Office of the Nursing & Midwifery Services Director

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

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Health Service Executive North West Nursing & Midwifery Metrics Evaluation Research Report

Tús Áite do Shábháilteacht 1 Othar
Patient Safety First

Table of Contents

Acknowledgements

The realisation of this evaluation research study would not have been possible without the support and encouragement of Directors of Nursing & Midwifery/Service Managers within each participating organisation that facilitated entry into their wards/units. The research team would like to express their gratitude to these individuals and, importantly, to the staff members at each location who enabled the collection and analysis of data in support of this study. We hope that this report will influence action that can cascade into further developments in the provision of safe, effective and person-centred care.

Dr Randal Parlour

Research Team:

Dr Randal Parlour *Ph.D, M.Sc, B.Sc (Hons)*

Dr Paul Slater *Ph.D, M.Sc, B.Sc (Hons)*

Ms Elizabeth Breslin *MA, MHSc, B.Sc (Hons)*

Foreword

The Nursing and Midwifery Planning and Development Unit (NMPDU) North West are delighted to present the findings of this evaluation research study. This report has been delivered following a twelve month evaluation period and presents an opportunity to influence the strategic implementation of nursing and midwifery metrics programmes within the Irish health system, leading to a more effective and sustainable implementation methodology in the future.

The significance of this work should be incontrovertible to patients and their families, registered nurses and midwives, and the wider healthcare team. It should also be of relevance to decision makers who have a genuine interest in the safety, quality and effectiveness of nursing and midwifery care that is provided, and the personal experiences of patients who are in receipt of these services.

This study resulted from a requirement to generate evidence around nursing/midwifery quality and the factors associated with the development of a positive workplace culture. It was commissioned by senior nursing and midwifery management within the HSE North West Area, who were aware of a lack of relevant contextual data to explicate outcomes associated with the implementation of nursing and midwifery metrics.

I wish to pay tribute to all the staff, patients, and families who participated in this evaluation and who have contributed to the development of this report. Additionally, I would like to sincerely acknowledge the research team members who undertook this evaluation in a robust and systematic manner. The collaboration and participation of all these individuals has ensured that this work is underpinned by a relevant and contextual evidence base that is central to the implementation of knowledge into practice.

Anne Gallen
Director NMPDU North West

Introduction

An integral component of health service delivery, both internationally and within Ireland, is the focus upon safe and effective care to all individuals that supports a shared purpose for all health professionals in their duty of care. The nursing and midwifery professions, working in partnership with medical clinicians and wider multidisciplinary teams, are in a privileged position to lead on creating a culture that advocates appropriate governance structures are in place to ensure optimum outcomes are achieved in all aspects of care delivery.

At the very centre of the care delivery model is the patient, surrounded by the health care team including the wider organisational infrastructure. Consistent with their roles and professional responsibilities, multi-disciplinary team members are bound to support and provide care that is safe and accountable, first and foremost to the public, to employers and to professional regulators including the Nursing and Midwifery Board of Ireland (ABA, 2000), Medical Council (2009), and Pharmaceutical Council of Ireland (2009). Evidence based systems that employ quality and safety indicators as measures of effectiveness have in recent years been introduced into the health services in Ireland (HIQA, 2012). These systems, when analysed, provide an account of specific outcomes that directly affect patient care delivery. In tandem with implementing these systems is the need to review and analyse the data collected so that care delivery can by influenced positively in relation to quality and safety standards.

Hospitals and health care settings in Ireland have begun to re-evaluate their policies and practices in order to maintain and improve the quality of care. Central priorities in national health care policy have identified the requirement for safe effective and person-centred care services (Ireland Department of Health, 2012). This has been accompanied by a focus on the importance of data and information in order to monitor and strive for high quality, safe and effective care. The importance of data and information is vital, especially when making decisions and planning aligned to health and social care settings.

There exists an emerging amount of research that examines the merits of measuring the quality of nursing and midwifery care, at both strategic and practice levels (Griffiths et al. 2008). Measuring quality within health and social care settings provides evidence in order to assess performance, improve the quality of care delivery, and support process change. Additionally, the measurement of quality allows the generation of evidence so that standards can be assessed, and for accountability (Mooney, 2009). This in turn provides a more detailed account of the quality of care that is being measured (HIQA, 2010).

Context

The purpose of this report is to provide the findings and recommendations from an evaluation research study that was conducted during 2012/2013 in the North West of Ireland The study was commissioned by senior nursing and midwifery management to specifically evaluate the impact of medication management metrics (Medication Storage and Custody and Medication Administration) upon the delivery of nursing and midwifery care in the HSE North West Area.

Nurses and midwives are the single largest provider of care at home, in the community or in a hospital setting within Ireland and comprise almost 40% of the healthcare workforce (National Council for Professional Development of Nursing and Midwifery 2009). The care that nurses/midwives deliver is pivotal to influencing patient outcomes and meeting organisational needs. In fact, nursing and midwifery is viewed as paramount (Riehle et al. 2007) in the provision of safe and efficacious patient care, particularly as they are seen to provide most care in all sectors of the healthcare system (Doran et al. 2006).

This report takes place within an international context of public concern around the quality of healthcare provision that is constantly highlighted in the media and the blame is often associated with nurses (Delamothe, 2011; Reeves et al. 2013). Within the United Kingdom there have been a number of high profile reports in recent times that have highlighted alarming cases of poor nursing care. These include the Care Quality Commission Report (Care Quality Commission, 2011); The Health Service Ombudsman's Report (Abraham, 2011); Maidstone and Tunbridge Wells (England Commission for Healthcare Audit, 2007); the Francis Report (Mid Staffordshire NHS Foundation Trust, 2013); and most recently the Keogh Report (England NHS, 2013). Within Ireland evidence (National Council for the Protection of Older People, 2012) has also emerged that indicates that not all patients receive compassionate care from nursing staff.

Nurses/midwives are also increasingly more exposed to vast quantities of data that are used by organisational management to make decisions, manage performance and gain assurance around the quality of care provision. By making the contribution of nursing/midwifery more explicit it is anticipated that quality can be sustained and enhanced rather than neglected in the drive to meet organisational performance measures (National Nursing Research Unit, 2008). By virtue of the potential that nurses/midwives have to influence the care outcomes for individuals and their families, it is appropriate that this care is qualified as effective.

To achieve this, from the outset there is a requirement to provide generic evidence around nursing/midwifery quality. One method for achieving this is through the use of nursing/midwifery metrics to improve outcomes and experiences for patients. Aligned to this, the conclusive test is located in whether the well-being of patients is maintained or rather improved, and whether this well-being is adversely affected by the presence or absence of nursing/midwifery interventions (Scotland National Health Service, 2005).

Despite this acknowledgement, there has been limited evidence to date, within both the Health Service Executive (HSE) and National Health Service (NHS), of the benefits to patient care from system wide measurement of nursing/midwifery metrics. Indeed a number of limitations have been recognized that are associated with nursing/midwifery metrics; firstly it has been identified that nurses/midwives can spend more time inputting the data rather than spending time on care (Stevens, 2010); secondly some processes have focused solely on the quality and safety around nursing/midwifery outcomes and not on the quality of care (Foulkes, 2011). Lastly, it should also be mentioned that a metrics programme should not replace appropriately structured primary nursing/midwifery research and should link with the patient experience (Negus and Howart, 2010). Further limitations associated with the implementation of nursing/midwifery metrics focus upon a lack of clarity regarding the indicators used in the process and also difficulty arising from measuring factors such as dignity, respect, communication and privacy, which are difficult constructs to measure or tap into (McCance et al. 2012).

Nonetheless,, Griffiths et al (2008) have previously argued strongly for the development of nursing/midwifery metrics. Evidence gained from the process allows the general public, service users, managers and government to be informed of quality and safety standards within hospital units and wards. Benchmarking can also be applied through the use of metrics between local, regional and national health care settings. The utilisation of metrics can provide the evidence to support change and renewal within health care, particularly supporting nurses/midwives in the delivery of evidence based and compassionate care towards service users. Griffiths et al (2008) have formerly identified three key interrelated elements of the impact of nursing/midwifery, namely safety, effectiveness and compassion. The Royal College of Nursing (RCN 2009), in explicating the role of nursing & midwifery in improving care outcomes for patients and clients, have further expounded these elements as follows:

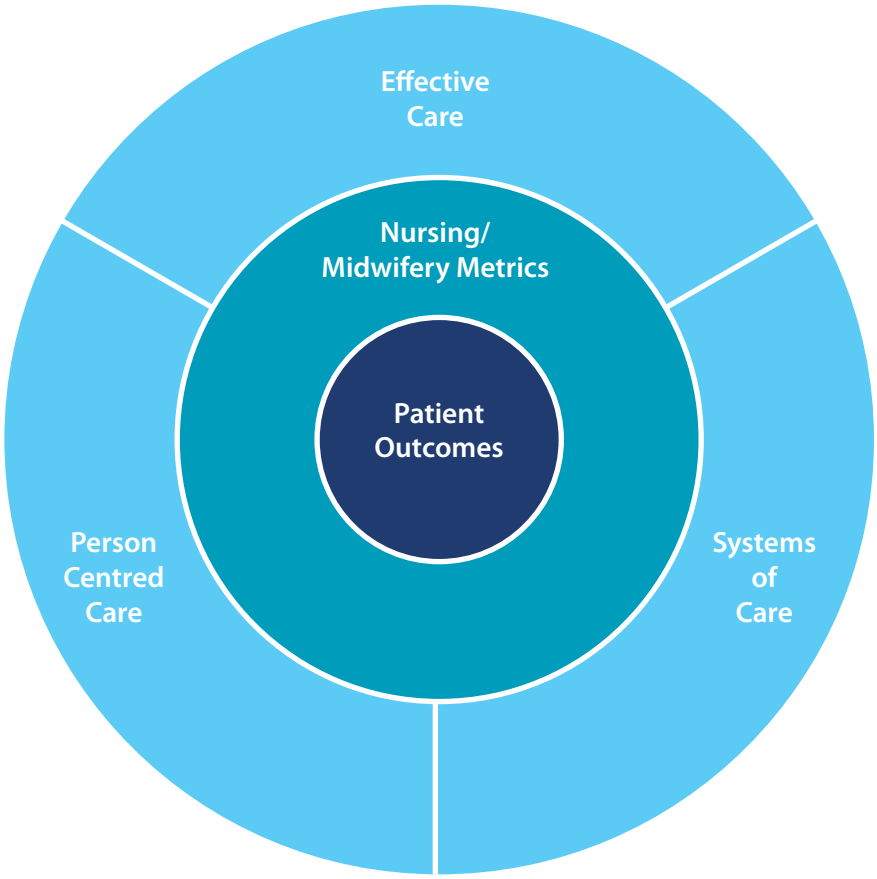
person-centred care - working with an individual to identify their values, needs and expectations in regard to their own health and social care; communicating and providing relevant information; enabling shared decision-making, informed choice, and enabling participation in the evaluation of care

effective care - care that is both safe and evidence-based in relation to the treatments provided and the context in which care takes place

systems of care - the context in which care is delivered (for example, safety systems, workforce issues, continuity of care) including the structures, processes and patterns of behaviour that enable person-centred, safe and effective care to be sustained even when health care changes.

These three elements provide the scope for this evaluation and are central to the subsequent process design. This is represented in the model identified as Figure 1.

Figure 1. Evaluating Nursing/Midwifery Metrics



As regards the contribution that nursing/midwifery makes to the delivery of high quality care, data solely associated with the nursing/midwifery metrics criteria will not portray the entire picture. Data collection must also incorporate aspects that take cognisance of the quality of the workplace including the systems, teamwork and leadership within that can enable or hinder the sustainability of the initiative.

The use of appropriate and relevant nursing/midwifery metrics may provide an opportunity to demonstrate the unique contribution of nurses and midwives in delivering safe, effective and person-centred outcomes for patients and clients (McCance et al. 2012). Furthermore, this may allow decision-makers at practice level to concentrate work on areas that are seen as priorities, from a patient care, policy and organisational perspective. As a consequence this type of approach 'should' compel improvements in the quality of nursing and midwifery care experienced by patients and the development of a positive workplace culture.

Study Aim

The principal aim of this study is to evaluate the impact of medication management metrics upon the delivery of nursing and midwifery care.

Study Objectives

This evaluation research study set out to address five key objectives:

1. To investigate the impact of the nursing and midwifery medication management metrics in regards to safe and effective care. (This includes both the Medication Storage and Custody and Medication administration Metrics)
2. To examine the experiences of patients with a specific focus on how their nursing care needs are met.
3. To examine the experiences of staff with regard to the implementation of this initiative within the workplace.
4. To create a wider understanding of how the nursing and midwifery metrics initiative impacts upon the context within which nursing and midwifery care is delivered.
5. To clarify the links between this initiative and other strategic/organisational priorities

Study Design

The evaluation employed a mixed-methodology using both quantitative and qualitative approaches to data collection and analysis. Methodological and source triangulation were incorporated to cross check and affirm the reliability and validity of the findings. This also provided for a richer understanding of the data. Methodological triangulation involved utilising a range of approaches to examine the study aim. Survey instruments, focus groups and observations of practice/audits (Table 1) were employed for this purpose. Source triangulation is when a number of sources are used to review the same issue. The evaluation incorporated the opinions of patients, who are the recipients of care within the study sites, and registered nurses/midwives who deliver nursing/midwifery care within these settings.

Data were collected from across three locations (38 settings) throughout the HSE North West. These settings are currently actively engaged with the implementation of the medication management metrics. Quantitative and qualitative data were gathered over two time points, providing a repeated application of standardised measures to examine the overall impact of change within the settings.

The design of this evaluation incorporates three strands. The first research strand evaluated the performance of each ward/unit using standardised metrics criteria. Each of the criteria reflects national and/or regional policy/guidance. Additionally, certain criteria were informed by previous work undertaken within *Heart of England NHS Foundation Trust* (Sunderland, 2009). Observations of practice/audits were utilised to corroborate data emerging from measurement of the metrics criteria. This data assisted in measuring impact associated with safe and effective care.

The second strand of the research evaluated the experiences of both patients (Appendix 1) and staff (Appendix 2) within the context of local implementation. The patient experience of care was examined using the following instrument: The Person-Centred Climate Questionnaire (PCQ-P; Edvardsson, 2010).

Additionally, staff experiences regarding implementation were examined by means of focus group methodology. Both of these approaches enabled an integrated understanding of not only the performance of the ward/unit, but also the experiences of patients and staff involved in the initiative. Patient experiences are important to ensure quality around healthcare delivery. Likewise gaining staff perceptions of their work context and the systems within are important to identify areas for improvement.

Strand three examined the impact of the initiative upon the context within which care is delivered – the workplace setting. This data were collected via the Context Assessment Index [CAI; McCormack et al. 2009] and the Nursing Context Index [NCI; Slater et al. 2009]. This data facilitated a greater understanding of the systems of care that are in place within the workplace context and the impact upon the delivery of person-centred, safe and effective care.

It is important to note that the research team applied a 'precautionary principle' in undertaking this evaluation study, whereby issues of concern were immediately brought to the attention of the senior nurse/midwife on duty and the Director of Nursing & Midwifery/ Service Manager. This action was taken to protect patients from harm where instances of unsafe practice had been identified.

Patient Experience

The Person-Centred Climate Questionnaire (PCQ-P; Appendix 3) is a self-report instrument that was incorporated to evaluate to what extent the climate of health care settings were perceived by patients as being person-centred. The scale consists of 17 items formulated as statements about the climate of the unit/ward/setting. The items are rated on a 7-step Likert scale (ranging between 1 = *no, I disagree completely to* 7 = *yes, I agree completely*). The questionnaire is sum-scored and scores can range between 17 (a climate not very person-centred) to 119 (a climate very person-centred).

Previous evaluation of this instrument indicated that it is a reliable and valid measure of the extent to which the climate of a health care setting is perceived as being person-centred. It

has also been recognised that the scale contains items that reflect the dimensions described in the literature (Brooker, 2007; McCormack & McCance., 2006) as being central aspects of person-centredness.

Staff Experience

The Context Assessment Index [CAI; Appendix 4] assists in determining the characteristics of context that facilitate or hinder effective evidence-based and person-centred practice. Changes noted within the practice context can provide evidence of the impact of facilitation interventions in creating the circumstances through which a unit, ward or healthcare setting becomes more receptive to change. The CAI is a psychometrically proven instrument that has shown evidence of acceptable validity and reliability and it has also been previously tested (Parlour & McCormack., 2012; Wright et al. 2007) within the culture of the Irish Health Service. The CAI has the potential to contribute to the knowledge base associated with the implementation of nursing/midwifery metrics.

The Nursing Context Index (NCI; Appendices 5a & 5b) was developed to measure person-centred nursing practice, which in turn informs us about the culture of a particular setting. The tool is designed to identify the extent to which a workplace setting is moving towards becoming person-centred. It is employed by a number of organisations that are engaged in practice development, in addition to qualitative methods. Staff can use this information to inform aspects of workplace culture that are working well and identify areas that require further attention in order to enhance the workplace culture (Manley et al. 2013).

Observations of Practice/Audits

Observations of practice/audits (Ireland HSE, 2010) involved spending time within the study settings watching how the teams and systems veritably operate. This process encouraged the observers to note what they saw and focus upon anything that seemed impressive, unusual, surprising, confusing or worrying. It is synonymous with viewing the service through fresh eyes as a visitor to that area. In feedback, patients may often omit this sort of detail, even though it may have a major effect on their experience of care. Outside observers can play a helpful role in exploring patients' experiences.

The observations of practice, within this study, provided valuable insights into how the services worked and what were the perspectives of patients and staff. Subsequently, these were especially helpful in providing prompts for the focus groups. The observers spent up to three hours at a time observing medication management processes on each of 10 randomly selected wards/units across the three participating organisations.

Focus Groups

Focus groups were used to provide richness and context to the impact of the metrics initiative. Focus groups have been described generally as "group discussions organised to explore a specific set of issues" (Kitzinger, 1994, p.103). Similarly, Powell et al (1996, p.449) have defined a focus group as: *'A group of individuals selected and assembled by researchers to discuss and comment on from personal experiences, the topic that is the subject of the research'.*

Focus groups can be used for a wide variety of research purposes including: developing questionnaires; exploring phenomena; validating previous research; explaining findings that contradict previous research; interpreting discrepancies among previous findings and generating new ideas. The purpose of focus groups in the present study was to explore the impact of the metrics initiative upon the context within which care is delivered and the links between this initiative and other strategic/organisational priorities.

Two focus groups were facilitated with staff from the evaluation sites during the final phase of data collection to elucidate their experiences of engaging with the metrics initiative. Each participating site was invited to nominate representatives to participate in the focus group. The inclusion criteria for each participant included: they are registered nurses/midwives; working in a participating unit prior to the implementation of the metrics initiative and having been in post for its duration. This ensured that information relating to the change process was as accurate as possible.

This process generated critical insights for identifying impediments and enabling factors within the organisational cultures. Furthermore, interactions between staff members provided a group perspective on the implementation of the metrics and comprehension of their feelings, thoughts, opinions, and the broad range of representative views.

Data analysis procedures

The quantitative data were analysed using the software package SPSS (IBM 2012). Pre and post intervention measures were compared to identify the effects of the intervention. Descriptive statistics provided a measure of the central tendency, and scope of differences within the settings and total sample. Analysis of Variance (Repeated Measures ANOVA) were used to examine the consistency of change over time. Measures of reliability and validity were calculated where appropriate. Latent growth models also assessed how individual scores changed over time and the significance of this change, whilst controlling for clustered patterns in the data. The findings are presented for the individual unit change and the total sample change.

The qualitative data were transcribed, and analysed using content analysis to identify the major themes of satisfaction, involvement in care and decision-making and areas of improvement. The 10-step approach to data analysis promoted by Ely et al. (1991) was adopted in this study so that recurring themes could be identified:

1 Study and re-study the raw data to develop detailed, intimate knowledge;

2 Note initial impressions;

3 List tentative subthemes;

4 Refine subthemes by examining the results of steps 2 and 3 and returning to the entire database of step 1;

5 Group data under the still tentative subthemes and revise subthemes if needed;

6 Select verbatim narrative to link the raw data to the subthemes;

7 Study results of step 6 and revise if needed;

8 Identify themes and write theme statements based on the common characteristics of subthemes, and by linking data in and across subthemes;

9 Integrate findings of each data set;

10 Compare findings for commonalities or patterns, differences and unique happenings.

Sample

As regards the sample size, though the overall patient/user or staff populations were unknown for those wards/units taking part in the metrics evaluation, it was still possible to calculate a minimum sample size for both. As concerns patients, calculating a minimum sample size was beneficial for selecting a representative sample of adult patients. For this evaluation it was proposed that a probability sampling technique of stratified random sampling be used. In relation to staff, a prospective opportunistic stratified sampling frame was used. Calculating a minimum sample size was important also for statistical analyses and inference of findings within these populations.

Patients: In regards to sampling patients they were randomly chosen from participating wards/units for stratified variations in regional area, gender and age. Thus, the final suggested sample size across units taking part in the metrics Evaluation was two hundred and sixty-six (N = 266) in total across all 38 sites. This sample size is adequate for facilitating statistical analysis (> 200) as suggested by Barrett (2007).

Staff: Similarly with the nurse/midwife population an opportunistic stratified sampling approach was used to examine variations in nurse/midwife backgrounds, gender and ward experience. The sample size for staff was one hundred and ninety (N = 190) in total across all 38 sites.

Ethical considerations

Full ethical clearance was sought prior to project commencement and approval was granted via the Research Ethics Committees at Sligo Regional Hospital and Letterkenny General Hospital. There were a number of ethical considerations that required attention within both the qualitative and quantitative aspects of the study. Issues included: informed consent as an on-going process for all concerned; safeguards to ensure no harm comes to the participants; aspects relating to respect for persons that incorporates the right to withdraw and assurance of confidentially and anonymity. Patient and staff information leaflets and written consent forms were provided to all participants to meet the ethical requirements of the study.

Table one provides an overview of the data collection and analysis methods employed within the study.

Table. 1 Data collection and associated analysis

Data Collection Method	Value	Sample Size & Response Rate	Analysis
Medication Administration Metric Criteria ('Test Your Care' software system)	Measures accuracy and details within medication administration. Contains four factors.	38 sites	Electronic data capture – Excel/ IBM-SpSS (repeated measures)
Medication Storage and Custody Metric Criteria ('Test Your Care' software system)	Measures accuracy and details within medication storage and custody. Contains two factors	38 sites	Electronic data capture – Excel/ IBM-SpSS (repeated measures)
Observations of Practice (HSE 2010)	This semi-structured process was employed, using the metrics criteria, to verify data reported electronically by the units	38 sites	Constant Comparative Analysis
The Person-Centred Climate Questionnaire (PCQ-P) [Edvardsson et al.2009]	Evaluates to what extent the climate of health care settings are perceived by patients as being person-centred.	266 patients/users per sampling period/point	SpSS Constant Comparative Analysis
Nursing Context Index (Slater et al 2009)	An instrument to inform the development of person-centred nursing/midwifery and outcomes arising..	190 Staff within each sampling period/point	IBM-SpSS Constant Comparative Analysis
Context Assessment Index (CAI) [McCormack et al. 2009]	Assists practitioners in assessing and understanding the context in which they work; and the impact of facilitation interventions on implementing changes in practice.	190 Staff within each sampling period/point	SPSS Constant Comparative Analysis
Focus Groups	This was applied primarily to elucidate staff experiences of engaging with the KPI process. Additionally it provided an opportunity to gain critical insight into transferring evidence into practice, communication and sustaining change.	9 focus group participants	Constant Comparative Analysis

Findings

This evaluation research study set out to address five key objectives:

- To investigate the impact of the nursing and midwifery medication management metrics in regard to safe and effective care. (This includes both the Medication Storage and Custody and Medication administration Metrics)
- To examine the experiences of patients with a specific focus on how their nursing care needs are met.
- To examine the experiences of staff with regard to the implementation of this initiative within the workplace.
- To create a wider understanding of how the nursing and midwifery metrics initiative impacts upon the context within which nursing and midwifery care is delivered.
- To clarify the links between this initiative and other strategic/organisational priorities.

Three sources of evidence were used to address the study objectives:

- observations of practice/audits (both self-reported and research team reported),
- standardised questionnaires (patients and nurses /midwives)
- focus groups with nurses/midwives.

The findings from each of the data sources were triangulated and blended to address each of the research objectives respectively.

STUDY OBJECTIVE 1:

TO INVESTIGATE THE IMPACT OF THE MEDICATION MANAGEMENT METRICS (MEDICATION STORAGE AND CUSTODY, AND MEDICATION ADMINISTRATION) IN REGARDS TO SAFE AND EFFECTIVE CARE.

Three measures were derived from audit data on the 'Test Your Care' (TYC) system:

(1) completion rates; (2) comparative analysis of audit data completed by internal auditors and the research team; (3) a wider analysis of audit data during the nine month implementation period. The evidence explored to address this objective included: observations of practice/audit data on the 'test your care' system (conducted by internal auditors) (n = 38 sites); observations of practice/audits conducted by the research team as part of the evaluation research (n = 10 sites) and findings from the focus groups (n = 2).

The evaluation research study commenced in October 2012, therefore, data were examined from the TYC System during a nine month period (October 2012-June 2013). Audit completion rates on the TYC System across the three locations (n = 38 sites) for both of the metrics (Medication Storage and Custody, and Medication administration) were reviewed. This indicated a varied completion rate ranging from 57% to 79% across the three locations

(See Table 2). This also suggests that a significant number of data collection points were not completed.

Table 2: Audit completion rates during 9 month period – October 2012 to June 2013

	Medication Storage and Custody	Mediation Administration	Total %
Location 3	64%	64%	64%
Location 1	56%	58%	57%
Location 2	79%	79%	79%

A potential explanation for the moderate completion rates across the settings emerged via the focus groups. Findings from the focus groups suggested that completing the metrics audit monthly was too frequent and led to the auditors and staff not giving it as much importance as was necessary:

"Yeah, when it first came out, they were like Ooh… but now it's not seen as important and people are just… particularly the first… custody and storage, from a nursing point of view I think it's very important but I think if it was done every quarter, every 3 months, people would perhaps take it a bit more…"

(Focus Group (FG) Participant)

"People are maybe just complacent and if it seems to be done too often, then it's seen not as important."

(FG Participant)

For some participants, the audits became "task-oriented":

"it's task-oriented, because we don't always have a lot of time, it seems to be we're given more and more projects to do and we haven't had any more support staff-wise, you're rushing them through, it's a task, it has to be done by the 20th of every month, and instead of welcoming the audit, you're saying "oh, I'm supposed to do it today, today is the last day."

(FG Participant)

One of the consequences of audits occurring too often was that if a specific issue was identified during the audit and an action plan created, staff would have little time to carry out the actions necessary before the next audit:

"There can be tight timeframes between one set of auditors and another, we can't control that. So if something turns up, then we fill in a risk assessment form, but the staff doesn't have time to put anything in place, there's an issue around that."

(FG Participant)

Comparative analysis of research team and self-report observations of practice/audit data

The research team undertook planned observations of practice/audits across ten research settings during the nine month period (Oct 12 to June 2013). Data were collected across each of the three locations so that a representative sample was compiled. The research team randomly selected five patient medication records per site and these were examined in respect of the metrics criteria. The scores were compared with the relevant scores recorded on the TYC system; this provided a comparative analysis of the observations of practice/audit process.

Findings indicate there were fewer discrepancies in scoring (within a 10% range) when the percentage agreement was at its maximum (100%). When scores were below the maximum level of agreement, observed scores and self-reported scores deviated considerably (e.g. drug prescription 23% observed and 77% self-reported). A trend emerged particularly in criteria relating to the drug prescription, medication chart and medication administration (See Table 3).

There were differences in scoring, both overestimated and underestimated, on self-reported scores when compared to the research team observations. These differences in scoring may be indicative of confusion in the interpretation of guidelines and its scoring.

Table 3. Percentage (direct observation and self-rated) adherence to medication management metrics guidelines

	Site 1 (19)		Site 2 (6)		Site 3 (2)		Site 4 (34)		Site 5 (32)	
	Obs	SR	Obs	SR	Obs	SR	Obs	SR	Obs	SR
Medication Administration and Storage										
Oral Medicinal Product Storage (%)	100	86	100	100	100	100	63	75	88	75
Scheduled Controlled/ MDA Drugs (%)	50	75	100	100	100	100	80	100	100	100
Medication Administration Metric										
Medication Prescription Chart (%)	55	48	48	88	50	64	48	50	75	52
Drug Prescription (%)	51	54	23	77	48	83	49	71	67	69
Medication Administration (%)	90	78	60	100	67	100	70	93	100	88
Observation of Medication Administration (%)	100	**	100	72	100	100	100	94	100	100
	Site 6		Site 7 (35)		Site 8 (39)		Site 9 (5)		Site 10 (41)	
	Obs	SR	Obs	SR	Obs	SR	Obs	SR	Obs	SR
Oral Medicinal Product Storage (%)	100	100	94	100	100	100	100	94	100	88
Scheduled Controlled/ MDA Drugs (%)	100	100	100	100	100	100	100	100	100	100
Medication Prescription Chart (%)	73	38	57	64	48	76	83	75	67	100
Drug Prescription (%)	60	74	66	86	63	78	55	100	34	73
Medication Administration (%)	87	75	95	100	80	100	100	100	73	67
Observation of Medication Administration (%)	100	**	86	100	100	89	100	50	93	78

Colour code – Yellow indicates similarity in scoring within a 10% range; Blue within 10% - 19% similarity; and Green is outside of 20% range.

Findings from the focus groups confirmed the presence of confusion regarding a lack of clarity of the metrics criteria. This included the use of double negative questions and lack of clarity around the scoring system. The lack of clarity with scoring concerned whether a positive score was awarded when the majority (over 51%) scored it correctly or when all (100%) scored correctly.

"[the questions/criteria in the metric] aren't clear, a more direct question, yes or no answer would be better."

(FG Participant)

Questions such as *"There are no drugs sitting on the cabinet"* (FG Participant) need to be phrased better.

Observations of Practice/Audit Data – June 2013

At the final point of data collection (June 2013) data were again examined across the 38 sites as determined by the metrics criteria. The criteria were categorised according to 2 sections (See Table 4). Total percentage scores were calculated and examined for each criteria according to location and overall total.

Table 4. Adherence to metrics criteria (oral medicinal product storage and scheduled controlled/MDA drugs)

Oral Medicinal Product Storage Criteria	Locations			Total
	1	2	3	
The nurse/midwife manager or staff nurse/midwife is in possession of the keyfor medicinal product storage (medication trolleys and cupboards) (on their person)	100	100	86	95.33%
Medicinal products are stored in a locked cupboard, medstation, fridge or locked room	100	90	100	93.3%
Medication trolleys are locked when not in use	100	100	100	100%
Medication trolleys are secured to the wall or in a locked room when not in use	100	100	100	100%
Medication trolleys have no unsecured medicinal products (on open shelves) when not in use	92	88	80	86.67%
Medication trolleys are clean (internal and external)	100	100	100	100%
Medication trolleys are clutter free	100	83	100	94.33%
A drug formulary is available to the nurse/midwife for reference (on all med trolleys)	100	100	67	89%
Scheduled Controlled/MDA Drugs Criteria (All Routes)				
The nurse/midwife manager or nurse/midwife designee is in possession of the keys of the MDA Drugs (on their person)	100	100	71	90.33%
MDA drugs keys are kept separate from other medication keys	100	100	100	100%
The MDA drugs cupboard is locked	100	100	100	100%
MDA drugs are checked and signed at each changeover of shifts-am and pm by nursing staff from each shift (a member of day and night staff)	100	50	86	78.67%
Two signatures are entered in the MDA drug register for each administration of an MDA drug	100	90	71	87%

Oral Medicinal Product Storage Criteria

Examination of the metrics data collected demonstrated that on 3 of 8 criteria, all sites had achieved 100% adherence, and had scores above 90% adherence on 6 of the 8 criteria. The lowest scoring criterion was 'Medication trolleys have no unsecured medicinal products (on open shelves) when not in use' with a score of 86%. Examination of the scores across settings shows variability in scoring. Location 1 achieved 100% adherence on 7 of the 8 criteria, and locations 2 & 3 had 100% on 5 of the 8 criteria.

Scheduled Controlled/ MDA Drugs Criteria (All Routes)

Five criteria comprised the category 'Scheduled Controlled / MDA Drugs Criteria (All Routes)'. Examination of the findings suggests that there was 100% adherence on two of the five criteria across all locations. The remaining 3 criteria achieved scores ranging from 78.67% to 90.33%. An examination of scoring across locations generally confirms this pattern of responding. Interestingly, in location 1, there was 100% adherence to all five criteria. Location 2 had a 50% adherence to the criteria 'MDA Drugs are checked and signed at each changeover of shifts (am and pm) by nursing/midwifery staff from each shift'. Location 3 had the lowest adherence rates of all three locations with two of the five criteria scored at 71%.

The medication administration metric comprises 20 items across 4 categories (See Table 5). The categories include (1) Medication Prescription; (2) Drug Prescription; (3) Medication Administration and (4) Observation of Medication Administration. No Data was collected in location 2 on category 4. Total percentage scores were calculated and examined for each criteria according to location and overall total.

Table 5. Adherence to metrics criteria for medical prescription, drug prescription, medication administration, and observation of medication administration

ADMINSTRATION	Location			
Medication Prescription Chart Criteria	1	2	3	Total
The prescription and Administration Chart provides details of the individual's Name, Date of Birth and Healthcare Record Number on each page in use	97	93	97	95.67%
The Allergy Status is clearly identifiable on the front page	76	81	54	70.33%
All prescribed Medications use generic name of medication	21	14	60	31.67%
Drugs which have been discontinued are crossed out, the date it was discontinued is entered and it is signed by the prescriber	84	40	29	51%
The Drug Prescription				
The prescription is legible	97	95	86	92.67%
The prescription is written in capital letters	48	16	63	42.33%
The start date of the prescribed medication is recorded	100	86	97	94.33%
The correct dose of the drug is recorded	97	91	100	96%
The dose of the drug is not abbreviated	52	72	89	71%
The route and/or site of administration is recorded	100	93	97	96.67%
The frequency of administration is recorded & correct timings indicated	97	81	91	89.67%
When a drug is prescribed as required, the minimum dose interval is specified	68	63	71	67.33%
The prescription has a legible prescriber's signature (in ink)	86	12	11	36.33%
The prescription has required no corrective amendments	71	70	86	75.67%
Medication Administration Criteria				
The initial of the administering nurse/midwife is recorded for all medications administered for the appropriate times	100	63	97	86.66%
Reason for non-administration of medication are indication using omission codes	100	68	93	87%
There are no medicines unattended at the individual's bedside	90	88	100	92.66%
Observation of Medication Administration by Auditor				
The nurse/midwife checks either the individual's identity bracelet for name and healthcare record number or checks the photo identification and compares it against the medication prescription chart	100	---	85	92.5%
The nurse/midwife asks the individual to identify themselves (state their name)	100	---	82	91%
Medications are administered uninterrupted	52	---	85	68.5%

Medication Prescription Chart Criteria

Four criteria measured 'Medication Prescription Chart' adherence. The lowest scored criterion referred to the 'use of generic names in medication prescriptions' where only 32% of the total sample adhered to the criterion. Findings indicate that 49% of the sample sites maintain a practice whereby discontinued drugs are not crossed out, dated and signed by the relevant prescriber.

There were also considerable variations in scoring across the 3 locations. Location 2 had a 14% adherence to the use of generic medication names, as compared to 60% in location 3. In location 1 84% of discontinued drugs were crossed out, dated and signed, as compared to 29% in location 3 and 40% in location 2. Additionally, almost 30% of the sites did not clearly identify patient allergies on the front page of patient notes.

The Drug Prescription

Examination of 10-items relating to 'The Drug Prescription' provides details of adherence to relevant criteria within this section. Four of the 10 criteria recorded scores above 90% and are colour coded as green (see Table 5). Five of the ten criteria scored below 76% and are colour coded red indicating a failure to achieve satisfactory standards of quality care. The lowest scored criteria were the provision of a legible signature of the prescriber, with an overall score of 36.33% and recorded as 11% and 12% in two out of the three locations. The criteria that were scored low overall also scored low across all three locations.

In respect of the criterion 'The correct dose of the drug is recorded' the overall score was 96% across the 3 locations. In 29% of sites across the 3 locations the dosage of the drug was abbreviated inappropriately. There was also variation across locations ranging from 52% in location 2 to 89% in location 1. The minimum dose interval for 'as required' medication was correctly recorded at 68% in location 1, 63% in location 2 and 71% in location 3. Adherence to the criteria "The prescription is written in capital letters" was reported at 42% overall. This figure dropped to 16% in location 2. For full details of the pattern of scoring please see table 5.

Medication Administration Criteria

Three items recorded procedures in drug administration. The highest scored criteria was 'There are no medicines unattended at the individuals bedside' with 92.66% adherence. The remaining two criteria were colour coded amber indicating a score between 80% - 89%. Location 1 had complete adherence on two of the three criteria compared to location 3 that had 100% adherence on one of the criteria. Scores show that adherence rates to the criteria were lower in location 2 compared to the two other locations on all three criteria.

Observation of Medication Administration by Auditor

Three criteria measured observation of medication administration, including checking individual's identity and healthcare record number; uninterrupted administration of medication. Location 1 had 100% adherence on two of the three criteria that focused on identifying the individual and his/her healthcare record number. Location 3 was colour coded amber indicating a score between 80% - 89%. No data was collected in location 2.

In regards to the criterion 'Medication are administered uninterrupted', figures of 52% and 85% adherence were recorded respectively for locations 1 and 3.

Summary of findings from observations of practice/audit of metrics data

The key findings from analysis of observations of practice/audit of metrics data were:

- There were moderate completion rates for the metrics across all locations during the 9 month implementation period. Participants in the focus group cited workload and frequency of completion as an explanation for the moderate rate of completion.
- There was confusion regarding the completion of the metrics audit data and this reduced the reliability of the data derived from the internal audit.
- Examination of the data shows strong adherence to criteria relating to Medication Storage and Custody but poor adherence in regards to Medication Administration. There was variability in scoring across locations.
- Criteria that required the collaboration of medical clinicians were poorly adhered to, in particular when the criteria required clarity of prescriptions.
- There was a consistency in scoring of criteria; where a criterion scored low overall it generally scored low across all three locations indicating a consistency in problems across locations in the implementation of the intervention.

STUDY OBJECTIVE 2:

EXAMINE THE EXPERIENCES OF PATIENTS WITH A SPECIFIC FOCUS ON HOW THEIR NURSING/MIDWIFERY CARE NEEDS ARE MET

The impact of the initiative on patient care was measured using the Person-Centred Climate Questionnaire – Patients (PCQ-P). The sample comprised 266 potential participants drawn from across 38 sites. A total of 147 (55%) patients responded at time 1 and 98 patients (37%) at time 2, drawn from 38 clinical settings across three locations. Full participant demographic details are outlined in Table 5.

Table 6. Demographic details of the patient sample

	Time 1	Time 2		Time 1	Time 2		Time 1	Time 2
Location 1	51%	35.7%	**Male**	49.3%	40.7%	**Patient Completed**	66.9%	69.5%
Location 2	34%	34.7%	**Female**	50.7%	59.3%	**Staff assisted Completed**	33.1%	20%
Location 3	15%	29.6%	**Age (mean)**	66.3	64.6	**Family assisted Member**	0%	10.5%
						Hospital Days (mean)	302	246

The majority of the sample at time 1 was derived from location 1 (51.7%). A more balanced representation was evident at time 2 across all three locations. At both time points the majority of questionnaires were completed by patients themselves (66.9% and 69.5%). On both occasions approximately 60% of the respondents were female and the average age of patients was mid-sixties (66.3 years old time 1 and 64.6 years old time 2). The average age of patients and their length of stay was older and longer in location 3.

The Person-Centred Climate Questionnaire – Patients (PCQ-P)

The Person-Centred Climate Questionnaire is a self-report instrument designed for use for evaluating to what extent the climate of health care settings is perceived as being person-centred. The PCQ-P comprises 17 items and is measured on a 6-point Likert scale ranging from 1 – No, I disagree completely to 6 – Yes, I agree completely. Higher scores are indicative of a greater level of person-centred care. The results are presented in Table 7.

Table 7. Mean scores for both time points on the person-centred climate questionnaire – patients (* = statistically significant difference)

STATEMENT	Time 1 Mean	Time 2 Mean
1 A place where the staff are knowledgeable	**5.5**	**5.6**
2 A place where I rely on receiving the best care	**5.6**	**5.7**
3 A place where I feel in safe hands	**5.6**	**5.7**
4 A place where I feel welcome	**5.6**	**5.7**
5 A place where it is easy to talk to the staff	**5.5**	**5.7***
6 A place where the staff take notice of what I say	**5.2**	**5.5**
7 A place where the staff come quickly when I need help	**5.3**	**5.6***
8 A place where the staff use language I can understand	**5.5**	**5.7**
9 A place which is neat and clean	**5.5**	**5.7***
10 A place where the staff have time for the patients	**5.3**	**5.4**
11 A place where there is something nice to look at	**4.4**	**4.6**
12 A place which feels homely even though I am in an institution	**4.9**	**4.9**
13 A place where it is possible to get unpleasant thoughts out of your head	**4.4**	**4.7**
14 A place where people talk about ordinary things, not just illness	**5.2**	**5.5**
15 A place where the staff make a little extra effort on my behalf	**5.4**	**5.5**
16 A place where I have choices, for example, what to wear	**5.4**	**5.4**
17 A place where I can get "that little bit extra"	**5.3**	**5.4**
TOTAL SCORE PCQ-P	**5.3**	**5.4**

Scoring range 1 – No, I disagree completely; 2 – No, I disagree; 3 – No, I partly disagree; 4 – Yes, I agree; 5 – Yes, I agree; 6 – I agree completely.

Patients indicated that the level of care provided was person-centred, a positive and encouraging score (See all items and total scores in table 7). All 17 statements were positively scored on both occasions by patients. Highest scores were reported on statements relating to being in safe hands, and feeling welcomed in the care environment. Lowest scores were reported on the aesthetics of the care environment and the potential of getting unpleasant thoughts out of your head.

The 17 items of the PCQ-P were summated to produce a total score that is indicative of person-centred care. Measures of homogeneity (internal consistency) provide psychometric evidence to support the summation of items (Cronbach's alpha 0.89). Internal consistency describes the extent to which all the items in a test measure the same concept or construct. Scores range from 0 to 1 with higher scores indicating higher levels of internal consistency. Scores above 0.7 indicate acceptable statistical levels (Brace et al. 2006).

Table 8. Mean score for PCQ-P total sample and according to locations at both time points

	Time 1 Mean Score	Time 2 Mean Score	Standard Deviation
Total Sample	5.3	5.3	0.7
Location 1	5.3	5.5	0.7
Location 2	5.2	5.5	0.8
Location 3	5.3	5.4	0.6

Overall the metrics initiative had, at best, a slight improvement, on patients' perception of person-centred care over the two time points. Average scores displayed a marginal increase at time 2 across 15 of the 17 items (See Table 8). Statistically significant differences were reported on 3 of the 15 statements. Total scores increased slightly but not at a statistically significant level. There were no statistically significant differences in scoring across the 3 locations over time points. There was no statistical correlation between length of time and PCQ-P scores; likewise between age of participant and PCQ-P.

STUDY OBJECTIVES 3 & 4:

STUDY OBJECTIVE 3: EXAMINE THE EXPERIENCES OF STAFF WITH REGARD TO THE IMPLEMENTATION OF THIS INITIATIVE WITHIN THE WORKPLACE. STUDY OBJECTIVE 4: TO CREATE A DEEPER UNDERSTANDING OF HOW THE METRICS INITIATIVE IMPACTS UPON THE CONTEXT WITHIN WHICH CARE IS DELIVERED

Data were collected using constructs derived from the Nursing Context Index (Slater et al. 2009) from a sample of 97 registered nurses/midwives at time 1 and 76 registered nurses/midwives at time 2, drawn from across 3 locations and representing 38 clinical settings. Respondents were predominantly female and aged 36 – 45 years of age. The largest sample across settings was drawn from location 2 at time 1 and location 3 at time 2. A breakdown of the demographic details of respondents is outlined in table 9.

Table 9. Demographic details of registered nurses/midwives across the three locations

SETTING	Time 1	Time 2	AGE	Time 1	Time 2
Location 1	30.9%	30.3%	18 – 25 years old	0	1.4%
Location 2	40.2%	31.6%	26 – 35 years old	33%	20.3%
Location 3	28.9%	38.2%	36 – 45 years old	43%	47.3%
Male	9.4%	8.5%	46 – 55 years old	16.5%	21.6%
Female	90.6%	91.5%	55+	7.2%	9.5%

Thirteen constructs were used to measure the impact of the medication management metrics on workplace culture and systems of care. The 13 constructs are indicative of 3 broader constructs; Measure of Job Satisfaction (4 constructs); Work Stress (four constructs) and The Context of Care (five constructs). Systems of care are integral to the context in which care is delivered including the structures, processes and patterns of behaviour that enable person-centred, safe and effective care to be sustained even when health care changes. Measures of homogeneity for the total scales and the constructs are all psychometrically acceptable with Cronbach's Alpha scores ranging from 0.69 to 0.90.

Measures of Job Satisfaction

The Measure of Job Satisfaction measures staff satisfaction across four broad areas of work life. These include satisfaction with pay and prospects; satisfaction with training; personal satisfaction; and professional satisfaction. It comprises 18 items measured on a 7-point scale from 1 – very dissatisfied through 4 – Neither satisfied nor dissatisfied to 7 – very satisfied. Higher scores indicate higher levels of satisfaction.

Table 10. Measures of job satisfaction total scores across locations and time points

CONSTRUCT	Time 1 Score	Time 2 Scores	Location 1 (Time 1 & Time 2)	Location 2 (Time 1 & Time 2)	Location 3 (Time 1 & Time 2)
MEASURES OF JOB SATISFACTION	4.46	4.43	4.42 4.23	4.37 4.49	4.30 4.52
Satisfaction with Pay and Prospects	4.06	4.04	4.23 3.78	4.08 4.29	3.84 4.03
Satisfaction with Training	3.49	3.35	3.81 3.60	3.28 3.24	3.45 3.23
Personal Satisfaction	5.13	5.36	4.85 5.02	5.33 5.34	5.13 5.64
Professional Satisfaction	4.79	4.96	4.78 4.50	4.79 5.10	4.79 5.2

Overall, nurses/midwives reported being somewhat satisfied with their job and this sense of satisfaction was consistent across all three locations (Table 10). The nursing/midwifery staff reported being neither satisfied nor dissatisfied with their pay and prospects. There were no statistical differences in scoring across the 3 locations and across time points. There was a slight sense of dissatisfaction among nursing/midwifery staff in relation to continuous professional development and the opportunity to attend training. This was slightly more pronounced in the settings of location 2 and location 3 but not at a statistically significant level. There was no statistical difference in satisfaction with training scores across time points. The subscale 'Personal Satisfaction' was positively scored indicating nurses/midwives are somewhat personally satisfied with the care they provide and this was evident across all three locations. There were no statistical differences in scoring across locations and across time points. The total score on 'Professional Satisfaction' indicates that nurses/midwives felt positive regarding their contribution to nursing/midwifery care at a professional level. There were no statistical differences in scoring across locations and time points.

Table 11. Measures of work stress total scores across locations and time points (* indicates statistically significant differences in scoring)

CONSTRUCT	Time 1 Score	Time 2 Score	Locations 1 (Time 1 & Time 2)	Location 2 (Time 1 & Time 2)	Location 3 (Time 1 & Time 2)
WORK STRESS* SCALE	3.09	2.87	2.87 3.19	3.03 2.80	3.42 2.66
Work Social Life Balance*	2.84	2.83	2.59 2.92	2.75 2.96	3.21 2.64
Working Environment*	3.02	2.65	2.57 3.22	3.04 2.52	3.51 2.30
Communication and Support*	3.73	3.40	3.55 3.92	3.66 3.28	4.00 3.08
Career Development	2.78	2.58	2.78 2.71	2.65 2.42	2.94 2.61

Work Stress Scale

The Work Stress Scale examines four areas of nursing/midwifery work life which are indicative of stress. It can be summated to provide a total score and four construct scores. The Work Stress Scale was measured on a 7-point scale ranging from 1 – no stress to 7 – extreme stress.

Overall, nurses/midwives reported having 'Some Stress' and this sense of stress was relatively consistent across the three locations. There was a statistical difference in scores between settings over time ($f = 4.54$; $df = 2$; $p = 0.012$). Work stress Scale scores at location 1 increased in comparison to locations 2 & 3 where a decrease was recorded. These changes were small but statistically significant.

Generally, nurses/midwives work/home life interface caused "Some Stress" across the three locations. At time 1 this difference was more pronounced in location 3 when compared to location 1. This pattern of responding was reversed at time 2. Locations 1 & 2 reported an increase in stress levels and location 3 reported a decrease in mean scores. The differences in mean scores across locations were at a statistically significant level across time points (f=0.418, df = 2; p=0.039). All statistical changes were marginal and remained in the 'Some Stress' bracket (see Table 11).

Working environment is concerned with the climate on the ward. It looks at the level of appreciation from colleagues and patients for work done, the level of value placed on each person's individual contribution to the success of the ward. Overall the construct was scored as causing 'Some Stress' however the sense of stress was more pronounced in locations 2 & 3. Statistical differences in scoring were noted across the three locations at time 1. Statistically significant changes in 'Working Environment' scores were noted across time between the three locations (f=8.296, df = 2; p=0.000). In location 1 scores increased across time points, whilst at locations 2 and 3, scores decreased.

The 'Level of Communication and Support' was reported as the most stressful construct, across all 3 locations, causing moderate stress to respondents. Statistically significant changes in scoring were reported between the locations across time points (f=3.956, df = 2; p=0.021). Location 1 reported an increase in scores across time points whilst locations 2 and 3 reported a decrease.

Four statements examine the opportunity that the job provides for the facilitation of career development. This included sufficient 'opportunity to learn and practice new techniques during daily duties', 'adequate training in the job', and the 'pursuit of one's own goals'. This construct was deemed to be the least stressful causing "little to some stress" and this was consistent across all three locations. There were no statistical differences in scoring between locations and across both time points.

Context Assessment Index

The Context Assessment index comprises five constructs that assess the context within which care is delivered. These are 'Collaborative Practice', 'Evidence-informed Practice', 'Respect for Persons', 'Practice Boundaries', and 'Evaluation'. The Context Assessment Index was measured on a 4-point Likert scale ranging from 1 – Strongly Agree to 4 – Strongly Disagree. A score of 2.5 indicates a mid-point.

Table 12. Context Assessment Index total scores across time points

	Time 1 Score	Time 2 Scores	Location 1 (Time 1 & Time 2)	Location 2 (Time 1 & Time 2)	Location 3 (Time 1 & Time 2)
TOTAL CAI SCORE	2.21	2.18	2.13 2.15	2.29 2.18	2.20 2.20
Collaborative Practice	2.14	2.13	1.95 1.98	2.24 2.19	2.21 2.21
Evidence-informed Practice	2.23	2.15	2.15 2.09	2.30 2.17	2.19 2.18
Respect for Persons	1.87	1.88	1.81 1.79	1.95 1.91	1.86 1.93
Practice Boundaries	2.23	2.16	2.25 2.21	2.28 2.18	2.14 2.11
Evaluation	2.59	2.58	2.50 2.70	2.64 2.47	2.60 2.59

The overall results for the total sample indicate nurses/midwives agreement on the presence of a positive context for care (see Table 12). This was more evident in location 1 when compared with locations 2 & 3. Location 2 had the least positive context of care. This pattern of responding was generally consistent across the five constructs that comprise the measure of context.

'Collaborative Practice' examines the presence of intra health professional collaborative practice in the clinical setting and between health care professionals and patients and significant others. Scoring across sites at time point 1 was different at a statistically significant level on this construct ($f=4.522$, $df = 2$; $p=0.012$). Nurses/midwives in location 1 reported a more positive culture of collaborative practice between professionals and with patients than compared to locations 2 & 3. The total sample score indicated a slight sense of agreement with the presence of collaborative practice. There were no statistical differences in scoring between locations over time.

Evidence-informed Practice examines the presence of an environment where staff are equipped to a sufficient standard of research knowledge in evidence examination, availability of the evidence (peer-reviewed journals, etc.) and empowered to use and effect change in the clinical setting based on the evidence. There was very slight agreement with the presence of this construct for the total sample and across the three locations. There were no statistical differences in scoring between locations across time.

Respect for Persons refers to relationships among all health care professionals involved in care and the skills each health care speciality brings to the care process, and between health care staff and the patient or significant other. This is evident in all strands of working from assessment, care planning, implementation and review. The construct was the most positively scored of the five constructs that measure the context of care. Nurses/midwives

agreed that there was a sense of respect for persons within the professions, and this was also evident across the locations. There were no statistical differences in scoring across locations at time point 1 and between locations across time points.

The construct 'Practice Boundaries' examines the clarity of role of health care professionals and their responsibilities in effectively delivering patient care. There were no statistical differences in scoring across locations. Nurses/midwives scored this at 2.23 which indicates very slight agreement in regard to the presence of key attributes on the ward. Scores across the three locations were similar and did not differ at a statistically significant level. The scores between locations did not differ over time.

Evaluation examines the structured opportunities in ensuring the appropriateness for the provision of effective care. This construct was negatively scored as being absent in the workplace and this was the same across the three locations. There were no statistical differences in scoring across locations at time 1 and between locations across time.

The quantitative evidence highlights that the intervention had a minimum impact on culture change. Generally the nurses/midwives workplace culture was positive, characterised by moderate levels of job satisfaction, some stress and a slightly positive work environment. No statistically significant changes in scoring across time points were reported on the constructs relating to nursing staff job satisfaction and the context of care. Statistically significant changes were reported on the constructs relating to work stress between locations across time points. The pattern of change was not consistent between the three locations. Location 1 reported increases in stress levels in comparison to locations 2 & 3 that reported general decreases.

Findings from the Focus Groups may provide some explanation of the scoring patterns relating to nurses/midwives. The participants in focus group 2 reported that the implementation and impact of the medication management metrics programme with staff was piecemeal. A 'cascade method' of diffusion of knowledge was used to implement the project aims, objectives and practicalities in conducting the programme. The evidence from the two focus groups highlights that the transference of the relevant information to all staff members did not happen in a comprehensive and systematic manner. In some locations knowledge appeared to be located with nursing/midwifery management. By comparison, in location 1, it filtered down to nursing staff.

Some of the participants felt that the more junior nursing/midwifery staff were not as aware of the audits as the rest of the nursing/midwifery staff, although they did not know the reason:

> *"Maybe the more Junior nursing staff, disassociate themselves from it, see us coming again with clipboard doing more ticking and they probably feel that there's more people ticking than there is on the ward, as far as they're concerned they maybe feel that it's nothing to do with them at all."*
>
> **(FG Participant)**

However, some participants felt that empowering the staff to do the audits themselves and giving them enough information about the exact objectives of the audits would increase their awareness of and interest in the metrics project:

"I think they would know what they would be looking for and they would see exactly where… it's basics… because it is about getting the times, dates, signature, and things like that…. I think if they were going through the books themselves… "this is what we're looking for, it's not that we're out to find faults, we're trying to maintain a standard here" and it would just be obvious to them, it's simple wee things that would get you that 100%. It's not that anyone's doing anything wrong, there's fantastic nursing care out there, but that's why we need the breakdown in percentage cos I think… in the 70s and 80s sometimes where we think "I'm doing really well"… but it's the simple things."

(FG Participant)

There was an acknowledgement that, if the programme is to be effectively implemented, nursing/midwifery staff need to have ownership of the initiative. Staff reported suspicion regarding the collection of metrics data on such a regular basis and felt that they were being 'checked up on'. Nursing/midwifery management felt that if staff were more involved in the auditing process, this would clarify the objectives of the programme, highlight the fact that the initiative is designed to safeguard patients and nursing/midwifery staff and increase adherence to the changes identified. A focus group participant remarked:

"We give responsibility to the staff because they have to have a certain ownership of it. There's no point in coming down every month to say 'you're falling down on this, you're falling down on that…' Let them see for themselves."

(FG Participant)

STUDY OBJECTIVE 5:
CLARIFY LINKS BETWEEN THS INITIATIVE AND OTHER STRATEGIC/ORGANISATIONAL PRIORITIES

The findings highlighted in answering objectives 1-4 and previously referenced literature will be used to assess this study objective in the discussion section.

Overall Findings

The study aimed to evaluate the impact of medication management metrics upon the delivery of nursing and midwifery care. The findings from the various strands of research provide a picture where:

- The metrics audit rates were moderately completed. When completed, the data were of moderate reliability. There were short-comings in the implementation of the metrics criteria.
- The implementation of the metrics initiative had little impact on both the nursing/midwifery work environment and patients' perceptions of care.
- Further exploration of issues relating to the implementation of the metrics initiative reported: (1) a favourable view of the initiative in helping to improve practice; (2) the necessity of buy-in from all health care staff, in particular medical clinicians and staff nurses/midwives, to help achieve full implementation; (3) Closing the loop – the full implementation of action plans generated from the findings of the metrics audits.

Discussion

The triangulation of source and method data provided a deeper insight into the impact of the medication management metrics project and helped identify areas for potential improvement. Overall three key themes were identified from the qualitative and quantitative data sources:

Theme 1: Engagement with Multi-disciplinary partners

A major theme to emerge from the focus groups was the impact of the role of the medical clinicians in the initiative. Findings from the focus group participants indicate that medical clinicians' engagement was critical to the overall success of the initiative. Participants stated that attempts had been made to engage medical clinicians in addressing the deficits identified within the audit process. Medical clinicians were asked to address issues regarding the use of generic drug names, identifying the correct dosage and signing all prescribed medications appropriately. The findings from the focus groups indicate that this process

was unsuccessful and engagement with medical clinicians was difficult to achieve. Examination of the quantitative findings from the research team completed observations of practice/audit scores relating to legible prescriptions show that 67.3% were not legible; 42% did not have the correct dosage recorded; 95.9% had no legible prescriber signatures; and 44.7% used abbreviations. This presents a difficult juxtaposition whereby medical clinicians persist in unsafe practice in drug administration and nurses/midwives continue to administer medication when not prescribed in a clear and concise manner. Lack of appropriate action around these issues had a significant impact on the quantitative outcomes of the initiative.

"It is a bug bear for all staff on the ground and they feel it's very unfair. To get a wrap on the knuckles for something you have no control over, they're all aware that they're not supposed to give drugs if they can't read, and of course they wouldn't. But in the current climate, it is an issue."

(FG Participant)

A clearly identified process of positive engagement with medical clinicians set within the structures of the audit may offer the opportunity for significant improvement. Some focus group participants suggested the introduction of a computerised system in the drug prescription process as an alternative to hand-written records. This, they suggested, would be set up in accordance with clear guidelines and allow for the printing of personalised prescriptions in a clear and concise manner. This issue would require further exploration. Nursing/midwifery staff also indicated that they required assistance in achieving medical clinicians engagement and that this should be driven from healthcare management. One participant remarked that

"We feel that medical clinicians are letting us down over and over again, we're looking for support in how to deal with that."

(FG Participant)

"It has increased practice and it has made nursing staff more aware of their responsibilities in relation to medication management overall. However the biggest problem we have is the engagement with medical clinicians and as a result of that lack of engagement we are constantly falling down in relation to the scores that we get at the end of the month."

(FG Participant)

Another participant verbalised the sense of frustration with the lack of influence over medical clinicians in addressing the issue –

"We just don't seem to have any influence on our own medical clinicians."

FG Participant

Nurses/midwives felt that they needed support in asking medical clinicians to write up prescriptions neatly (generic name, dose, signature etc.):

"we can ask the medical clinician day in day out "would you please write the generic name, would you please sign it properly, put the date down for each prescription" [sigh]… "haven't time…" [sigh] like it has to come from above or something. Psychiatric doctors are... we never seem to have any problem with them. Their prescriptions are generally perfect. So what happens in their training, what's different? You know that generic name… and they have the dosage written exactly… it will be written perfectly. And signed. We just don't seem to have any influence on our own medical clinicians."

(FG Participant)

In addition, one participant felt that it was sometimes difficult for the auditors who were not involved in patient care to carry out the medication audit, as they were less used to the medical clinicians handwriting and the drugs in general:

"If I go to a ward to undertake an audit, I'm not familiar with the doctor on the ward, I'm not familiar with their signatures, I'm not familiar with drugs, I go around with a BNF under my nose, and most of us who are not involved in direct patient care would be some of the same elk, so when I go to look at prescriptions, what I consider illegible, a staff member who is administering drugs every day of the week might not consider it as illegible. So we have interpretation issues there."

(FG Participant)

Certain participants suggested addressing the problem by:

- Laminating the prescription, signed by the medical clinicians, although there was some disagreement over this suggestion
- Printing the prescriptions
- Asking the nurses/midwives to transcribe medical clinicians' prescriptions

The merit of these suggestions was debated from a both a professional and operational standpoint. Printing the prescriptions was suggested as the most efficient way to remedy the issue of illegible hand-writing, as demonstrated in the following quote:

"They're trying to teach doctors to use generic names... it depends on the doctors really. Some of them are brilliant and s ome of them… but it has improved in the past year or so but now the prescriptions are all printed."

(FG Participant)

The literature on this subject reinforces the complexity around measuring the impact of nursing/midwifery in areas where they are seen to have responsibility. Scotland NHS (2005) identify a range of factors that includes nurses/midwives as part of a much wider multidisciplinary team, all of whose individual and group actions and interactions may affect patient outcomes.

The way forward for measuring outcomes of care undoubtedly lies in every member of the multidisciplinary team being responsible for the part they play in what happens to patients. They also need to understand the impact their action or inaction will have on eventual patient outcomes.

Crucially, they must appreciate that what they do has the potential to support or negate the actions of colleagues. This will ensure that every member takes responsibility for examining their performance within the multidisciplinary team and that each individual profession recognises and addresses their own specific issues.

Theme 2: Staff experiences

A second major theme to emerge was the experiences of staff during the implementation of the initiative. Staff experience is a potential area for drawing evidence about nursing/midwifery quality (Maben et al. 2012). Recent research on staff wellbeing has established a link between staff motivation, affect and wellbeing and patient experiences of care (Maben et al. 2012). Staffing and skill mix are known to be linked to patient outcomes in acute and community care (Bostick et al. 2006),

Participants in the focus groups felt there were issues regarding the involvement of staff and the effective use of information. They expressed a sense of frustration in that they did not have timely and comprehensive access to the findings from audits and that this hampered the completion of the 'loop' in the audit process. In order for feedback to be effective it must be presented in a clear, consistent and standardised format. The absence of real-time feedback to teams about performance and areas for improvement undermines staff experience around the metrics initiative and ultimately may result in adverse outcomes. Focus group participants suggested this could be improved by development and implementation of a more inclusive communication strategy overall.

There was a feeling that there was a lack of feedback to the staff on the performance of individual wards/units that resulted in staff venting their frustrations:

> *"I think frustration was that people weren't getting any results, they were doing the audits every month religiously but they weren't getting any feedback as to how well they were doing or how well they weren't doing. But that's OK now."*
>
> **(FG Participant)**

The participants all agreed that the audits findings were useful, although they would prefer to see them broken down in specific areas:

"I'd like to see the actual breakdown of percentages as to where we're going up or down. Because I've never seen it like that."

(FG Participant)

In addition to this, there was some sense that the feedback given on the audits findings was only partial.

Focus group participants expressed further frustrations relating to a lack of consistency in the action planning process across the locations. It was reported that every time an issue emerged from the audits, an action plan was drawn up and acted on with more or less urgency:

"There's an action plan. I mean the … and discuss the finding with the CNM2 and if there is anything very serious that is found, you fill in a form and you bring that to the CNM2 and discuss it and you feedback to the manager and then there would be an action plan drawn up and things to be addressed within a certain period of time, some things have to be addressed immediately and other things will have to be addressed overtime."

(FG Participant)

Having said that, it was not always possible for the staff to implement the action plans because of a lack of time between the audits and because of a lack of funding/money to implement the changes required:

"And I think from some of the busy wards at the moment, the priority isn't always the action plans and the metrics, it's actually looking after the patients, because they're recurring so often."

(FG Participant)

"Well, we would have had the action plan. So then we would have worked from the action plan, like… new trolleys and getting keys for the drug trolleys, so whatever the audit showed up we would have actioned on it if we could, ,if we had the money to do, but we don't always have the money, the drug trolleys are expensive."

(FG Participant)

It was suggested within the focus groups the ward managers would monitor the implementation of the action plans but, it was reported, there was no formal way of making sure the actions were put into practice.

The audits were undertaken by nurses/midwives or designated nursing/midwifery management personnel in most of the settings. Some of the participants felt that it would have been beneficial to give responsibility to the nursing/midwifery staff to undertake the audits:

"We give responsibility to the staff because they have to have a certain ownership of it. There's no point in coming down every month to say 'you're falling down on this, you're falling down on that…' Let them see for themselves."

(FG Participant)

Some focus group participants reported that the metrics initiative had a positive impact on staff. They mentioned that it made staff "more observant" and "more aware":

"From our point of view, it's made us more observant, of practices that's going on in different places, I think it's been very beneficial."

(FG Participant)

"Beneficial? Oh definitely. People are more aware, particularly around the signature."

(FG Participant)

"And it's sort of standardised the practice around checking the MDA within the hospital, which is good."

(FG Participant)

Having said that, one participant mentioned she would have liked to hear the opinion of a staff nurse on the impact of the initiative (no staff nurse took part in that focus group).

In some cases, it was reported that practice has changed as a result of the metrics initiative:

"Our practice changed after the first one. Because we're a day ward we did only check once a day, that was changed very quickly."

(FG Participant)

Furthermore a participant suggested the initiative has improved practice and it has made nurses/midwives more aware of their responsibilities in relation to medication management overall. As a result of the audits it was highlighted that the initiative contributed positively to the general safety of the hospital environment:

"Going back a few years ago, destroying the drugs wouldn't have been up to standard… it has improved, the trolleys are locked all the time now. The internal box is locked. We're checking all the time for drugs out of date."

(FG Participant)

Some participants, in their experience, felt that the audit tool was user-friendly whilst others were not in agreement:

"It's a very easy tool to use, very easy to put up on the computer, compared to other audits, like the hygiene one. It's very user-friendly."

(FG Participant)

"It's easy, and it's relevant. And I know hygiene audits are relevant as well, and they're all part of the standards and maintaining the standards in delivering patient care but it seems more relevant going round looking at practice to me than going round looking for dust, it's more beneficial."

(FG Participant)

"There are still things that could be improved…make the system more user friendly…major need for action plans to be printed…staff nurses could be included therefore if they see what is going on and how it works, they will understand it more."

(FG Participant)

McCance et al (2012) highlight the importance of promoting ownership at all levels during the metrics implementation process. In addition Maben et al (2012) reinforce that usability of any measurement system, the usefulness to end-users (e.g. practice teams), and staff understanding of the purpose and benefits of measurement as central to the efficacy of implementation. To achieve this there is a requirement for the organisational system to embed effective implementation infrastructure that incorporates the metrics initiative as an integral part of its strategic direction and governance framework.

Theme 3: Person-centred Care; Effective Care; Systems of Care

Nursing/Midwifery care services are provided to patients in an environment with complex interactions that can generate harm, errors and unintended outcomes. Because of this, patient safety is largely considered an indicator of high performing nursing/midwifery care. A further indicator of effective and person-centred care is the patient experience. This is considered (Dubois et al. 2013) the result of clinical and organisational processes that should optimally ensure patients receive the right care at the right time and in the right way. Such a measure is essential to assess the acceptability and appropriateness of nursing/midwifery care from the patients' perspective.

Healthcare teams, healthcare provider organisations and governments often articulate an intention to deliver person-centred care (McCance et al. 2011). It is a central tenet in key national strategy documents such as 'Crossing the Quality Chasm' (Institute of Medicine,

2001); the 'National Service Framework for Older People' (England Department of Health, 2001); National Standards for Safer Better Healthcare (HIQA, 2012); Future Health: A Strategic Framework for Reform of the Health Service (Ireland Department of Health, 2012); and within professional organisations such as An Bord Altranais (2000; 2007; 2009) and the 'Royal College of Nursing' Principles of Nursing Practice (Principle D) which identifies the tenets of person-centred care as key indicators of quality care (Manley et al. 2011).

Analysis of data relating to both medication management metrics indicates an inconsistent picture in regards to data associated with both metrics. Whilst there appeared to be improvements across certain aspects (custody and storage) this was not evident relating to data collected around the medication administration metric. There were also notable discrepancies concerning data that had been collected and analysed by the research team and self reported data during the nine month implementation period.

The data represented under objective one, provides a comprehensive overview of the potential patient safety issues that exist across all three locations within the evaluation study. Further analysis of data from the PCQ(P) indicates that patients felt that they had experienced acceptable levels of person-centred care across all three locations. As previously stated this is a positive outcome but must be situated within the context of the wider research outcomes. On the basis of this evidence the following recommendations apply:

Recommendations

i An in-depth multidisciplinary review of medication management processes (across all three locations) is undertaken immediately in light of patient safety issues identified within this evaluation report.

ii A multidisciplinary 'task force' should be developed to consider an effective way forward in implementing the metrics initiative, clearly mapped to existing corporate strategies and priorities.

iii The multidisciplinary team should define their collective roles, however major or minor, in respect of administration and custody and storage of medications. The multi-disciplinary team must be able to describe the structure and processes involved that will ensure safe and effective outcomes are achieved.

iv To improve the experiences of staff, and ensure both successful implementation and evaluation of the metrics initiative, establish an effective organisational infrastructure that supports the engagement and inclusion of practitioners and clinical teams.

v Findings from the Person-Centred Climate Questionnaire (PCQ-P) should be used to establish the active involvement of patients in their own care. It is important that

nurses /midwives place the patient perspective at the forefront of all they do, and understand how to use feedback from patients and families to evaluate and improve the interventions that they deliver.

vi All metrics established, should be relevant to both quality of care and patient safety across the services, so that progression to poor performance is identified and addressed appropriately.

vii Corporate governance groups within services should retain oversight of performance against metrics criteria as appropriate.

viii The nursing and midwifery research community, in tandem with multi-disciplinary partners, should seek to build on the evidence base now available.

ix Outcomes from this evaluation study should be effectively disseminated across appropriate stakeholder organisations.

Conclusion

There are valuable lessons to be gained from the experiences of implementing and evaluating systems and processes for nursing/midwifery metrics. It must be recognised that this has encouraged increased transparency as regards the performance of individual wards, units and services. As a consequence, this should also encourage individuals and teams to regain control of the quality of nursing/midwifery care and thus lead to increased accountability.

The study findings have important policy implications that should inform any future corporate approach towards system wide implementation of nursing/midwifery metrics. Outcomes from this should promote improvements in care delivery and enhanced corporate understanding of the central role of nurses/midwives in the delivery of safe, effective and person-centred care.

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Appendices

APPENDIX 1

Informed Consent Form (Staff)

Title of Research Study:	Evaluating the Impact of Nursing Metrics
Principal Investigator:	Dr. Randal Parlour
Organisation:	NMPDU HSE- North West,
Address:	CNME, St. Conal's Hospital, Letterkenny, Co. Donegal
Contact Details:	Email: Randal.Parlour@hse.ie Phone: 087 908 8435

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. You will be required to provide your signature in order to participate in this research. You have to be a member of staff and at least 18 years of age in order to provide consent to take part in this research study.

Take time to decide whether or not you wish to take part. Thank you for reading this.

Introduction & Purpose:

We are conducting research on the implementation of the Medication Management Metrics. As part of this we are examining the attitudes and perceptions of nurses/midwives towards the context of care or environment in which care is delivered. You have been chosen at random and you will be among approximately 250 staff across the HSE NW region to receive this questionnaire. Your response will be treated with full confidentiality and all information will be completely anonymised. This study has been reviewed and approved by the Research Ethics Committees at both Sligo Regional Hospital & Letterkenny General Hospital. The findings of this study may be published in peer reviewed journals and conference presentations. No research participant will be identifiable from any publications.

Should you have any questions you can contact us in confidence about this research (see below).

Nature of participation:

All research participation is voluntary, and you have the right to withdraw at any time, without any repercussions, should you object to the nature of the research. All responses will be treated with the strictest sensitivity and are kept confidential. This study has been reviewed by the appropriate ethical committee in accordance with local regulations. All results obtained will be strictly anonymised and you will be given access to a summary of the findings from the study, when it is concluded. Importantly, if there is anything during the course of taking part in this research that you do not understand, please feel free to ask us, and we can explain all aspects to you. Finally, to ensure confidentiality all surveys are returned within a sealed envelope supplied to the designated drop-off location.

Duration:

The survey is self-report and takes approximately 20 minutes to complete.

Costs and Compensation:

You will not receive any form of compensation for participating in this study.

Possible Risks:

We do not perceive any unanticipated risks associated with completing this survey.

Possible Benefits:

Possible benefits from taking part in this research include the following:

- when you have participated in this research you may find that what you have learned may inform your perceptions of the workplace setting;
- you will be assisting in furthering knowledge in this area at theory and practice level.

Opportunities to Question:

Any technical queries or questions in relation to this research can be directed to:

Principal Researcher: **Dr Randal Parlour** Phone: **087 908 8435**

Documentation of Signature:

Your signature below acknowledges that you have read and understood the above information and that you voluntarily agree to take part in this research study.

Your name:

....

(Signature) *(Date)*

.....

(Block Capitals)

Name and Signature of Individual Obtaining Consent:

....

(Signature) *(Date)*

APPENDIX 2

Informed Consent Form (Patients)

Title of Research Study:	Evaluating the Patient Experience
Principal Investigator:	Dr. Randal Parlour
Organisation:	NMPDU HSE- North West,
Address:	CNME, St. Conal's Hospital, Letterkenny, Co. Donegal
Contact Details:	Email: Randal.Parlour@hse.ie Phone: 087 908 8435

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

YOU HAVE TO BE AT LEAST 18 YEARS OF AGE IN ORDER TO TAKE PART IN THIS RESEARCH.

Introduction & Purpose:

At present we are conducting research on patients experiences with the ward/unit environment and the processes around the delivery of care. Thus, the attitudes and perceptions of patients are highly important to gain an understanding about this process. We are inviting you to take part in this research. You have been chosen at random from patients in wards and units within the HSE North West region (Donegal, Sligo and Leitrim); and you are among 326 people receiving this questionnaire. Your response will be treated with full confidentiality and all information is completely anonymous. This study has been reviewed and approved by the Research Ethics Committees at Sligo Regional Hospital and Letterkenny General Hospital.

The information gained from this survey will be used to understand the experiences of patients within hospital/wards and make recommendations for best practice. Additionally, the findings of this study may be published in peer reviewed journals and conference presentations. No research participant will be identifiable from any publications.

Nature of participation:

All research participation is voluntary, and you have the right to withdraw at any time, without any repercussions, should you object to the nature of the research. All responses will be treated with the strictest sensitivity and kept confidential. You will not be required to provide your name, address or contact details. We have gone through all the normal steps to gain ethical approval for our research study within the Regional Ethics Committee structure. All results obtained will be strictly anonymised. Importantly, if there is anything during the course of taking part in this research that you do not understand, please feel free

to ask us, and we can explain all aspects to you. Finally, to ensure confidentiality all surveys are returned within a sealed envelope.

Duration:

The survey is self-report and takes about 10 minutes to complete.

Costs and Compensation:

You will **not** receive money or any other form of compensation for participating in this study.

Possible Risks:

We do not perceive any unanticipated risks associated with completing this survey.

Possible Benefits:

There are two possible benefits in taking part in this research; firstly when you have participated in this research you may find that what you have learned may inform your perceptions of the ward environment; and secondly you will be assisting in furthering knowledge in this area at theory and practice level.

If you do participate, completion and return of the survey indicates your consent to the above conditions.

Opportunities to Question:

Any technical queries or questions in relation to this research can be directed to:

Principal Researcher: **Dr Randal Parlour** Phone: **087 908 8435**
Email: **randal.parlour@hse.ie**

APPENDIX 3

The Person-Centred Climate Questionnaire (Patients) (Edvardsson et al. 2009)

Please read through the following statements in turn and select the response that best represents your opinion by placing a tick in the corresponding numbered box. Please remember there is no right or wrong answer and please complete all questions.

Possible Answers:

1 = No, I very strongly disagree
2 = No, I disagree
3 = No, I slightly disagree
4 = I neither agree nor disagree
5 = Yes, I slightly agree
6 = Yes, I agree
7 = Yes, I very strongly agree

I experience this ward as:	1	2	3	4	5	6	7
A place where the staff are knowledgeable.							
A place where I rely on receiving the best care.							
A place where I feel in safe hands.							
A place where I feel welcome.							
A place where it is easy to talk to the staff.							
A place where the staff takes notice of what I say.							
A place where the staff come quickly when I need help.							
A place where the staff use language I can understand.							
A place which is neat and clean.							
A place where the staff have time for the patients.							
A place which feels homely even though I am in a Hospital.							
A place where it is possible to get unpleasant thoughts out of your head							
A place where the people talk about ordinary things, not just illness.							
A place where the staff make a little extra effort on my behalf.							
A place where I have choices, for example, what to do.							
A place where there is something nice to look at.							
A place where I can get "that little bit extra".							

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

APPENDIX 4

Context Assessment Index (McCormack et al. 2009)

For each of the following statements, please put a cross in one box only.
SA - Strongly Agree, A - Agree, D - Disagree, SD - Stronglye Disagree

	SA	A	D	SD
01 Personal and professional boundaries between health care professionals (HCP) are maintained.				
02 Decisions on continence care and management are clearly documented by all staff.				
03 A proactive approach to care is taken				
04 Performance measures are (e.g. staff turnover, length of stay etc) in place				
05 All aspects of care are based on evidence of best practice				
06 Midwife leader acts as a model of good practice.				
07 HCP's provide opportunities for women and families to participate in decisions about their own care.				
08 Education is a priority.				
09 Structured and open channels of communication exist between HCP's, patients, carers and organisational management				
10 There are good working relations between clinical and non-clinical staff				
11 Staff receive feedback on outcomes of complaints.				
12 Health Care Professionals have equal authority in decision making				
13 Audit and /or research findings are used to develop practice				
14 A staff review process is in place which enables reflection on practice, goal setting and is regularly reviewed.				
15 Staff have explicit understanding of their own attitudes and beliefs towards the provision of care				
16 Women are encouraged to be active participants in their own care				
17 There is high regard for women's' privacy and dignity.				
18 HCP's and Health Care Support Workers understand their roles.				
19 The management structure is democratic and inclusive				
20 Appropriate information (large written print, tapes etc) is accessible to patients.				
21 HCP's and women work as partners providing individual patient care.				
22 Care is based on comprehensive assessment.				
23 Challenges to practice are supported and encouraged by midwife leaders and nurse managers.				
24 Discussions are planned between HCP's and Women/Families				
25 The development of staff expertise is viewed as a priority by midwife leaders.				
26 Staff use reflective processes (e.g. action learning, clinical supervision or reflective diaries) to evaluate & develop practice				
27 Regard is given to woman's psychological and spiritual wellbeing.				
28 Organisational management has high regard for staff autonomy.				
29 Staff welcomes and accepts cultural diversity				
30 Evidenced based knowledge on care is available to staff.				
31 Women have a choice in assessment, planning and evaluating of their care and treatment.				
32 HCP's have the opportunity to consult with specialists.				
33 HCP's feel empowered to develop practice.				
34 Clinical midwife leaders create an environment that is conducive to the development and sharing of ideas.				
35 Guidelines and protocols are available which are based on evidence of best practice (patient experience, clinical experience, research)				
36 Women are encouraged to participate in feedback on care, culture and systems				
37 Resources are available to provide evidence based care.				
38 The organisation is non-hierarchical.				
39 HCP's share common goals and objectives about women's care.				
40 Structured programmes of education are available to all HCP's				

APPENDIX 5a

Nursing Context Index (Slater et al. 2009) Measures of Job Satisfaction

In the following sections could you please rate each of the following statements and remember there are no right or wrong answers.

Please indicate your level of **satisfaction** in relation to each of the following statements:

		Very dissatisfied	Dissatisfied	Somewhat dissatisfied	Neither	Somewhat satisfied	Satisfied
1	My clinical grade						
2	I am fairly paid for what I contribute to the organisation						
3	My prospects of promotion						
4	The opportunities I have to advance my career						
5	The amount of pay I receive						
6	The opportunities to attend courses						
7	Time off to attend courses						
8	Being funded for courses						
9	The feeling of worthwhile accomplishment I get from my work						
10	The extent to which I can use my skills						
11	The contribution I make to patient care						
12	The amount of challenge in my job						
13	The extent to which my job is varied and interesting						
14	The degree of respect and fair treatment I receive from my boss						
15	The degree to which I feel a part of a team						
16	The amount of support and guidance I receive in my work						
17	The way that I am able to care for patients						
18	The amount of time I spend on administration						

APPENDIX 5b

Work Stress Scale

Please indicate the level of **stress** you experience as part of your job in relation to each of the following statements:

		No stress	Little stress	Some stress	Moderate stress	A lot of stress	Very stressed
1	Lack of support at home						
2	Demands of my job on social life						
3	Demands of my job on my family						
4	Having too much work to do						
5	Lack of support from colleagues at work						
6	No appreciation of your work by other people at work						
7	Doing the work of other people						
8	No appreciation of your work by patients						
9	Keeping up with changes in the HSE						
10	Dealing with problem patients						
11	Lack of resources						
12	Lack of communication and consultation with doctors						
13	Lack of communication and consultation with staff						
14	Too much or too little variety in your job						
15	Achieving your own goals						
16	Communication with patients						
17	Opportunity for career development						