opinions of the healthcare providers on our current standard in relation to re-accreditation. This response is very evenly split with the No’s recording 49% and the Yes’s recording 43%. A $p$ of 0.172 shows that there was no association between the role of the respondent and their view on whether the documentation would pass re-accreditation.

Table 4.2 Views on whether documentation would pass re-accreditation today

<table>
<thead>
<tr>
<th>Role</th>
<th>Opinion</th>
<th>Yes $n$ (%)</th>
<th>No $n$ (%)</th>
<th>No Opinion $n$ (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Staff</td>
<td></td>
<td>18 (47)</td>
<td>19 (50)</td>
<td>1 (3)</td>
<td>38</td>
</tr>
<tr>
<td>Nursing &amp; Support Services Staff</td>
<td></td>
<td>13 (38)</td>
<td>16 (47)</td>
<td>5 (15)</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>31 (43)</strong></td>
<td><strong>35 (49)</strong></td>
<td><strong>6 (8)</strong></td>
<td><strong>72</strong></td>
</tr>
</tbody>
</table>

$x^2 = 3.52; df=2; p=0.172$
What is the view of current medical record documentation? (Q6 & Q7)

The responses to Questions 6 and 7 are reported as a total in the one table (Table 4.3).

Table 4.3 Views on current medical record documentation

<table>
<thead>
<tr>
<th>Documentation</th>
<th>Outstanding n (%)</th>
<th>Sufficient n (%)</th>
<th>Deficient n (%)</th>
<th>No Opinion n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>1 (1)</td>
<td>38 (53)</td>
<td>32 (45)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>H&amp;P</td>
<td>1 (1)</td>
<td>40 (56)</td>
<td>30 (42)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>DS</td>
<td>1 (1)</td>
<td>35 (49)</td>
<td>36 (50)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Total</td>
<td>3 (1)</td>
<td>113 (52)</td>
<td>98 (46)</td>
<td>2 (1)</td>
</tr>
</tbody>
</table>

The discharge summary is deemed to be more deficient than the H&P. Of note is the fact that 63% \( (n=24) \) of the doctors consider the discharge summary to be deficient. However, a \( p \) of 0.0602 does not quite reach a statistically significant level to show an association between the respondent’s role and their view of the standard of discharge summaries (Table 4.4).

Table 4.4 Sufficient/deficient grading for the standard of discharge summaries by subgroups

<table>
<thead>
<tr>
<th>Role</th>
<th>Opinion</th>
<th>Sufficient n</th>
<th>Deficient N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Staff</td>
<td></td>
<td>14</td>
<td>24</td>
</tr>
<tr>
<td>Nursing Staff</td>
<td></td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Support Services</td>
<td></td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

\( x^2 = 5.62; \text{ df}=2; p=0.0602 \)

How are the completeness, timeliness and legibility of documentation rated? (Q8)

Legibility was the one aspect that had a higher rating for ‘poor’ (46%, \( n=33 \)). This is endorsed by a \( p \) of 0.0033 (Table 4.5) which shows an association between the standard and the grade given.
Table 4.5 The ratings for completeness, timeliness and legibility

<table>
<thead>
<tr>
<th>JCI Standard</th>
<th>Excellent n (%)</th>
<th>Very Good n (%)</th>
<th>Acceptable n (%)</th>
<th>Poor n (%)</th>
<th>No Opinion n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completeness</td>
<td>2 (3)</td>
<td>4 (6)</td>
<td>42 (58)</td>
<td>22 (30)</td>
<td>2 (3)</td>
</tr>
<tr>
<td>Timeliness</td>
<td>3 (4)</td>
<td>10 (14)</td>
<td>45 (63)</td>
<td>9 (12)</td>
<td>5 (7)</td>
</tr>
<tr>
<td>Legibility</td>
<td>2 (3)</td>
<td>3 (4)</td>
<td>31 (43)</td>
<td>33 (46)</td>
<td>3 (4)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7 (3)</strong></td>
<td><strong>17 (8)</strong></td>
<td><strong>118 (54)</strong></td>
<td><strong>64 (30)</strong></td>
<td><strong>10 (5)</strong></td>
</tr>
</tbody>
</table>

\[ x^2 = 23.04; \text{df}=8; p=0.0033 \]

4.4.2.5 Will the implementation of an electronic medical record improve documentation? (Q9)

An overwhelming majority (91%, n=65) was of the opinion that an electronic record will improve the standard of documentation. The remaining 9% of respondents did not have an opinion.

4.4.2.6 Is poor documentation indicative of poor quality of care? (Q10)

Fifty-seven percent (n=41) of the respondents did feel that poor quality documentation was suggestive of poor quality of care. Thirty-two percent of respondents did not consider this to be the case while 11% of respondents did not have an opinion. Of note is the fact that while 45% (n=17) of doctors felt that poor quality documentation was indicative of poor quality care, a much higher percentage of nurses (74%, n=17) supported this statement (Table 4.6). A p of 0.0373 shows an association between the respondent’s role and their opinion on this statement.

Table 4.6 Summary of results for opinion on whether documentation is indicative of care

<table>
<thead>
<tr>
<th>Role</th>
<th>Opinion</th>
<th>Yes n (%)</th>
<th>No n (%)</th>
<th>No Opinion n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Staff</td>
<td></td>
<td>17 (45)</td>
<td>1(37)</td>
<td>7 (18)</td>
</tr>
<tr>
<td>Nursing Staff</td>
<td></td>
<td>17 (74)</td>
<td>6 (26)</td>
<td></td>
</tr>
<tr>
<td>Support Services</td>
<td></td>
<td>7 (64)</td>
<td>3 (27)</td>
<td>1 (9)</td>
</tr>
</tbody>
</table>

\[ x^2 = 6.58; \text{df}=2; p=0.0373 \]
4.4.3  Section Three: ‘Training and Evaluation’

4.4.3.1 What training has been received? Was the training sufficient? (Q11 & Q12)

An overall 65% (n=47) of the respondents did not receive documentation training as a student (Table 4.7). This somewhat high percentage is as a result of a large number of doctors who did not receive training as a student (79%, n=30). As shown in Table 4.8 there was an association between the respondent’s role and whether training had been received as a student ($p=0.0337$). With regard to receiving training in their current position (in this hospital), the breakdown between the groups is equal.

4.4.3.2 Is documentation a part of performance evaluation? (Q13)

Sixty-seven percent (n=48) reported that their documentation is taken into account during their performance evaluations, with the highest proportion being for the nursing group (83%, n=19).
Performing a chi-squared test, between the medical staff and the grouping of the nursing and support services staff showed a $p$ of 0.0551 ($\chi^2 = 3.68; df=1$), indicating that there is a minor association between the respondent’s role and whether their documentation is taken into account for their appraisal.

For those whom documentation was not a part of their evaluation, 70% ($n=16$) reported that if such an evaluation was implemented they would change the way they document currently.

### 4.4.4 Section Four: ‘Factors That Affect Documentation’

#### 4.4.4.1 Do documentation errors occur due to human or environment factors, or both? (Q14)

A total of 78% ($n=56$) of respondents felt that both human and environmental factors led to documentation errors. Twenty percent of respondents felt that errors occurred as a result of human factors only.

#### 4.4.4.2 Do these factors affect documentation and to what degree? (Q15)

The respondents were requested to grade the factors as major, moderate or minor. Figure 4.1 presents all the factors that were given as options to the questionnaire respondents and their grading of each of these factors. The top three factors for each of these categories have been listed in Table 4.9. The top major factor, as perceived by the respondents, was high workload. However there was a significant difference between the nurses, of whom 83% ($n=19$) considered this to be a major factor, and the support services staff, of which 45% ($n=5$) considered this to be a major factor. Table 4.10 shows the breakdown between the groups of staff and their grading of ‘high workload’, and also shows an association between the respondent’s role and their grading of the ‘high workload’ factor ($p = 0.0159$).
* The number of ‘no opinions’ was very low and therefore were not included in this figure. This explains why a number of factors in the graph do not reach an $n$ of 72.
Table 4.9 The ‘Top 3’ major, moderate and minor factors that affect documentation

<table>
<thead>
<tr>
<th>Factor</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major</strong></td>
<td></td>
</tr>
<tr>
<td>1. High workload</td>
<td>47 (65)</td>
</tr>
<tr>
<td>2. High staff-turnover</td>
<td>42 (58)</td>
</tr>
<tr>
<td>3. Poor training</td>
<td>40 (56)</td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td></td>
</tr>
<tr>
<td>1. Distractions/ interruptions</td>
<td>44 (61)</td>
</tr>
<tr>
<td>2. Availability of space</td>
<td>36 (50)</td>
</tr>
<tr>
<td>3. High staff-turnover</td>
<td>27 (38)</td>
</tr>
<tr>
<td><strong>Minor</strong></td>
<td></td>
</tr>
<tr>
<td>1. Multi-cultural environment</td>
<td>35 (49)</td>
</tr>
<tr>
<td>2. Noise levels</td>
<td>34 (47)</td>
</tr>
<tr>
<td>3. Lack of privacy</td>
<td>26 (36)</td>
</tr>
</tbody>
</table>

Table 4.10 Summary of grading for ‘high workload’ factor by group

<table>
<thead>
<tr>
<th>Role</th>
<th>Grade ▼ ▲</th>
<th>Major N</th>
<th>Moderate N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Staff</td>
<td>23</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Nursing Staff</td>
<td>19</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Support Services</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

χ² = 8.28; df=2; p=0.0159

Seventy-two percent of respondents felt that the physical environment had a moderate or minor affect on documentation

Poor training was the one factor that all respondents considered to have an affect on documentation, with a total of 89% (n=64) rating it as a major or moderate influence.
There were a number of factors that respondents felt did not affect documentation as shown in Table 4.11.

Table 4.11 Factors that are considered to have no affect on documentation

<table>
<thead>
<tr>
<th>Factor</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Form Design</td>
<td>55 (76)</td>
</tr>
<tr>
<td>2. Specialty</td>
<td>39 (55)</td>
</tr>
<tr>
<td>3. Diagnosis</td>
<td>37 (51)</td>
</tr>
</tbody>
</table>

4.5 Questionnaire Results: Qualitative

4.5.1 Are there other factors that affect medical record documentation? (Q16)

This question was included in the questionnaire to allow respondents to list additional factors that may affect documentation. A number of comments duplicated those that had been listed in the questionnaire, for example high workload and lack of training. All duplicated responses were excluded from the coding process. The number of questionnaires with relevant responses was 48, a 67% response rate. Table 4.12 lists the basic themes that resulted from descriptive coding of the responses. An example of a narrative that resulted in the theme is given for each one. Please see Appendix IX for a full list of the responses. In order to assess the prevalence (n) of these themes, structural coding was used.
4.12 List of topics [factors] generated by descriptive and structural coding

<table>
<thead>
<tr>
<th>Topic</th>
<th>Example of a relevant response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor adherence to policies</td>
<td>People do not follow the standards</td>
</tr>
<tr>
<td>Ineffective administration</td>
<td>There is no effort by leadership to bring about change</td>
</tr>
<tr>
<td>Insufficient understanding</td>
<td>There is a lack of understanding of the legal implications</td>
</tr>
<tr>
<td>Supplies</td>
<td>No availability of forms in the Stores</td>
</tr>
<tr>
<td>Lack of feedback</td>
<td>Have never seen results of a medical record audit</td>
</tr>
<tr>
<td>Poor motivation</td>
<td>Lack of interest due to poor working conditions</td>
</tr>
<tr>
<td>Inadequate supervision</td>
<td>Supervision of junior doctors is not satisfactory</td>
</tr>
</tbody>
</table>

4.5.2  Any other points? (Q17)

Only two respondents had additional comments to make. Table 4.14 summarises the topics and occurrence.

Table 4.13  Respondents’ Comments

<table>
<thead>
<tr>
<th>Topic</th>
<th>Example of a relevant response</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full compliance</td>
<td>There must be whole service compliance – not just by individuals</td>
<td>1</td>
</tr>
<tr>
<td>Regular information</td>
<td>Regular information about documentation should be conveyed to all staff to ensure standards are maintained</td>
<td>1</td>
</tr>
</tbody>
</table>

4.6  Conclusion

This chapter has presented both the quantitative and qualitative results from the questionnaire. The overall response rate was 49%. The perceptions of the standard
of documentation were quite evenly split between those who perceive it to be sufficient and those who perceive it to be deficient. 43% were of the opinion that the standard would meet re-accreditation requirements with 49% of the opinion that it would not. For the quantitative data, findings of note between the groups have been given. For example, 52% of nursing staff received documentation training as a student compared with only 21% of medical staff. The Chi-squared test was used to assess relevant associations between the variables. The perceived factors affecting the standard of documentation were rated and high workload was the top major factor listed. For the qualitative data, the themes, and their occurrence, are summarised. Twelve participants perceived poor adherence to policies as a factor with a further eleven participants of the opinion that ineffective administration was responsible.

From the results of the quantitative and qualitative sections of the questionnaire a number of areas were identified for follow-up in the second stage of the research, that is the interview. The areas identified for more in-depth information were:

- The current perception of the standard of documentation.
- The top factors identified by the respondents.
- The additional factors suggested by the respondents.
- The effect of an electronic medical record.

The next chapter will present the results from the interview stage of this research project.
Chapter Five: Research Results for Stage Two (Interviews)

5.1 Introduction

The previous chapter presented the results from the first stage of the research project, namely the questionnaire. Chapter five presents the results from the second stage of the research: the semi-structured interviews. The textual data gained from the interviews were analysed and correlated to the contextual, diagnostic and strategic objectives outlined in Section 3.3.2. The interview participation is presented and the process of the thematic analysis is explained. This is followed by a presentation of the themes which emerged from the data, with the number of occurrences for each main theme. The recommendations made by the interviewees are then presented. The chapter concludes with a brief summary.

5.2 Interview Participants

The participants for interview had been identified through the questionnaire by requesting respondents to volunteer for a follow-up interview. A third of the respondents volunteered for interviews \((n=24\ (33\%))\). These were evenly distributed amongst the three groups of healthcare providers: medical, nursing and support services staff. As detailed in Section 3.4.3.2, three participants were chosen from each group. As there was sufficient time, and due to the larger response rate of the medical and nursing staff compared to the support services staff, an additional participant was chosen from both the medical and nursing staff volunteers.

Table 5.1 Summary of interviews conducted

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Volunteers</th>
<th>Number of Interviews Conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Staff</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Nursing Staff</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Support Services</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
<td><strong>11</strong></td>
</tr>
</tbody>
</table>
Nine of the interviews were conducted face-to-face while two were conducted over the telephone. The interviews took between 15 and 40 minutes, with a mean time of 25 minutes.

5.3 Thematic Analysis

The thematic analysis was carried out for each interview question, using evaluation coding as detailed in Section 3.4.5.2. An example of the charting process is seen in Appendix X. The themes, and relevant sub-themes, are presented.

5.3.1 43% of questionnaire respondents feel that the current standard is sufficient for re-accreditation. Is this a realistic view? (Q1)

While two interviewees were unsure, just over half felt that this is an unrealistic view, generalising that this is an over-estimation of the current standard within the hospital. An example of the phrases used to explain this includes:

“I think that our documentation is abysmal.” (Interview 1)

“You have to meet the standards and we have the evidence that we are not.” (Interview 7)

In addition, two interviewees felt that that the standard had deteriorated:

“The standard seems to have gone down a bit since accreditation, maybe because the pressure is off.” (Interview 10)

However, three people did feel that this was realistic and that there is sufficient time left in order to ensure that the correct standard is met. Table 5.2 describes the main themes and sub-themes derived from the answers to question 1.
Table 5.2 Themes and sub-themes for Q1

<table>
<thead>
<tr>
<th>Theme</th>
<th>(n)</th>
<th>Sub-themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not realistic</td>
<td>(6)</td>
<td>• Non compliance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Deterioration</td>
</tr>
<tr>
<td>Realistic</td>
<td>(3)</td>
<td>• Sufficient time</td>
</tr>
<tr>
<td>Not sure</td>
<td>(2)</td>
<td>• Uncertainty of accreditation marking process</td>
</tr>
</tbody>
</table>

5.3.2 Why do people perceive documentation to be better than it is? (Q2)

This question resulted in four main themes and Table 5.3 shows these themes and examples of the responses. As can be seen, the themes are evenly distributed. Lack of understanding and staff perception can be seen to be linked as a good understanding would allow staff to recognise the issues.

Table 5.3 Summary of themes and responses for Q2

<table>
<thead>
<tr>
<th>Theme</th>
<th>(n)</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of understanding</td>
<td>(4)</td>
<td>Some staff do not seem to understand why we document.</td>
</tr>
<tr>
<td>Staff perception</td>
<td>(4)</td>
<td>Many staff do not perceive there is a problem.</td>
</tr>
<tr>
<td>Acceptance</td>
<td>(3)</td>
<td>It is viewed as acceptable, with the expectation that others will view it as acceptable as well.</td>
</tr>
<tr>
<td>Previous experience</td>
<td>(3)</td>
<td>Documentation could be better here than it was for people in their previous jobs.</td>
</tr>
</tbody>
</table>

5.3.3 Opinions on the top three major factors to affect documentation? (Q3)

The questionnaire results showed that high workload, poor training and high staff turnover were deemed to be the top three factors affecting documentation. Table 5.4 shows the opinions of the interviewees on these three factors. The interviewees agree that poor training is a factor; however they disagree with the 'major' grading given to high workload and high staff turnover by the questionnaire respondents.
Table 5.4 Summary of themes and sub-themes for Q3

<table>
<thead>
<tr>
<th>Theme (n)</th>
<th>Sub-theme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High workload</strong></td>
<td></td>
</tr>
<tr>
<td>Acceptable factor (1)</td>
<td>• Shortage of experienced staff</td>
</tr>
<tr>
<td>Not an acceptable factor (10)</td>
<td>• Not an excuse</td>
</tr>
<tr>
<td></td>
<td>• Workload not very high</td>
</tr>
<tr>
<td><strong>High staff turnover</strong></td>
<td></td>
</tr>
<tr>
<td>Acceptable factor (5)</td>
<td>• Lack of orientation</td>
</tr>
<tr>
<td></td>
<td>• Long recruitment process</td>
</tr>
<tr>
<td>Not an acceptable factor (7)</td>
<td>• Hospital documentation requirements fairly standard</td>
</tr>
<tr>
<td></td>
<td>• Staff must be responsible</td>
</tr>
<tr>
<td><strong>Poor training</strong></td>
<td></td>
</tr>
<tr>
<td>Acceptable factor (11)</td>
<td>• Limited education sessions</td>
</tr>
<tr>
<td></td>
<td>• Limited training as student</td>
</tr>
</tbody>
</table>

Two interviewees felt that the workload was not very high, or at least no higher than other hospitals in the region. However those who did consider the workload to be high did not feel that high workload was an acceptable factor for poor documentation, as can be seen by the following examples of responses:

“If there are any legal issues, the excuse of high workload wouldn’t be acceptable and we need to face that reality.” (Interview 5)

“High workload is a great excuse for everything; I think it’s the same worldwide.” (Interview 11)

With regard to high staff turnover, the cause for this factor was interpreted differently by the interviewees. The majority of the interviewees perceived this as the disruption that can occur with a regular flow of new staff due to the transitory work environment in the region. Whereas two interviewees understood it to be as a result of staff shortages due to the long timeframe required to fill vacant positions.
The general feeling however was that it did not justify poor documentation, as medical record documentation is similar in all countries.

“Hospital documentation, for the most part, is pretty standard.”
(Interview 1)

5.3.4 Opinions on why staff is non-compliant with policy? (Q4)

This question generated much response and each interviewee mentioned more than one reason which can be seen in Table 5.5 below.

Table 5.5 Summary of themes and sub-themes for Q4

<table>
<thead>
<tr>
<th>Theme (n)</th>
<th>Sub-themes</th>
</tr>
</thead>
</table>
| Lack of awareness (8) | • Professional requirement  
|                  | • Communication tool  
|                  | • Large number of policies  
|                  | • Different cultures, different understanding  |
| No consequences (7) | • No incentive  
|                  | • No comeback  
|                  | • Lack of evaluation  |
| Motivation (5)   | • Poor morale                                         |
| Complacency (4)  | • Follow others’ standards  
|                  | • Human nature                                        |
| Supplies (3)     |                                                     |

In the opinion of the interviewees the main reason for non-compliance was lack of awareness with a number feeling that the large number of policies in the hospital meant that the essential policies did not always get highlighted. One interviewee raised concerns that the different cultures within the hospital meant that staff interpreted policies in different ways. A number of the interviewees also raised concerns about the understanding of documentation with a number believing that staff was unaware of the importance of documentation as a communication tool.
“The cultural differences can lead to different understanding of the terminology.” (Interview 8)

“What is needed is detailed documentation to show their colleagues what they have done.” (Interview 7)

Secondly, the interviewees felt that another reason for non-compliance is that there are no consequences when people do not follow policy.

“Nothing happens to people who don’t follow the standards, so there is no incentive to follow them.” (Interview 2)

This can be linked in with complacency in that because there are no consequences people just carry on doing what they are doing without concern as to whether it is correct or not. Likewise people do what other people are doing, again whether it is correct or not.

“Nobody follows up on poor documentation so people become complacent and do the least that they can.” (Interview 11)

“Staff writes an abbreviation just because a doctor already has done so in the record, even though it is not on the approved list.” (Interview 3)

Interviewees also consider motivation and morale to be a factor.

“I may also add the staff morale as a factor.” (Interview 6)

“Motivation is very poor at the moment. People feel there is no support and no acknowledgement for their efforts.” (Interview 10)
5.3.5 A significant number of questionnaire respondents suggested ineffective administration as a factor. Why do you think this is the case? (Q5)

A majority of the interviewees \((n=9, \, 82\%)\) felt that the administration did not do enough to enforce policies, including the documentation guidelines. This follows on from the previous question which showed that “no consequences’ was thought to be a factor in non-compliance. It was felt that actions need to be taken. The opinion was that staff needs to be held accountable for their own work standards and administration should be strong with those who do not comply. This includes the enforcing of annual appraisals for all staff members. Table 5.6 list the themes that resulted from the data for question 5.

“Administration needs to penalise staff that repeatedly do not comply with the standards.” (Interview 9)

“Rigorous rules are needed to deal with those people who are not fully documenting.” (Interview 6)

“We have annual evaluations, in which documentation is taken into account, but it is not the same on every unit.” (Interview 10)

Table 5.6 Summary of themes and sub-themes for Q5

<table>
<thead>
<tr>
<th>Theme</th>
<th>(n)</th>
<th>Sub-themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enforcement</td>
<td>(9)</td>
<td>• Hold accountable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Take action</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Be strong</td>
</tr>
<tr>
<td>Evaluations</td>
<td>(4)</td>
<td></td>
</tr>
<tr>
<td>Continuity</td>
<td>(2)</td>
<td>• Maintain involvement</td>
</tr>
</tbody>
</table>
5.3.6 What is your opinion on the fact that an electronic medical record would improve documentation? (Q6)

Table 5.7 summaries the main themes and sub-themes that resulted from question 6. All the interviewees considered that an electronic medical record (EMR) would support good documentation; however all had a word of caution to add to their endorsement. Appropriate programming and appropriate implementation were the foundations the interviewees felt were of utmost importance in the introduction of an EMR. A majority of the respondents (n=8) have had experience with health information systems in the past and therefore their comments are of value.

“If it is properly programmed, then yes, I believe it would improve the situation.” (Interview 1)

“The important thing with any health information system is the implementation.” (Interview 11)

Four interviewees did comment on the fact that documentation is documentation, whether in paper or electronic format. The guidelines will remain the same and time will still be required to complete the documentation.

“In my opinion, those who document in a good way on paper will document in a good way in the electronic record.” (Interview 6)

Table 5.7 Summary of themes and sub-themes for Q6

<table>
<thead>
<tr>
<th>Theme (n)</th>
<th>Sub-themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriate programming (7)</td>
<td>• Prompts</td>
</tr>
<tr>
<td></td>
<td>• Mandatory fields</td>
</tr>
<tr>
<td></td>
<td>• Abbreviations</td>
</tr>
<tr>
<td>Appropriate implementation (6)</td>
<td>• Suitable training</td>
</tr>
<tr>
<td>End-user involvement (6)</td>
<td>• From Day 1</td>
</tr>
<tr>
<td>Documentation guidelines unchanged (4)</td>
<td></td>
</tr>
<tr>
<td>Legibility (2)</td>
<td></td>
</tr>
</tbody>
</table>
5.3.7 Any other points to be mentioned? (Q7)

Each interviewee was asked if they wished to add anything that had not been covered in the questions. Two themes were forthcoming, as seen in Table 5.8.

Table 5.8 Summary of additional themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal aspects</td>
<td>(4)</td>
</tr>
<tr>
<td>Hospital culture</td>
<td>(3)</td>
</tr>
</tbody>
</table>

It was felt that it is imperative to get across to healthcare providers the importance of documentation with regard to legal aspects:

“It is not a very litigious environment here at the moment, but it could be fairly soon.” (Interview 1)

Other interviewees felt that the hospital culture was to do the “bare minimum” (Interview 9). Another opinion was that the hospital has a strong verbal, rather than written, culture throughout and that “this culture is reflected in the medical records” (Interview 7).

5.4 Recommendations

A number of recommendations emerged from the interviews with regard to documentation. All the interviewees felt that if the right steps were taken then an improvement would be seen in documentation across the hospital.

“Unfortunately some people may have to be used to set an example, but you know, word does get around, and I think then there will be improvements.” (Interview 1)

“Reprimand and reward – these two things normally work.” (Interview 5)
The recommendations made by the interviewees are summarised in Table 5.9.

Table 5.9 Recommendation themes and sub-themes

<table>
<thead>
<tr>
<th>Theme</th>
<th>(n)</th>
<th>Sub-themes</th>
</tr>
</thead>
</table>
| Enforcement | (7) | • Hold heads of departments responsible  
|           |     | • Give chances – then warnings  
|           |     | • Accountability  
|           |     | • Evaluations  
| Education | (6) | • Education on how and why  
|           |     | • Mentors – new employees  
|           |     | • Department mini sessions  
|           |     | • Information sheets  
| Feedback  | (5) | • Deficient records process  
| Planning  | (3) | • Adequate staffing levels  
|           |     | • Supplies  
|           |     | • Physical work environment  

Education was also considered to be important by the interviewees. This included not only education on how to document, but on the importance of it.

“The main issue is education.” (Interview 8)

Feedback to staff was considered essential and a ‘deficient record process’ was also recommended by people who had experienced it in previous positions.

“Not only does it ensure complete documentation, but the process helps educate people too.” (Interview 5)

“We used to grumble about it, but it did work.” (Interview 4)

5.5 Conclusion

This chapter has outlined the qualitative results from the interviews, which was the second stage of this research. A total of eleven interviews were carried out, with
participants from each of the groups. A number of themes and sub-theme have been identified for each question and the number of occurrences for each theme are given. The interviewees in general were of the opinion that the current standard is poorer than the questionnaire results show. Lack of enforcement and lack of awareness were among the themes taken from the data as reasons for poor documentation. Relevant quotations from the interviews have been used to give greater detail to the themes. Themes for recommendations for improvement are reached and include enforcement and education. These results, along with the results from the questionnaire (Chapter Four), will be discussed in the next chapter.
Chapter Six: Discussion

6.1 Introduction

The previous two chapters have presented the results of the questionnaire and the interviews; the quantitative and qualitative aspects of the research. This chapter integrates these sets of results, discusses the findings and links the results to the literature. The findings are discussed from the points of view of the three groups (medical, nursing and support services) as a whole, unless otherwise stated. Similarities and differences between the sets of results, and between the results and the literature are considered. The merging together of the results allows for completeness of the information gathered, the triangulation of the data, and thus supports the credibility of the research.

The findings are discussed in keeping with three of the categories of applied policy research: context, diagnosis and strategy (Section 3.3.2). The contextual aspect relates to the current state of opinion on documentation while the diagnostic aspect identifies the reasons for any documentation problems and the strategic aspect suggests solutions. The limitations of this research project are then discussed.

6.2 Perceptions of Documentation

6.2.1 Current Situation

The questionnaire showed that 49% of the respondents felt that the current standard of documentation within this hospital would not pass re-accreditation. However 52% of the same respondents felt that the documentation is sufficient. Furthermore in answer to a query on completeness, timeliness and legibility, 63% felt that these standards were being met in either an acceptable or very good manner. The responses here, from the same population, can be seen as marginally contradictory and were therefore incorporated into the interview questions to obtain a more in depth view. Six of the eleven interviewees were of the opinion that the 43% response rate that the current situation would be acceptable for re-accreditation was overly optimistic. When asked if this could be explained, the interviewees felt that
lack of understanding was the main reason, with a number commenting on the fact that many staff do not think there is a problem. This is a view supported by Pullen and Loudon (2006, p.284) who suggest that “few appreciate the need for change.”

The lower response rate for judging the documentation to be at re-accreditation standard is likely to be based on the fact that this is what staff is being told, while their own perceptions are that it is actually acceptable. Stetson et al (2008) point out that quality is determined subjectively and reflects the individual’s needs and expectations. However these individual expectations may not be on a par with the essentials of good documentation.

“Staff do feel that it is at a good level, perhaps this is based on a previous experience where there were no standards.” (Interview 11)

Three of the interviewees were asked for an opinion on whether certain services or groups showed better documentation. None could identify any; a similar finding to that of Farhan et al (2005) who did not find a significant difference in accuracy between departments. One difference between the subgroups was noted with one interviewee stating that the nursing staff was “more open to constructive criticism and education on policies” (Interview 8).

The questionnaire response showed that 63% of doctors considered the discharge summary to be deficient. This is in general agreement with other studies, with Perren et al (2009) concurring that discharge summaries in general are deficient.

The goals that have been set for this hospital are for a 100% compliance with adequate and timely completion of both discharge summaries and initial assessments, and a 95% compliance with legibility standards. The perceptions of the current standards by the end-users show that there is some way to go before the goals are met.
6.2.2 Electronic Documentation

This research was carried out in a hospital that continues to use paper records. The literature shows that an electronic medical record is the way forward (Zegers et al., 2011). Sixty-five of the questionnaire respondents believe that an electronic record will improve documentation, with seven having no opinion. This opinion was put to the interviewees, all of whom agreed with this statement, particularly with regard to legibility and access to test results. However all also had words of caution:

“I agree, ... but I should put a caveat to that.” (Interview 1)

The two main concerns of the interviewees were the programming and the implementation of an electronic medical record. Pullen and Loudon (2006) agree with this sentiment, suggesting that while electronic records are of increased value, it is important that there is a standardised approach to the organisation of the electronic record. This would ensure that the advantages suggested by the interviewees, such as mandatory fields and prompts, would enforce good documentation. Three of the interviewees mentioned the importance of proper training in relation to a health information system. As the literature shows, the data in an electronic record is entered by humans therefore prone to human error (Zegers et al., 2011). Proper training in advance can limit the number of human errors made. One of the interviewees pointed out that an inadequate implementation can create even more problems than already exist, an opinion supported by Mann and Williams (2003).

6.2.3 Quality of Documentation and Quality of Care

Fifty-seven percent of the questionnaire respondents did consider the quality of documentation to be indicative of the quality of care given. Of the seven articles identified which mentioned this, five suggested that the quality of the record did predict the quality of care (for example, So et al, 2010) and Dunlay et al’s research (2008) showed that hospitals with better record-keeping had lower inpatient mortality rates. Although Donabedian (1966) and Neuss (2009) dispute this, Chamisa and Zulu (2007) state that the reality is that missing data can have medical
implications. In addition, the medical record is used as proof of the care given should a legal case arise (Chamisa and Zulu, 2007). One interviewee pointed out that this country is moving towards a more litigious environment and that this should be considered as an incentive for all involved with ensuring good documentation.

6.3 Reasons for Poor Documentation

6.3.1 Training and Education

Less than half of the respondents had received documentation training as a student. This number was significantly lower for medical staff, of which only 21% had received training. This could in part be due to the large number of different nationalities of staff, who had received education and training in many different countries. The view of Leonard et al (2004) supports the result, stating that training and assessment in communication and documentation are essentially absent. Three of the questionnaire respondents also raised the issue of poor support for junior doctors with regard to documentation, a concern echoed by Perren el al (2008). Indeed all eleven interviewees agreed that inadequate training was an acceptable reason for poor documentation and made a number of suggestions for amending the current situation (as discussed below in Section 6.4.2).

6.3.1.1 Evaluations

Of the respondents who claimed that documentation was not part of their evaluation, 70% of them would change their documentation habits if it was included in their annual appraisal. Cox et al (2003) query whether poor documentation is a performance or knowledge gap: appraisals would be able to identify the issues for individuals. One interviewee told of documentation being part of an appraisal system:

“For example, in the UK now, documentation and appraisals are strongly linked.” (Interview 7)
6.3.2 Major Factors Affecting Documentation

The top three major factors, as identified by the questionnaire, were revealed to be high workload, high staff-turnover and poor training. Poor training has been discussed above (Section 6.3.1). Sixty-five percent of respondents indicated high workload as a major factor in documentation errors. This is a view supported by Rodwell et al (2010) who suggest that the high demands on acute wards can lead to under-reporting (under-documenting) of relevant information. Carroll et al (2003) suggest that with the large amounts of data being processed daily some discrepancies are inevitable. However Chamisa and Zulu (2007) question the association between high workload and poor documentation. When put to the interviewees, all bar one felt that high workload was not an acceptable reason for poor documentation, viewing it as an excuse:

“As soon as there is an error, rather than looking at their own practice, people just think ‘oh, I’m so busy’.” (Interview 7)

The one interviewee who did support the high workload theory suspected that it was as a result of a shortage of experienced staff. This idea is endorsed by Bjorvell et al (2002) who report that the quality of nursing increases with an increase in the number of qualified nursing staff, and suggest that this could also impact the standard of documentation. This research showed that the nursing staff felt most strongly that high workload was a major factor.

Staff turnover is a frequent occurrence in the Middle East region, where the staff regularly work one-to-two year contracts. Mahmood et al (2011) report that 62% of the respondents in their research felt high staff turnover was very or somewhat important. The questionnaire results at this hospital show that 96% of respondents believe that it is either a major or moderate factor. The interviewees were queried on this in order to gain a better picture of the issue. Seven of the interviewees felt that this was not an acceptable factor. The main reasons given were that hospital documentation is similar everywhere: even if the format is different, the information to be documented is the same. One interviewee added that staff must take some of the responsibility for themselves and ask questions if they are unsure of anything.
Five of the interviewees felt that the current orientation programme does not cover documentation adequately. Another point raised was the long recruitment process which results in a staffing shortage between a member of staff leaving and a replacement arriving. The interviews do support the findings in the questionnaire, but not to the same degree.

6.3.3 Moderate and Minor Factors Affecting Documentation

With regard to moderate and minor factors, the questionnaire results showed that the physical work environment was considered to be a reason. Availability of space, noise levels and lack of privacy were all mentioned. These findings are similar to those reported by Mahmood et al (2011). Sixty-one percent of the questionnaire respondents regard distractions and interruptions as a moderate factor, a risk documented by Leonard et al (2004). These are a fact of life in the normal workday and should be factored in to the day-to-day planning of a unit.

“Good time management plays an important role.” (Interview 10)

6.3.4 Inconsequential Factors

The questionnaire respondents were of the opinion that form design, specialty and diagnosis did not affect documentation. The finding on form design was consistent with comments in the JCI Report (2011) which commended the forms in use within the hospital. Two interviewees also mentioned the good forms available. The availability of good forms however is negated by the fact that forms are not completed in full, which does not meet with the set guidelines. This problem is also reported by Mahmood et al (2007). This lack of compliance is discussed in detail below (Section 6.3.5.1). The findings on specialty and diagnosis do not meet with the findings of So et al (2010) and Phillips et al (2006). Both these research projects found that diagnosis and specialty did affect the standard of documentation. This discrepancy could be an actual finding whereby the respondents do not think this is the case, or it could be that the question was not understood. Three of the interviewees were asked about this and all three required an explanation before
answering. The interviewees understood how these could affect documentation but were unable to give an opinion on whether it was the case in this hospital.

6.3.5 Additional Factors

The questionnaire requested respondents to list other factors that they considered to affect the standard of documentation (Table 4.12) and the top three of these are discussed below.

6.3.5.1 Poor Adherence to Policies

Twelve respondents listed ‘poor adherence to policies’ as an additional factor; a factor that is supported by Farhan et al (2005, p.48) who found that “failure to abide by the documentation guidelines” led to errors. All the interviewees agreed with this. When asked for their opinion on why this was the case a number of reasons were forthcoming. First and foremost the interviewees deemed the lack of consequences as the main reason why staff did not comply with the policies:

“Because they get away with it!” (Interview 7)

“There’s no accountability so people don’t make the effort they should.” (Interview 3)

One interviewee said that “it is human nature to take short cuts” (Interview 6) and that more rigorous rules were required to deal with non-compliance. The lack of consequences leads to complacency, another reason given by interviewees, suggesting that when staff see other staff not doing something they stop doing it themselves. The interviewees also put forward lack of awareness as a reason for poor compliance, a factor listed by the questionnaire respondents as a factor for poor documentation.

6.3.5.2 Lack of Awareness

This observation was put forward by a number of the questionnaire respondents, with seven volunteering ‘insufficient understanding’ as a factor for poor
documentation, a finding that is supported by the interviewees. These findings corroborate the discussion of Pullen and Loudon (2006, p.282) who advise that the “lack of awareness of the importance of good record-keeping” needs to be addressed.

“I believe that people don’t realise that documentation is there for the next person to see the patient, they see it as ‘busy work’ and not that it is there for posterity.” (Interview 1)

“People need to understand their responsibilities and professional requirements (Interview 8)

Two interviewees also commented on the large number of policies in the hospital and the possibility of misunderstanding these policies as a result of cultural differences. This would lead to unintentional non-compliance leading to errors in documentation.

6.3.5.3 Ineffective Administration
Put forward by questionnaire respondents and agreed to by the interviewees, it was strongly believed that administration (the hospital leadership) could do more to enforce staff to meet with the guidelines. This links in with the ‘no consequences’ aspect referenced above (6.3.5.1).

“Leadership is the driver of compliance of all standards.” (Interview 9)

All the interviewees talked about the role of administration in ensuring that policies are adhered to; that the administration must be firm in taking action and, if required, to holding people accountable. “Word gets around” (Interview 1) and other people will realise that they have to comply. The role of administration in ensuring compliance is one that both Lewen et al (2010) and Crooks et al (2004) have stressed the importance of.
6.4 Strategies to Improve Documentation

A number of suggestions for improving documentation were given by the interviewees during the course of the interviews, all of which had also been mentioned in the literature.

6.4.1 Enforcement

Strong leadership is essential for successful change (Leonard et al, 2004), a fact concurred by the interviewees.

“If the leaders got involved, performance would improve, definitely.”
(Interview 8)

Lewen et al (2010) advise that a hospital administration must take action when guidelines are not met. One interviewee suggests that the administration should hold the relevant heads of departments responsible, while another suggests giving a number of chances followed by warnings and then action. Accountability was the word used by eight of the interviewees:

“When people are held accountable, things do tend to improve.”
(Interview 2)

One interviewee felt the administration should be strong with those who are not documenting well and also should reward those who have good documentation. The issue of evaluations should also be enforced by administration, which would allow for the identification of staff that had issues with the guidelines.

6.4.2 Education

Six of the interviewees stressed the importance of education with regard to documentation. So et al (2010) advocate more formal documentation training in medical school while Chamisa and Zulu (2007) believe that good habits must be encouraged during undergraduate training. Perren et al (2009) report on the lack of
documentation supervision given to junior doctors, an issue which was raised by three of the questionnaire respondents. One interviewee suggested that all new employees be assigned a mentor as a support while another suggested that all new employees have their documentation skills assessed during the probation period. For the employees currently in position, sessions to raise awareness were suggested, not only on how to document but also on why it is important.

“People need to understand why good documentation is essential, particularly with regard to legal aspects.” (Interview 4)

Consideration should be given to the type of education sessions provided, taking into account the different groups of healthcare providers. Medical and nursing staffs respond differently to advice and therefore training sessions may need to be tailored to the specific groups.

Two interviewees recommended regular information sheets for all healthcare providers, to maintain awareness. This was also suggested by a questionnaire respondent. The importance of ongoing education cannot be underestimated: Glisson et al (2011, p.4) report that education intervention can have “profound effects.”

6.4.3 Feedback

Both Lewen et al (2010) and Chamisa and Zulu (2007) suggest regular audits and feedback as a method for improving documentation, which confirms the suitability of this suggestion made by interviewees.

“It is important for departments to see the actual level of their own documentation.” (Interview 11)

Three interviewees recommended a ‘deficient record process’; having experienced such a practice in previous positions. This type of feedback, informing doctors on a regular basis of their deficient records, would help ensure complete records and act as an education process.
6.4.4 Planning

Adequate planning can promote an environment conducive to good documentation. This involves ensuring adequate staffing (Mahmood et al, 2011) and supplies. Five questionnaire respondents mentioned the lack of supplies of approved forms as a contributory factor in poor documentation. The forms have been prepared to meet with the standards and thus act as a reminder of what to document. The non-availability of the forms means that elements of documentation can be forgotten. With regard to the physical work environment, appropriate consideration of the design or layout of a work area can support staff in their duties and can reduce stress (Mahmood et al, 2011). Such supportive steps reduce the pressures placed on staff and encourage compliance with standards.

6.5 Limitations of the Research

6.5.1 Research Population

The research population was limited to the healthcare providers in one hospital; therefore the results of this research are specific to their particular circumstances. Nevertheless, as can be seen by the discussion above, the findings are comparative to similar studies carried out in other healthcare organisations. In addition, every effort has been made to ensure that the methodology is detailed enough to allow reproducibility in similar settings.

6.5.2 Questionnaire

In this research a study number was assigned to a questionnaire when it was returned. In retrospect it would have been more beneficial to assign the study number in advance; linking it to the participant it was sent to. As participants only had to fill in their name if they were volunteering for interview, many completed questionnaires were returned with the name section blank. There were two repercussions to this. One, it was not possible to follow-up on non-returned questionnaires. Secondly, it was not always possible to follow up on any unusual responses or statements.
In the questionnaire, attitude measurement scales were utilised to gain participants’ opinions. In hindsight, it would have been more useful to use numerical measurement scales (for example 0%-25%, 26%-50% et cetera) as this would have allowed for a more accurate comparison between the participants’ opinion and that of the surveyors. It would also have given a more accurate indication of the current perception compared to the hospital goals, also given in percentages.

6.5.2.1 Outliers

The atypical results, the one participant who judged the documentation to be outstanding and the three participants who judged the completeness, timeliness and legibility to be excellent, could not be followed up as these participants had not filled in their names on the questionnaire. As these responses only affected three questions out of seventeen, and were a very small number (1% and 4% respectively) of the research population, the decision was taken to discard them from the tests for statistical significance. Although removed from the results, these numbers were put to the interviewees for their comments.

6.5.3 Response Rate

The response rate for the questionnaire was 49%. This is below the 60% response rate which is considered to be the minimum acceptable (Robson, 2011). This poor response rate has resulted in less precision of the results (Bowling, 2009). It is possible that the people who did not respond could have had very different opinions to those who did complete the questionnaire.

6.5.4 Self-reported Data

Self-reported data, in this research in both the questionnaire and the interviews, has to be taken at face value as it cannot be independently verified. Consequently, the results from both the questionnaire and the interviews were triangulated to ensure completeness and to increase the diligence of the research (Robson, 2011).
6.5.5 Bias

6.5.5.1 Response Bias
In order to limit response bias the language for the questionnaire and the interviews was kept neutral and factual.

As the interviews were carried out on a voluntary basis only, this could also have resulted in bias. Bosnjak and Batinic (2000) present the findings of Porst and von Briel who detailed aspects which determine the willingness of participants to take part in surveys such as personal interviews. These include altruistic reasons, whereby a participant takes part out of a sense of moral obligation. Another reason, survey-related, would mean that a participant took part because of recognising the seriousness of the issue. This would have resulted in obtaining the views of those who could see that a problem exists, rather than obtaining further detailed views of those who do not perceive a problem.

6.5.5.2 Researcher Bias
The student, in the role of Health Information Manager, has a close working relationship with the setting of this project and with the respondents (Bowling, 2009). The knowledge and opinions related to this role had the potential to influence the findings. To counteract this, the validity and reliability steps detailed in Section 3.5 were adhered to.

6.6 Conclusion

This chapter has examined the findings from the two stages of the research in association with each other, and discussed these findings with the perspective of the literature search. First of all, the discussion looks at the perceptions of the current situation in the hospital. This has shown that approximately half of the medical record end-users do not perceive a problem with documentation. Secondly, the discussion focuses on the reasons for poor documentation. The discrepancies in the findings, for example the questionnaire emphasizing high workload as a major factor but the interviewees disagreeing with this sentiment, have been discussed. The overall major factor, taking into account both stages of the research, is poor training.
and education. Finally, recommendations have been made, combining the findings from both the questionnaire and the interviews. These show that enforcement, education and planning are considered to be important in the way forward.

The limitations of the study have been identified and include the research population, the response rate and any bias that may have affected the results and their interpretation. The next chapter summarises the research, discusses the key messages gained from the findings and identifies areas for further research.
Chapter Seven: Conclusion and Recommendations

7.1 Introduction

The previous chapter discussed the findings of the research. This final chapter concludes the research by reflecting on the findings and relating them to the original research questions; determining whether answers have been reached. Key messages for all staff concerned with medical record keeping are presented. Areas for further research are identified.

7.2 The Findings and the Research Questions

This research began with the assertion that “complete medical records are the cornerstones of quality health care” (Murphy, 2001: 258) which was set against a background of perpetually incomplete records. In order to improve the quality of documentation it is essential to get the healthcare providers who document in the medical record on board; understanding their views and requirements.

7.2.1 Research Question One: Perceptions of the quality of documentation?

While only a limited number of staff considered the documentation standard to be outstanding, just over half of those surveyed were of the opinion that the standard is sufficient. The interviewees did recognise current deficiencies in documentation and were of the opinion that this was partly due to a lack of understanding of the requirements. This has identified an area that this hospital in particular should concentrate on. Since staff perceptions are not in line with the documentation goals, improvement will only occur once the deficiencies and the subsequent consequences are recognised.

7.2.2 Research Question Two: Factors that affect documentation?

The literature had suggested factors that were considered to affect the quality of documentation, from the point of view of the researcher. Many of the articles identified during the literature search considered just one or two factors each. Only
one of the located articles had surveyed the end-users. This research surveyed the healthcare providers who document in the medical record for their opinions on the relevant factors. The findings confirmed the findings revealed in the literature, bringing together all the factors into one document and identifying the most significant factors. While the questionnaire results showed high workload to be the most significant factor, followed by high staff-turnover and poor training, the interview results suggested training as the top factor. To some extent the factor of high workload could be seen to be linked to poor training. With the right training and awareness there is the possibility that people will recognise that high workload cannot be seen as an excuse for poor documentation. Proper training would also ensure concise documentation which would expedite the documentation process.

7.2.3 Research Question Three: Steps recommended to improve documentation?

Viewing all the factors provides options for developing the awareness of the healthcare providers and for enhancing the current work environment: recommendations that were presented in Section 6.4. Both the questionnaire and the interview results showed a belief that the support of administration was essential in improving the standard of documentation. This would be in the form of both providing adequate resources and enforcing compliance. All respondents also considered that education and training has a vital role to play in ensuring good quality documentation.

7.2.4 Achieving the objectives

As shown in the above three sections, the three key research questions have been asked, considered and answered. These conclusions were achieved by following the objectives outlined in Section 1.5 and give a clear picture of the views of the healthcare providers.
7.3    Key Messages

The research has revealed some key messages for various different groups of healthcare-related personnel which could, if followed comprehensively, allow for the improvement of medical documentation.

7.3.1    For administration

Enforcement is required to ensure compliance with policy. The hospital leadership, in the form of administration, is in the position to provide motivation to counteract complacency; to recognise and reward exceptional documentation; and to provide adequate resources to ensure standards are met. Administration should also be strong and hold non-compliant personnel accountable. This could have an affect on the compliance of other healthcare providers.

Strong consideration must also be given to ensuring appropriate education and training resources for all relevant staff. These should be on-going to maintain awareness.

Administration should also ensure that regular audits are carried out. It is also of importance to ensure the results are available and that feedback is given. Viewing regular audit results will give healthcare providers a better perspective on the current situation while the feedback is of an educational benefit to individuals.

7.3.2    For healthcare providers

All healthcare providers who document in the medical record should recognise the importance of documentation and should recognise the need for change when standards are not met. Each individual is responsible for knowing and following relevant policies and should encourage colleagues to do the same. While documentation may be seen as a secondary task it is nevertheless an essential communication tool in supporting patient care.
7.3.3 *For information technology (IT) departments*

The implementation of an electronic medical record requires detailed planning, training and involvement of the end-user. As the people who will be utilising the electronic record, the healthcare providers’ input at all stages of the process is necessary to ensure that the electronic record supports good documentation. Sufficient training and continuous support will smooth the path of the introduction of an electronic medical record.

7.3.4 *For medical/nursing schools*

Instruction in documentation should be a specific portion of a training programme from the very start of healthcare providers’ education, allowing students to develop good skills and habits. This should continue on through internships with senior doctors being responsible for supervising the documentation of medical graduates.

7.4 *Future Research*

This research has confirmed and strengthened the findings of previous research projects, by assessing factors as seen by the users and by rating the relevance of each for this particular hospital. A longer term research project would involve the implementation of one, or a number of, the recommendations with a re-evaluation of the documentation standard after a certain timeframe. As reported in the literature search (Section 2.4), only a limited number of the identified research articles presented data to show improvement levels. Whether a paper or electronic record is used, documentation standards still apply and it is therefore pertinent to identify what steps actually do improve standards.

Another area of research, which would be clinical, would be to follow up on previous research that links the quality of documentation with the quality of care. If a link is shown, the quality of documentation could be utilised as an indicator for the quality of care; information that would be beneficial to hospital administrations and insurance companies alike (So et al, 2010).
7.5 Conclusion

This research has reviewed the standard of medical record documentation and factors that affect the quality of information in this key informatics tool. This chapter has summarised the findings of the research in relation to the research questions, showing that the main aim and objectives of the research have been achieved. The perceptions of the staff in this hospital are now known, perceptions that are not in line with the current goals. Affecting factors have been identified and appraised by the end-users and solutions have been suggested. These suggestions have been reviewed in relation to the overall aim of this research study, which is to improve documentation. Enforcement, education and planning have been identified as being central to a good standard of documentation. Relevant messages regarding these three specific areas have been given to the different groups who can impact the quality of documentation. Recommendations for further research have been made and include the testing of one, or a number, of these solutions over a specific timeframe to evaluate their impact. To conclude, it is to be hoped that this particular research will encourage all the relevant groups to work together to implement change and to ensure that everyone who documents in the medical record ‘dots their i’s and crosses their t’s’.

[Total word count: 21,532 (including tables)]


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University Research Ethics Application Form
for Undergraduate & Postgraduate-Taught Students

I confirm that I have read the current version of the University of Sheffield ‘Ethics Policy Governing Research Involving Human Participants, Personal Data and Human Tissue’, as shown on the University’s research ethics website at: http://www.shef.ac.uk/ris/other/gov-ethics/researchethics/index.html

A1. Title of research project:

“The patient record is a valuable information source in providing patient care”. Investigate staff perceptions of the importance of good quality information and factors that are perceived to affect the quality of data”

A2. Name of Student: Pamela Gyles. Registration Number 090110346
Department: Information Studies Email: g_pamela@hotmail.co.uk
Tel.: +971 50 4492670

Name of Supervisor: Peter Bath, Reader in Health Informatics, Programme Coordinator

A3. Proposed Project Duration:
Start date: September 2011 End date: September 2012

A4. Mark ‘X’ in one or more of the following boxes if your research:

☑ involves adults with mental incapacity or mental illness
☑ involves prisoners or others in custodial care (e.g. young offenders)
☑ involves children or young people aged under 18 years
☑ involves using samples of human biological material collected before for another purpose
☑ involves taking new samples of human biological material (e.g. blood, tissue) *
☑ involves testing a medicinal product *
☑ involves taking new samples of human biological material (e.g. blood, tissue) *
☑ involves additional radiation above that required for clinical care *
☑ involves investigating a medical device *

* If you have marked boxes marked * then you also need to obtain confirmation that appropriate University insurance is in place. To do this email insurance@shef.ac.uk and request a copy of the ‘Clinical Trial Insurance Application Form’.
A5. Briefly summarise:

i. The project's aims and objectives:
   (this must be in language comprehensible to a lay person)

   **Key Research Questions:**
   1. What perceptions do healthcare providers have of good quality documentation?
   2. What factors affect good quality documentation.

   **Aim**
   To gain a better understanding of the factors that affect the quality of medical record documentation and to identify areas where improvements can be made and/or areas that require further research.

   **Objectives**
   1. Carry out a literature review to identify key areas of medical record documentation.
   2. Design a questionnaire and carry out a survey to assess perceptions of good quality information and to gain information on factors that affect the same.
   3. Analyse the data received from the questionnaire.
   4. Carry out follow-up interviews based on the analysed data.
   5. Code the data received from the interviews.
   6. Determine the factors that affect quality documentation
   7. Discuss and reflect on the way forward in ensuring good quality medical record documentation.

ii. The project's methodology:
   (this must be in language comprehensible to a lay person)

   A mixed research method, both quantitative and qualitative, will be used. Both these methodologies describe data, form explanatory arguments and discuss and speculate on findings. The qualitative methodology is particularly relevant as it was developed to allow for the study of social and cultural phenomena in the social sciences. The strength of mixed research is that it can achieve a more complete picture on which to build a theory.

   **Quantitative:** This will involve inviting hospital employees to complete a questionnaire which will include both closed and open questions. The questions will cover aspects of good documentation and factors that are deemed to affect the quality of documentation. The questionnaire will invite people to volunteer to partake in follow-up interviews.

   **Qualitative:** This will involve interviewing volunteers who have already completed the questionnaire and who have indicated their willingness to be interviewed. The interview questions will be developed based on the findings from the questionnaire and will begin with a specific question and will follow a general 'plan of enquiry'.

A6. What is the potential for physical and/or psychological harm / distress to participants?

None can be foreseen.
A7. Does your research raise any issues of personal safety for you or other researchers involved in the project? (especially if taking place outside working hours or off University premises)

No.

Interviews will take place on the hospital premises, either in the interviewee’s office or in a hospital meeting room which will be booked in advance by the student.

If yes, explain how these issues will be managed.

Not applicable

A8. How will the potential participants in the project be:

i. Identified?

All healthcare providers who document in the medical record will be considered.

Medical Staff:
- A list of all medical staff, including position and specialty, is openly available through the Medical Director’s office.
- All medical staff will be invited to complete the questionnaire.

Nursing Staff:
- A list of all nursing staff, including position and location, is available through the Nursing Director’s office.
- All unit charge nurses and clinical resource nurses (CRNs) will be invited to complete the questionnaire.
- A general invite will be sent to junior nursing staff.

Clinical Support Staff:
- A list of dieticians, physiotherapists, and speech therapists is available from the Administration office.
- All will be invited to complete the questionnaire.

ii. Approached?

Questionnaires, with an explanatory covering letter and information sheet will be sent to each hospital employee as listed above.

iii. Recruited?

Volunteers for interviews:
A tick box will be on the questionnaire for those who will make themselves available for follow-up interviews. Those who volunteer for interview will be requested to add contact details in order to arrange the same.
The information sheet, included with the questionnaire, will cover both the questionnaire and the interview process.

A9. Will informed consent be obtained from the participants?

[ ] YES  [ ] NO

If informed consent or consent is NOT to be obtained please explain why. Further guidance is at: [http://www.shef.ac.uk/ris/other/gov-ethics/researchethics/policy-notes/consent](http://www.shef.ac.uk/ris/other/gov-ethics/researchethics/policy-notes/consent)

A9.1. This question is only applicable if you are planning to obtain informed consent: How do you plan to obtain informed consent? (i.e. the proposed process?):

**Questionnaire:** A statement will be on the questionnaire to affirm that by completing the questionnaire, the participant agrees to the information being utilised in the research project.

**Interviews:** A separate consent form will be provided for the interviewee to sign before the interview takes place.

A10. What measures will be put in place to ensure confidentiality of personal data, where appropriate?

No personal data will be used within the report.

With regard to personal data obtained from the questionnaire and/or interviews, the researcher is bound by the facility confidentiality policy and self-signed facility confidentiality statement.

A11. Will financial / in kind payments (other than reasonable expenses and compensation for time) be offered to participants? (Indicate how much and on what basis this has been decided)

No.
A12. Will the research involve the production of recorded media such as audio and/or video recordings?

YES □  NO □

A12.1. This question is only applicable if you are planning to produce recorded media: How will you ensure that there is a clear agreement with participants as to how these recorded media may be stored, used and (if appropriate) destroyed?

The interviews will be audio-recorded. The recordings will be stored on the actual recording device and will also be transcribed verbatim by the student. The interview transcripts will be utilised by the researcher to gain information for the report. The recordings themselves will not be submitted as part of the report. The recordings and transcripts will be stored securely until the final examination of the report is completed after which the recordings and transcripts will be destroyed.

A clause explaining the above will be included in the consent form.

Guidance on a range of ethical issues, including safety and well-being, consent and anonymity, confidentiality and data protection’ are available at: http://www.shef.ac.uk/ris/other/gov-ethics/researchethics/policy-notes
For Undergraduate & Postgraduate-Taught Students

Student Declaration
(The student completes Annex 1 if the Supervisor has classed the student’s proposed research project as ‘low risk’)

The Supervisor needs to receive an electronic copy of the form, and other documents where appropriate, plus a signed, dated paper copy of this Annex 1 ‘the Student Declaration’.

Full Research Project Title: “The patient record is a valuable information source in providing patient care”. Investigate staff perceptions of the importance of good quality information and factors that are perceived to affect the quality of data”

In signing this Student Declaration I am confirming that:

- The research ethics application form for the above-named project is accurate to the best of my knowledge and belief.
- The above-named project will abide by the University’s ‘Good Research Practice Standards’: http://www.shef.ac.uk/ris/other/gov-ethics/goodresearchpractice.html
- The above-named project will abide by the University’s ‘Ethics Policy Governing Research Involving Human Participants, Personal Data and Human Tissue’: http://www.shef.ac.uk/ris/other/gov-ethics/researchethics/index.html
- Subject to the above-named project being ethically approved I undertake to adhere to any ethics conditions that may be set.
- I will inform my Supervisor of significant changes to the above-named project that have ethical consequences.
- I will inform my Supervisor if prospective participants make a complaint about the above-named project.
- I understand that personal data about me as a researcher on the research ethics application form will be held by those involved in the ethics review process (e.g. my Supervisor and the Ethics Administrator) and that this will be managed according to Data Protection Act principles.
- I understand that this project cannot be submitted for ethics approval in more than one department, and that if I wish to appeal against the decision made, this must be done through the original department.

Name of Supervisor: Peter Bath

Name of student: Pamela Gyles

Signature of student: [signature]

Date: 21 November 2011
For Undergraduate & Postgraduate-Taught Students

**Supervisor Declaration**

(The Supervisor completes Annex 2 if s/he has classed the student’s proposed research project as potentially ‘high risk’)

The Ethics Administrator needs to receive an electronic copy of the form, and other documents where appropriate, plus a signed, dated paper copy of this Annex 2 ‘the Supervisor Declaration’.

Full Research Project Title: “The patient record is a valuable information source in providing patient care”. Investigate staff perceptions of the importance of good quality information and factors that are perceived to affect the quality of data”

In signing this Supervisor Declaration I am confirming that:

- The research ethics application form for the above-named project is accurate to the best of my knowledge and belief.
- The above-named project will abide by the University’s ‘Good Research Practice Standards’: [http://www.shef.ac.uk/ris/other/gov-ethics/goodresearchpractice.html](http://www.shef.ac.uk/ris/other/gov-ethics/goodresearchpractice.html)
- The above-named project will abide by the University’s ‘Ethics Policy for Research Involving Human Participants, Data and Tissue’: [http://www.shef.ac.uk/ris/other/gov-ethics/researchethics/index.html](http://www.shef.ac.uk/ris/other/gov-ethics/researchethics/index.html)
- Subject to the above-named project being ethically approved I will undertake to ensure that the student adheres to any ethics conditions that may be set.
- The student or the Supervisor will undertake to inform the Ethics Administrator of significant changes to the above-named project that have ethical consequences.
- The student or the Supervisor will undertake to inform the Ethics Administrator if prospective participants make a complaint about the above-named project.
- I understand that personal data about the student and/or myself on the research ethics application form will be held by those involved in the ethics review process (e.g. the Ethics Administrator and/or reviewers) and that this will be managed according to Data Protection Act principles.
- I understand that this project cannot be submitted for ethics approval in more than one department, and that if I and/or the student wish to appeal against the decision made, this must be done through the original department.

Name of Supervisor: Peter Bath

Name of student: Pamela Gyles

**Signature of Supervisor:**

Date:
APPENDIX II: Ethics Approval from Place of Work

MEDICAL SERVICES CORP

NOTIFICATION OF APPROVAL / REJECTION OF A PROPOSED RESEARCH STUDY

Date: 28/05/2012

From: Dr Asma Ali Al Nuaimi Head of Pediatric Department, Chair of the Ethics committee

To: Dr. Pamela Cayts

On behalf of the Ethical Committee, we would like to thank you for submitting your proposal for the study titled: Explore the factors that are perceived to affect the quality of documentation in patient records.

☐ statement/restrictions highlighted by the Ethics Committee:

Confidentiality of name of the Institute Physician:

We wish to inform you that the ethical committee has:

☐ approved your proposal
☐ rejected your proposal

Sincerely,

Dr. Asma Ali Al Nuaimi
Ethical Committee Chair

Lt. Col. Dr. Ahmed Al Saadi
Medical Director

On receiving this notification please sign below and return the original copy to the Ethics Committee and keep a copy for your records.

Dr. Pamela Cayts (primary researcher) hereby accept and agree to the decision and I confirm that I will abide with all specific instructions as requested by the Ethics Committee.

Signed: Pamela Cayts Date: 18-6-2012

Version 2.0 Dated 18 March 2012
APPENDIX III: Participant Information Sheet

PARTICIPANT INFORMATION SHEET

For a project that is being carried out as the final year requirement for the degree of Master of Science in Health Informatics through the University of Sheffield, UK

1. Research Project Title
“The patient record is a valuable information source in providing patient care”. Investigating staff perceptions of the quality of documentation in the workplace and factors that are perceived to affect the quality of documentation within the medical record

2. Invitation
You are being invited to take part in a research project. Before you decide whether to take part it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully. Please do not hesitate to ask me if there is something that is not clear or if you would like more information.

3. What is the project’s purpose?
The background to the project is the concerns raised by both documentation audits and the JCI surveyors with regard to the quality of documentation within the medical record. The literature shows that this is a world-wide problem and I am investigating this as part of my Masters dissertation.

The aim of my project is to gain a better understanding of the factors that affect the quality of medical record documentation and to identify areas where improvements can be made and/or areas that require further research.

4. Why have I been chosen?
All hospital staff that utilise the medical record are being invited to complete the questionnaire.

5. Do I have to take part?
Participation is entirely voluntary. If you do decide to take part you can withdraw at any time throughout the project without giving any reason.

6. What do I have to do?
Taking part will involve completing the attached questionnaire. This will be the full extent of participation for the majority of participants.

The questionnaire will also ask if you are willing to be available for follow-up interviews. The interviews will be based on the information gained from the questionnaires as a whole, to gain a better understanding of the issues. For those who volunteer, there will be one interview, of approximately 20 – 30 minutes. The questions will allow for open answers with regard to all aspects of documenting in the medical record.

7. What are the possible disadvantages and risks of taking part?
Apart from the time taken, there are no disadvantages or risks in taking part in this research.

8. What are the possible benefits of taking part?
Whilst there will be no immediate benefits for those participating in the project, it is hoped that the findings will lead to an approach and environment conducive to better medical record documentation.
9. **What if something goes wrong?**

Should you have any concerns with regard to the project, please discuss with me and/or my in-house supervisor (Dr. Sherine ElDin, Quality Specialist, Quality Department, ______ Hospital).

Should you not be satisfied with the response, you can contact my supervisor, Dr. Peter Bath, at the University of Sheffield, directly.

- Dr. Peter Bath: E-mail – p.a.bath@sheffield.ac.uk. Telephone - +44 114 2222636
- Or alternatively, you can contact the University’s ‘Registrar and Secretary’: E-mail registrar@sheffield.ac.uk

10. **Will my taking part in this project be kept confidential?**

Any information that I collect from you during the course of the research will be kept strictly confidential. You will not be identified in any reports. All questionnaire and interview information will be stored securely by me and will be destroyed once the final examination of the report is completed.

11. **What will happen to the results of the research project?**

The results of the research will be submitted to the Information School of the University of Sheffield in September 2012 for formal assessment by the School and may be read by the School’s External Examiners. The results will also be available from the University library. A summary of the results can be sent to any participants by contacting me.

12. **Who is funding the research?**

Any expenses involved with the research will be funded by me.

13. **Who has ethically reviewed the project?**

This project has received approval from the ______ Hospital Ethics Committee.

In addition the project has received ethical approval from the Information School’s internal ethics review procedure. This approval is in accordance with the University’s Ethics Research Policy. This process is monitored by the University’s Research Ethics Committee.

14. **Contact for further information**

Further information can be obtained from “

- Pamela Gyles, Medical Record Specialist, ______ Hospital
  - Ext 55219, Mobile 050 4492670, g_pamela@hotmail.co.uk
- Dr. Peter Bath, Reader in Health Informatics, University of Sheffield
  - +44 114 2222636, p.a.bath@sheffield.ac.uk

15. **Will I be recorded, and how will the recorded media be used?**

For participants who volunteer to take part in an interview

Any interviews that take place will be recorded to ensure accuracy. Your written consent will be obtained before the interview and recording begins. Following the interview the recording will be transcribed. All details of names, etc will be anonymised. The information obtained will be used for analysis purposes only. Both the recordings and the transcripts will be maintained securely by me and will not be submitted as part of the project. Both will be destroyed once the study is successfully completed.

Thank you for taking the time to read this information sheet.

Pamela Gyles
Medical Record Specialist, Student in MSc in Health Informatics
Date

All Physicians
All Charge Nurses/ CRNs
Clinical Support Staff
_____ _____ Hospital

Dear

Re: Research in Health Informatics

I am writing to ask for your help.

Currently I am in my final year of an MSc in Health Informatics with the University of Sheffield, UK. A requirement of the final year is to complete a dissertation. My dissertation research is on documentation and the factors that affect its quality.

I would like to ask you to take a few minutes to complete the attached questionnaire. I have enclosed an envelope in which the questionnaire can be returned to me, or I can come to collect it from you.

I have also attached a ‘Participant Information Sheet’ which will give you more information on the project and hopefully answer any questions you may have.

If you have any further questions, please do not hesitate to contact me.

If you do decide to complete the questionnaire, I would like to say a very grateful thank-you. Time is a valuable commodity for all hospital employees and I recognise, and very much appreciate, the time and support you are giving me by completing this questionnaire.

Yours sincerely

Pamela Gyles

Ext: 55219
M: 050 4492670
E-mail: g_pamela@hotmail.co.uk
APPENDIX V: Interview Consent Form

Dissertation Research

INTERVIEW CONSENT FORM

Title: Explore the perceptions of the current standard of documentation and the factors that are perceived to affect the quality of documentation

Student: Pamela Gyles

Please review each statement and initial the box

1. I confirm that I have read the information sheet for the above study and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason and without any negative consequences. In addition, if there are any questions I would prefer not to answer I can decline to do so.

3. I understand that my responses will be kept confidential. I understand that my name will not be linked with the research and that I will not be identified in the project report.

4. I agree to take part in the study.

__________________________  ______________  ______________
Name of Participant             Date                  Signature

__________________________  ______________  ______________
Name of Student                Date                  Signature

Copies:

Once signed, the participant will receive a copy of the signed and dated consent form. The original consent form will be maintained in the project’s main record and will be kept securely by the student.
APPENDIX VI: Research Questionnaire

AN EXAMINATION OF THE VIEWS HEALTHCARE PROFESSIONALS HAVE OF THE STANDARD OF DOCUMENTATION IN THEIR HOSPITAL AND FACTORS THAT AFFECT THE QUALITY OF DOCUMENTATION

Section One: ABOUT YOU

Q1. Your current role is:

- Consultant Physician □
- Specialist Physician □
- Resident Physician □
- Nurse Manager □
- Charge Nurse □
- Clinical Resource Nurse (CRN) □
- Physiotherapist □
- Dietician □
- Clinical Pharmacist □

Q2. Your specialty is:

- Physician (e.g. urology): ____________________________
- Nurse (e.g. surgical): ____________________________

Q3. Your gender is:

- Male □
- Female □

Section Two: PERCEPTIONS OF DOCUMENTATION

Q4. For employees who were in position at this hospital at the time of JCIA, (June 2011) In your opinion, has the standard of medical record documentation changed since accreditation was awarded?

- Improved □
- Remained the Same □
- Deteriorated □
- Don’t know □

Q5. Do you think the current medical record documentation would pass JCI re-accreditation today?

- Yes □
- No □
- Don’t Know □

Q6. Do you find the medical record documentation in this hospital to be?

- Outstanding □
- Sufficient □
- Deficient □
- Don’t know □
Q7. In particular, how would you rate the following documentation?

<table>
<thead>
<tr>
<th>Form</th>
<th>Outstanding</th>
<th>Sufficient</th>
<th>Deficient</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>History &amp; Physical Examination (H&amp;P)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Discharge Summary</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Q8. How would you rate the medical record documentation in this hospital in relation to the following?

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Very Good</th>
<th>Acceptable</th>
<th>Poor</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completeness</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Timeliness</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Legibility</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Q9. Do you think the implementation of an electronic record would improve the current documentation?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Q10. Do you consider poor quality documentation to be indicative of poor quality care?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Section Three: TRAINING & EVALUATION

<table>
<thead>
<tr>
<th>Question</th>
<th>Details</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q11.</td>
<td>Did you receive training in medical record documentation as a medical student?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Q11.1</td>
<td>If yes, was the training adequate to meet your needs?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Q12.</td>
<td>Did you receive medical record documentation training/orientation in this hospital?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Q12.1</td>
<td>If yes, was the orientation sufficient to meet your needs?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Q13.</td>
<td>Is medical record documentation a part of your performance evaluation?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Q13.1</td>
<td>If no, do you think this would change the way you document today?</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
Section Four: FACTORS THAT AFFECT DOCUMENTATION

Q14. In your opinion, do documentation errors/ omissions occur because of?

<table>
<thead>
<tr>
<th>Human-factors</th>
<th>Environment-factors</th>
<th>Both</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Q15. In your opinion do the following factors affect documentation and if yes, to what degree is the factor relevant?

<table>
<thead>
<tr>
<th>Factor</th>
<th>No</th>
<th>Yes</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Major</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Minor</td>
</tr>
</tbody>
</table>

Staff & Organisation Variables
- Poor training
- High workload
- High staff turnover
- Multi-cultural environment
- Distractions/ interruptions

Physical Environment
- Availability of space in the charting area
- Lack of privacy in the nursing station
- Noise levels
- Design and arrangement of furniture

Medical
- Specialty
- Diagnosis

Medical Record
- Form Design
- Record Design/ Layout

Q16. Are there any other factors, in your opinion, that affect medical record documentation?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Q17. Are there any other important points, not covered by this questionnaire, on which you would like to comment?

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

Participant’s Consent:

By completing and submitting this questionnaire, I have consented to taking part in this study and to this information being utilised, anonymously, for the research project.

Volunteers for Follow-up interviews:

A small number of questionnaire respondents will be selected to partake in a short interview (approximately 20 minutes) to discuss some of these issues in more detail. Please indicate below if you would be willing to participate.

*I would be willing to participate in an interview on the topic of documentation standards and factors that affect good quality documentation.*

Name:__________________________________________________________

Signature: _____________________________________________ Date: ______________________

Thank you very much for taking the time to complete and return this questionnaire
APPENDIX VII: Interview Guide

An examination of the factors that affect medical record documentation

Semi-structured Interview Guide

Thank you for completing the questionnaire that I sent out at the beginning of July. The initial analysis of the completed questionnaires has identified some areas that I would like to explore in more detail.

On the completed questionnaire, you indicated that you would be willing to be interviewed with regard to this project and I would therefore like to discuss these areas with you.

The interview will be recorded in order to generate a written transcript. Your name and specific position will be kept confidential.

1. 43% of staff feels that the current standard of documentation is sufficient for re-accreditation. In your opinion is this a realistic view? How do you perceive the current situation?

2. The questionnaire showed that the respondents’ perceived documentation to be better than it actually is, with 3 participants rating documentation and standards as ‘excellent’ or ‘outstanding’. Why do you think this is the case?

3. High workload came out as the number 1 reason for poor documentation; closely followed by poor training and high staff turnover. What is your opinion of these results?

4. We asked respondents to list other causes; the one most frequently mentioned was “non-compliance with guidelines”. Why do you think staff is non-compliant?

5. A significant number also suggested ineffective administration as a factor. Why do you think this is the case?

6. An overwhelming majority of respondents felt that an electronic medical record would improve documentation. In your opinion, is this likely?

7. I have no further questions. Is there anything else you would like to add?

Thank you for giving your time to this project. I will forward a transcribed version of this interview to you for signing off.
APPENDIX VIII: Transcript of Interview Seven

[Given as an Example of Documentary Evidence]

Interview 7

PG: 43% of staff feels that the current standard of documentation is sufficient for re-accreditation. In your opinion is this a realistic view? How do you perceive the current situation?

N1: I think I was probably one of the respondents who felt that we did not meet the standards, that we would not get re-accredited just because there is a lot of documentation missing in the chart and actually policies are not being followed, for example abbreviations are being used that are not on the agreed list. You have to meet the standards and I think we have the evidence that we are not.

PG: 3 participants rating documentation and standards as ‘excellent’ or ‘outstanding’: a substantial over-estimation. Why do you think this is the case?

N1: Maybe people have not had the training or the experience; maybe they worked somewhere else before where the quality is not so good. So maybe compared to the hospital where they used to work – just by having good forms they might think that they are meeting good standards. I guess if you compare it to other places, at least we have a file per patient with forms in it – maybe they think that is good.

PG: You just mentioned the good forms and indeed they were considered not to be factor. The respondents also felt that the speciality and diagnosis did not affect documentation. Do you have an opinion on that?

N1: In what way would they affect documentation?

PG: Some of the literature suggests that for example a record for a patient with a complicated list of diagnoses could have more errors, while other literature suggests that medical specialists showed more complete documentation than surgical specialists.

N1: I hadn’t considered that before, I guess I can see how that could have an impact, but whether it does here, I haven’t noticed.

PG: Do you feel there is any group that documents better than others?

I can’t say that I’ve noticed any differences; the standard seems to be consistently poor across the board.

PG: The questionnaire showed that high workload, poor training and high staff turnover were considered to be the most major factors affecting documentation. What is your impression of these results?
Appendix VIII. Page 2

N1: I think high workload is always used just as an excuse for everything, like for errors that are made in medical practice and so this is the same. As soon as there is an error, rather than looking at their own practice, people just think ‘oh, I’m so busy’. But you know, this is people’s responsibility, you have to really take responsibility and accountability for filling in the record – “let the next patient wait for a few minutes until I finish this”.

Staff turnover, as long as there is a proper induction, actual training on it not just a 1 hour orientation session, - but someone who coaches you in your first few months, who regularly checks on you, like a mentor or something like that. Again I don’t think it is an excuse – though it is something that needs to be addressed, but again, if you are new and you don’t know exactly what to do, rather than just do what you think is right – go and ask somebody. So it is everybody’s own responsibility. ‘What’s not written down, didn’t happen’ – and everyone knows that – it is very important.

What was the third factor again?

PG: Poor training, which you have already mentioned briefly. Would you like to elaborate on that?

N1: Like I said, I think people have to be responsible – but if people are going to use it as an excuse, -let’s have maybe – some sort of education sessions – for everyone. Then nobody can use it as an excuse anymore. Attendance should be mandatory.

PG: Respondents were asked to list any other factors that would affect documentation. The most commonly listed would be summarised as ‘non-compliance with the documentation standards’. Why do you think people do not follow the documentation policy?

N1: Because they get away with it. Nobody pulls them up on it, nobody says ‘you didn’t complete... ’ You know, its not taken into account in the appraisal system. For example in the UK now, documentation and appraisals are strongly linked. They have to be done yearly, and records will be reviewed both for clinical practice and for actual documentation – so it is part of the appraisal system.

So poor compliance is, one, because we don’t follow up on them and two, because people become complacent. If nobody else is doing it, why should you? I think it is motivation, attitude to work, its an unprofessional way of working really.

PG: As a matter of interest, have you yourself seen the documentation guidelines?

N1: I was given them as part of a package on my orientation session, but I haven’t actually seen them in my own department.
PG: A significant number of respondents also felt that the leadership’s role was a factor. Do you agree with this? Do you think the leadership can help improve the documentation standards?

N1: As well as ensuring that it is written in a policy – like that every healthcare professional has to write in the record to a certain standard. But not just to tell them, but to follow up on them. To make managers and heads of departments responsible for following up on their teams and to have regular audits and feedback. And if somebody ignores all the feedback then pull them up, they should absolutely be held accountable.

PG: An overwhelming majority of respondents felt that an electronic medical record would improve documentation. In your opinion, is this the perfect solution?

N1: With an electronic medical record you can put certain securities in so that certain fields have to be filled in before you can move on to the next field, for example you have to complete a blood pressure before someone goes to theatre, that’s just a simple example, so it kind of prompts you to do it, however a system cannot tell whether the blood pressure is the correct one, so a system can only make sure that certain fields are filled in, but it can’t actually check whether something makes sense. You know someone might put in ‘not applicable’ and it might still move on.

Although I think it is one way to help with the completion of documentation, I don’t think that it will actually help improve the quality of documentation. An electronic records normally has tick boxes rather than text, so maybe actually some nurses are filling in the tick boxes even before the questions are asked, you know click, click, click, click. The only think it might do is make sure that certain fields are completed.

PG: I have no further questions. Is there anything else you would like to add?

N1: One of the other things is that is seems to be the culture of the hospital, when compared to – I don’t know – maybe an American hospital, where everyone has a high standard of documentation – detailed documentation to show their colleagues what they have done - and I think in our hospital – the culture is very much doing the least possible. And everything is talking, nothing is written down – and that culture is reflected in the medical records.

Thank you for giving your time to this project. I will forward a transcribed version of this interview to you for signing off.
Q16. Are there any other factors, in your opinion, that affect documentation?

<table>
<thead>
<tr>
<th>Role</th>
<th>Text</th>
<th>Descriptive Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor</td>
<td>(2) Supervision of junior doctors by senior doctors is not satisfactory</td>
<td>Supervision</td>
</tr>
<tr>
<td></td>
<td>(2) No support from administration</td>
<td>Administration</td>
</tr>
<tr>
<td></td>
<td>(3) Poor understanding of what is required</td>
<td>Understanding</td>
</tr>
<tr>
<td></td>
<td>(3) No effort by the leadership to bring about change</td>
<td>Administration</td>
</tr>
<tr>
<td></td>
<td>(3) People don’t follow the policy</td>
<td>Policies</td>
</tr>
<tr>
<td></td>
<td>(6) Minimal feedback from Quality Department</td>
<td>Feedback</td>
</tr>
<tr>
<td></td>
<td>(6) We don’t get proper guidance from the senior staff</td>
<td>Supervision</td>
</tr>
<tr>
<td></td>
<td>(7) No follow-up for incomplete records</td>
<td>Feedback</td>
</tr>
<tr>
<td></td>
<td>(7) No ‘order forms’ in stock</td>
<td>Supplies</td>
</tr>
<tr>
<td></td>
<td>(7) Lack of understanding of legal implications</td>
<td>Understanding</td>
</tr>
<tr>
<td></td>
<td>(10) Lack of enforcement</td>
<td>Administration</td>
</tr>
<tr>
<td></td>
<td>(10) Poor training and supervision of junior doctors</td>
<td>Supervision</td>
</tr>
<tr>
<td></td>
<td>(11) Availability of approved forms</td>
<td>Supplies</td>
</tr>
<tr>
<td></td>
<td>(11) Not forced to comply – no consequences if staff don’t comply</td>
<td>Administration</td>
</tr>
<tr>
<td></td>
<td>(14) It would be interesting to know exactly what level we are at</td>
<td>Feedback</td>
</tr>
<tr>
<td></td>
<td>(14) It seems that some people do not know why they are documenting</td>
<td>Understanding</td>
</tr>
<tr>
<td></td>
<td>(15) Not sure everyone is aware of the importance of recording everything</td>
<td>Understanding</td>
</tr>
<tr>
<td></td>
<td>(17) No respect for administration</td>
<td>Administration</td>
</tr>
<tr>
<td></td>
<td>(22) Administration never do anything about it</td>
<td>Administration</td>
</tr>
<tr>
<td>Nurse</td>
<td>(2) No feedback on audits</td>
<td>Feedback</td>
</tr>
<tr>
<td></td>
<td>(2) We end up using old forms that don’t meet the guidelines</td>
<td>Supplies</td>
</tr>
<tr>
<td></td>
<td>(2) Very low moral amongst the staff</td>
<td>Motivation</td>
</tr>
<tr>
<td></td>
<td>(3) Medical students don’t seem to understand ‘why’</td>
<td>Understanding</td>
</tr>
<tr>
<td></td>
<td>(3) No enforcement by administration</td>
<td>Administration</td>
</tr>
<tr>
<td></td>
<td>(4) Do not follow standards</td>
<td>Policies</td>
</tr>
<tr>
<td></td>
<td>(4) Too many forms not available</td>
<td>Supplies</td>
</tr>
<tr>
<td></td>
<td>(4) Lack of interest due to poor working conditions</td>
<td>Motivation</td>
</tr>
<tr>
<td></td>
<td>(7) Some people don’t see the point of all the writing</td>
<td>Understanding</td>
</tr>
<tr>
<td></td>
<td>(7) No salary increases</td>
<td>Motivation</td>
</tr>
<tr>
<td></td>
<td>(8) Doctors have to be reminded what to do</td>
<td>Policies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>(9) People might read the policies but that doesn’t mean that they follow them</td>
<td>Policies</td>
<td></td>
</tr>
<tr>
<td>(12) Doctors don’t follow documentation standards so then neither do the nurses</td>
<td>Policies</td>
<td></td>
</tr>
<tr>
<td>(14) Physicians not following standard for documentation orders</td>
<td>Policies</td>
<td></td>
</tr>
<tr>
<td>(15) Negligence of nurses in documentation</td>
<td>Policies</td>
<td></td>
</tr>
<tr>
<td>(15) I never hear how well, or not, we are actually doing</td>
<td>Feedback</td>
<td></td>
</tr>
<tr>
<td>(17) New staff continue to do what they did before rather than what they should be doing here</td>
<td>Policies</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Support Services</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) Consultation requests are not filled properly</td>
<td>Policy</td>
<td></td>
</tr>
<tr>
<td>(4) Sometimes requests are written on blank pieces of paper instead of the proper form</td>
<td>Supplies</td>
<td></td>
</tr>
<tr>
<td>(4) It’s difficult to see a patient without having all the facts</td>
<td>Policy</td>
<td></td>
</tr>
<tr>
<td>(5) I suppose it needs to come from the top</td>
<td>Administration</td>
<td></td>
</tr>
<tr>
<td>(6) Staff seem to do their own thing, rather than what they are supposed to do</td>
<td>Policies</td>
<td></td>
</tr>
<tr>
<td>(6) Poor motivation</td>
<td>Motivation</td>
<td></td>
</tr>
<tr>
<td>(9) Poor understanding of the importance of documentation</td>
<td>Understanding</td>
<td></td>
</tr>
<tr>
<td>(9) No accountability for documentation</td>
<td>Administration</td>
<td></td>
</tr>
<tr>
<td>(10) Administration do nothing</td>
<td>Administration</td>
<td></td>
</tr>
<tr>
<td>(10) Regularly have to return prescriptions because of missing information</td>
<td>Policy</td>
<td></td>
</tr>
<tr>
<td>(11) Have completed incident reports, but nothing has been done</td>
<td>Administration</td>
<td></td>
</tr>
</tbody>
</table>
**APPENDIX X: Example of Qualitative Data Charting Process**

**Q2:** Reasons why people over-estimate the standard of documentation (Interviews 1 to 7)

<table>
<thead>
<tr>
<th>Theme</th>
<th>Interview 1</th>
<th>Interview 2</th>
<th>Interview 3</th>
<th>Interview 4</th>
<th>Interview 5</th>
<th>Interview 6</th>
<th>Interview 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Understanding</td>
<td>Staff don’t seem to understand the meaning of documentation</td>
<td></td>
<td></td>
<td></td>
<td>There is definitely a lack of awareness of the standards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff Perception</td>
<td></td>
<td></td>
<td></td>
<td>Many staff do not perceive there is a problem</td>
<td></td>
<td>On the wards, they do actually think it is reasonably good</td>
<td></td>
</tr>
<tr>
<td>Acceptance</td>
<td>People have just got used to the way we document here and view it as acceptable</td>
<td></td>
<td>Everyone just puts up with it.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Previous Experience</td>
<td>Part of it could be the comparison with where they were before</td>
<td></td>
<td></td>
<td></td>
<td>Maybe they worked somewhere else before where the quality is not so good</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>