NURSING AND MIDWIFERY QUALITY CARE-METRICS:

ACUTE CARE RESEARCH REPORT

JUNE 2018

NURSING & MIDWIFERY QUALITY CARE-METRICS

Office of the Nursing & Midwifery Services Director

Tús Áite do Shábháilteacht Othar
Patient Safety First

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

NURSING AND MIDWIFERY QUALITY CARE-METRICS:

Acute Care Research Report

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Foreword

Dear Colleagues,

As nurses and midwives, the continuous improvement of patient/client care is a central component of our ethical responsibility, professional accountability and nursing and midwifery values. Every day we engage in numerous healthcare interventions where our knowledge, clinical expertise and professional judgement guide our practice to ensure high quality, safe care delivery. Knowing however what quality nursing and midwifery care is, and how to measure it has always been a challenge, both in Ireland and internationally.

Many quality improvement approaches in healthcare tend to focus on outcomes, such as morbidity, length of stay, readmission rates, infection rates, number of medication errors and pressure ulcers. Measuring outcomes is an important indicator for healthcare and provides a retrospective view of the quality and safety of care. To determine however the quality of nursing and midwifery care, and in particular our contribution to patient safety and continuous quality improvement, we need to be able to clearly articulate and measure what it is that we do. These are the important aspects of our daily professional practice, the fundamentals of care, often referred to as our clinical care processes.

In 2016, my Office commissioned a national research study to establish from both the academic literature and the consensus of front-line nurses and midwives, the important dimensions of nursing and midwifery care that should be measured, reflecting on the processes by which we provide care, and the values underpinning our practice. The voice of nurses and midwives in this research has been the major force to communicate the professional standards for excellence in care quality. The culmination of this work has resulted in a suite of seven Quality-Care Metrics reports.

I wish to acknowledge the clinical leadership of all the nurses and midwives who contributed and engaged in this research. In particular I wish to thank the Directors of Nursing and Midwifery for their support, the Directors and Project Officers of the Nursing and Midwifery Planning and Development Units, members of the work stream working groups and the research teams of University College Dublin, University of Limerick, and the National University of Ireland Galway who guided us through the academic journey. I would also like to acknowledge the Patient Representatives for their contribution and the expert external reviewer, Professor Mary Ellen Glasgow, Dean and Professor of Nursing, Duquesne University, Pittsburgh, USA. Details of the governance structure and membership of the range of stakeholders who supported this work are outlined in the Appendices.

Finally, I wish to convey my thanks to Dr Anne Gallen for taking the national lead to co-ordinate this significant quality initiative that supports nurses and midwives at the point of care delivery to engage in continuous quality improvement and positively influence the patient/client experience.

Ms. Mary Wynne

Interim Nursing & Midwifery Services Director
Assistant National Director
Office of Nursing & Midwifery Services Director

Dr. Anne Gallen

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Acknowledgements

The Nursing and Midwifery Quality Care-Metrics Project was commissioned by the HSE Office of Nursing and Midwifery Services. The UCD research team has worked collaboratively with the Directors of Nursing and Midwifery Planning and Development Units (NMPDUs), Project Officers and Work-stream Working Group members. Nurses within the seven Hospital Groups have also contributed tremendously to the project by completing the Delphi Rounds. The UCD research team would like to acknowledge the contributions of NMPDU Directors, Dr. Mark White and Miriam Bell, and NMPD Project Officers; Leonie Finnegan, Ciara White, Paula Kavanagh, and Angela Killeen. They worked enthusiastically, aided by inputs from Work-stream Working Group (WSWG) members (Appendix D), who have helped develop this evidence-based suite of quality care process metrics and indicators for the acute care setting.

The UCD research team would also like to acknowledge the contributions of Professor Mary Ellen Glasgow, Dean and Professor of Nursing, Duquesne University, Pittsburgh, USA, who has worked in partnership with the Nursing and Midwifery Quality Care-Metrics Project, acquiring the role of its international expert reviewer.

Executive Summary

Introduction

In 2012, the NMPDUs of the North West, North East and Dublin North enabled and supported healthcare organisations in acute care settings, older person's settings, midwifery services, children's services, mental health services, intellectual disability services and public health nursing services to embed a system to measure and monitor a range of nursing and midwifery care processes. A web-based software system entitled "Test Your Care" was contracted from the Heart of England NHS Foundation Trust and a core suite of nursing and midwifery process metrics were developed based on established standards from both the professional Nursing Midwifery Board of Ireland (NMBI) and organisational regulators Health Information and Quality Authority (HIQA), Mental Health Commission (MHC); and from evidence of best practice. In 2014, demand increased from Directors of Nursing and Midwifery to roll out metrics nationally. As a result, the Office of Nursing and Midwifery Services agreed to provide the national direction and support to embed a system of nursing and midwifery quality care process metrics within healthcare organisations.

This national project entitled Nursing and Midwifery Quality Care-Metrics has enabled the development and national agreement of an evidence-based set of quality care process metrics and respective indicators that can be used consistently to measure nursing and midwifery care processes in the areas of acute, children, intellectual disability, mental health, midwifery, older person and public health nursing settings. The project involved the formation of seven Work-Stream Working Groups from each of the seven disciplines. These groups represented key stakeholders from the service, academia, and patient representatives. These Work-stream Working Groups met regularly throughout the design and planning phases of the research project to ensure conformance with the time frames agreed with the project's sponsor.

Project Aims

The aim of the acute care aspect of the project was to critically review the scope of existing nursing quality care process metrics and relative indicators and identify additional metrics and indicators relevant to the acute care setting.

Design

Phase 1) Systematic Review: A systematic review of academic and grey literature was undertaken to identify existing nursing and midwifery quality care process metrics and indicators.

Phase 2) Two-round Delphi Survey on Identified Metrics: was conducted to identify gaps pertinent to the literature, and to prioritise metrics for inclusion in the Acute Quality Care-Metrics system.

Phase 3) Two-round Delphi Survey on Indicators for Identified Metrics: was conducted to prioritise indicators for inclusion in the Acute Quality Care-Metrics system.

Phase 4) Consensus Meeting with Key Stakeholders: A consensus meeting between the research team and key stakeholders from the Acute Work-stream was completed to review the findings from the Delphi process and build consensus on the prioritised metrics and respective indicators.

Conclusion

Through using a robust collaborative research methodology, a suite of 11 nursing quality care process metrics and 53 associated process indicators was developed for the acute care setting.

Recommendation

The implementation of these quality care process metrics and respective indicators into the acute care setting is due to begin in 2018. An evaluation of the developed quality care process metrics and indicators from the Nursing and Midwifery Quality Care-Metrics Project is recommended using a robust research design. This will enable the examination of the impact of the quality care process metrics and respective indicators on nursing and midwifery care processes, while attempting to control for risk of biases.

Glossary of Terms

A

Abuse: any act, or failure to act, which results in a breach of a vulnerable person's human rights, civil liberties, physical and mental integrity, dignity or general well-being, whether intended or through negligence, including sexual relationships or financial transactions to which the person does not or cannot validly consent, or which are deliberately exploitative. Abuse may take a variety of forms: physical, sexual, psychological, financial, neglect, discriminatory, institutional abuse.

Acute services: hospital-based healthcare services for inpatients, outpatients and people having day-case treatments.

Adverse event/outcome: Any undesirable event experienced by a person while they are having a drug or any other treatment or intervention, regardless of whether the event is suspected to be related to or caused by the drug, treatment, or intervention.

Adverse drug event: is a preventable failure at any stage of the medication management process that leads to or has the potential to lead to harm to the patient.

Assessment: is defined as the systematic and continuous collection, organisation, validation and recording of information. It is the process by which the nurse/midwife and patient come together to identify needs and concerns. Patient assessment guides safe practice, and encompasses physical, cognitive, social, cultural, emotional, environmental, behavioural and spiritual assessment. Physical examination skills are essential to inform critical thinking, clinical decision-making, planning of therapeutic interventions, and identifying achievable person-centred outcomes.

B

Baseline: A person's state of health when first seen by a health care professional, determined by methods such as physical examination, assessment of vital signs, imaging studies, and basic laboratory data.

Bowel pattern: describes the frequency and consistency of bowel movements.

C

Care plan: is the written record of the care planning process and incorporates identifying the patient's holistic needs, selecting the interventions that would improve the patient's condition and evaluating the patient's progress. This process has four components; assessment, diagnosis, intervention, and evaluation.

Care bundle: A set of evidence-based best practices which when consistently used together significantly improve patient outcomes.

Communicate: the exchange of information, thoughts and feelings among health care professionals, patients and their families using speech or other means.

Continence: the ability to prevent involuntary leakage of urine or faeces.

Controlled Drug: is any substance, product or preparation specified in the Schedule of the Misuse of Drugs (Amendment) Act 2016.

D

Delirium: is an acute change in cognitive function that has an organic cause and is likely to be reversible or preventable.

Deterioration: Patient deterioration can be defined as an evolving, predictable, and symptomatic process of worsening physiology towards critical illness.

Discharge plan: is the recording of the discharge planning process. This incorporates the activities that facilitate a patient's movement from one health care setting to another, or to home.

Disposal: the activities associated with the removal and discarding of medication that are no longer required or no longer suitable for their intended use.

Document: the process of writing or electronically generating information that describes the care or service provided to the patient. Through documentation, nurses communicate to other health care professionals their observations, decisions, actions and outcomes of care. Documentation is an accurate account of what occurred and when it occurred.

E

Early Warning System/Score (EWS): A bedside score and 'track and trigger' system that is calculated by clinical staff from the observations taken, to indicate early signs of deterioration of a patient's condition.

End of Life: is the term used to describe people who are likely to die within the next 12 months. This includes people whose death is imminent (expected within a few hours or days) and those with life-threatening acute conditions caused by sudden catastrophic events.

Escalation protocol: A protocol that sets out the organisational response required for different early warning scores identified or other observed deterioration. The protocol applies to the care of all patients at all times.

Evaluation: A formal process to determine the extent to which the planned or desired outcomes of an intervention are achieved.

F

Fall: is defined as an event which results in a person coming to rest inadvertently on the ground or floor or other lower level.

Family: is defined as those closest to the patient in knowledge, care and affection who are connected through their common biological, legal, cultural, and emotional history.

Fluid balance monitoring: the documentation of fluid intake and output and the balancing of both.

G

Guideline: Defined as a principle or criterion that guides or directs action. Guideline development emphasises using clear evidence from the existing literature, rather than expert opinion alone, as the basis for advisor materials.

H

Harm: Any deliberate or accidental physical, emotional, psychological, social, or reputational injury or damage to the health of a person or to any other party or parties to whom a duty of care is owed.

Health Care Associated Infection: a health care associated infection is an infection that is acquired after contact with healthcare services.

Health Care Associated Infection Prevention and Control: the discipline and practice of preventing and controlling health care associated infection and the spread of infectious diseases in a healthcare service.

Hydration: is the process of replacing water in the body.

I

Infection: The invasion and reproduction of pathogenic or disease-causing micro-organisms inside the body that may cause tissue injury and disease.

Invasive device: a device which, in whole or in part, penetrates inside the body, either through a body orifice or through the surface of the body.

Intervention: Healthcare action intended to benefit the patient, such as drug treatment, surgical procedure, or psychological therapy.

ISBAR: An acronym for Identify, Situation, Background, Assessment, and Recommendation. The tool consists of five standardised prompt questions to ensure staff are sharing focused and concise information reducing the need for repetition.

- IDENTIFY: *Identify yourself, who you are talking to and who you are talking about*
- SITUATION: *What is the current situation, concerns, observation and Early Warning System/Score (EWS)?*
- BACKGROUND: *What is the relevant background? This helps set the scene to interpret the situation above accurately*
- ASSESSMENT: *What do you think the problem is? This requires the interpretation of the situation and background information to make an educated conclusion about what is going on*
- RECOMMENDATION: *What do you need them to do? What do you recommend should be done to correct the current situation?*

M

Malnutrition: is defined as a state of insufficient intake or uptake of nutrients which can result in weight loss and has measurable adverse effects on body composition, function, and clinical outcome.

Medication administration: the administration to a patient or by a patient of a medicinal product (medicine) onto or into the human body for therapeutic, diagnostic, prophylactic, or research purposes.

Medication error: is defined as a preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional or patient. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing, order communication, product labelling, packaging, and nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and use.

Medication management: The facilitation of safe and effective use of prescription and over-the-counter medicinal products. Responsibilities of medication management incorporate the assessment, planning, implementation and evaluation of the nursing and midwifery process in collaboration with other health care professionals providing care.
Medication Safety: freedom from preventable harm with medication use.

Multidisciplinary team: an approach to the planning of treatment and the delivery of care for a patient by a team of health care professionals who work together to provide integrated care.

Monitoring: systematic process of gathering information and tracking change over time. Monitoring provides a verification of progress towards achievement of objectives and goals.

N

Needs assessment: systematic identification of the needs of an individual or population to determine the appropriate level of care or services required.

Neglect: includes ignoring medical or physical care needs, failure to provide access to appropriate health, social care or educational services, the withholding of the necessities of life such as medication, adequate nutrition, and heating.

NMBI: Nursing and Midwifery Board of Ireland is the independent, statutory organisation which regulates the nursing and midwifery professions in Ireland

Nutrition: The taking in and metabolism of nutrients (food and other nourishing material) by an organism so that life is maintained, and growth can take place.

O

Omission: Failure to do something, especially something that a person has a moral or legal obligation to do.

Oral health: The optimal state of the mouth and normal functioning of the oral cavity without evidence of disease.

Outcomes: the impact that a test, treatment, policy, programme, or other intervention has on a person, group or population.

P

Pain: An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.

Pain assessment: an evaluation of the reported pain and the factors that alleviate or exacerbate it, as well as the response to treatment of pain.

Pain management: The process of providing care that prevents, reduces or stops pain sensations.

Patient: A person who uses health and social care services. In some instances, the terms 'client', 'individual', 'person', 'people', 'resident', 'service user', 'mother', 'woman' or 'baby' are used in place of the term patient, depending on the health or social care setting.

Patient record: All information collected, processed, and held in either manual and / or electronic formats pertaining to a person under the care of a registered midwife or nurse or health care team, including personal care plans, clinical data, images, unique identification, investigation, samples, correspondence, and communications relating to the person and his / her care.

Patient repositioning: the movement of a patient from one position to another in an effort to alleviate or redistribute any pressure exerted on the body tissues.

Physiological observations: A patient's physiological observations include Blood Pressure, Pulse, Temperature, Respirations, Oxygen Saturation, and Central Nervous System (CNS) Status.

PPPGs: Policies, Procedures, Protocols and Guidelines

Policy: is a operational statement that indicates clearly the position and values of the organisation on a given subject.

Post Falls Protocol: A protocol that sets out the organisational response required if a patient has fallen.

Prescribe: To authorise by recording the dispensing, supply, and administration of a named medicinal product for a specific patient.

Pressure distributing devices: is an approach to prevent pressure ulcers. The equipment moulds or contours around the body, spreading the load and relieving pressure over bony prominences.

Pressure ulcer: A localised injury to the skin and underlying tissue usually over a bony prominence, as a result of pressure or shear. Other terms used are bedsore, pressure sore and decubitus ulcer.

Procedure: a set of instructions that describes the approved and recommended steps for a particular act or sequence of events.

Protocol: a recorded plan that specifies procedures to be followed in defined situations. It represents a standard of care that describes an intervention or set of interventions. Protocols are more explicit and specific in their detail than guidelines, in that they specify who does what, when and how.

Q

Quality Care Process Metric: is a quantifiable measure that captures the quality in terms of how (or to what extent) nursing care is being done in relation to an agreed standard.

Quality Care Process Indicator: is a quantifiable measure that captures what nurses are doing to provide that care in relation to a specific tool or method.

R

Reassessment: is the evaluation of the patient's response to planned interventions. A patient's response to planned interventions requires constant reassessment and monitoring for evidence of deterioration or failure to meet the planned outcome.

Record: the documentation of nursing and midwifery care in the patient record.

Risk: the likelihood of an adverse event or outcome.

Risk assessment: refers to the overall process of risk analysis and risk evaluation. Its purpose is to develop agreed priorities for the identified risks. It involves collecting information through observation, communication, and investigation.

S

Screen: Screening is the process of identifying healthy people who may be at increased risk of disease or condition.

Self-care: is defined as the actions people take to care for themselves.

Sepsis: is the clinical syndrome defined by the presence of both infection and the systemic inflammatory response syndrome (SIRS). However, since infection cannot be always microbiologically confirmed, the diagnostic criteria is infection (suspected or confirmed) and the presence of some of the SIRS criteria.

SIRS Criteria:

- Temperature ≥ 38C or < 36C
- Heart Rate ≥ 100 beats/min
- Respiratory Rate ≥ 20 breaths/min
- White Cell Count > 16.9 µL-1 or < 4 µL-1
- Blood Sugar Level > 7.7mmol/l (in the absence of diabetes mellitus)
- Altered mental status.

Surveillance: the ongoing systematic collection, collation, analysis, and interpretation of patient data; and the sharing of information to those who need to know in order for action to be taken.

U

Urinary Continence: is the ability to prevent involuntary urinary leakage.

Urinary Catheter: A hollow flexible tube that is inserted into the bladder to allow the drainage of urine.

V

Validated Tool: is an instrument that has been tested for reliability (the ability of the instrument to produce consistent results), validity (the ability of the instrument to produce true results), and sensitivity (the probability of correctly identifying a patient with the condition).

Vulnerable Patient: is a patient who may be restricted in their capacity to guard themselves against harm or exploitation, possibly as a result of illness, dementia, mental health problems, physical disability or intellectual disability.

W

Wound: A cut or break in the continuity of the skin caused by injury or operation.

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Introduction

Patient safety and quality assurance has become integral to effective healthcare delivery (Department of Health 2008; HIQA 2012; Cusack et al. 2014; HSE 2017). This is in response to the well-publicised national and international failures in the provision of quality care (Institute of Medicine (US) Committee on Quality of Health Care in America 2000; Department of Health 2006; National Health Service 2013). As acknowledged in these reports, when individuals fail to adhere to nursing and midwifery standards, significant patient harm can arise. Thus, measuring the degree to which nurses and midwives follow these evidence-based care processes plays an important role in assuring, sustaining, and improving the safety and quality of healthcare.

Metrics and indicators of quality have been developed within nursing and midwifery practice to reflect issues relating to safety, effectiveness, and compassion. These metrics and indicators are influenced by Donabedian's model (1966) which categorises quality care into 3 components: Structure, Process and Outcome. The Structure denotes the physical and organisational characteristics of the health setting. Process focuses on the care delivered to patients by healthcare professionals, while Outcomes reflect the effects of this care on the patient's health status (Donabedian 1988). According to Donabedian (1988) any component could give an indication of quality. However, as this report is examining the unique contribution of nurses and midwives to safe, effective, compassionate care, it focuses on the use of quality care process metrics and respective indicators. This encompasses all transactions associated with how care is provided from technical delivery to interpersonal relationships of care provision.

The Nursing and Midwifery Quality Care-Metrics national research project was conducted to improve the measurement of quality nursing and midwifery care in Ireland by developing an evidence-based metric system within the work-streams of: acute, children, intellectual disability, mental health, midwifery, older person, and public health nursing services. To critically review the scope of existing metrics and indicators and to identify additional relevant quality care process metrics and indicators, this national research project comprised of four phases: a systematic literature review, a 2 round Delphi survey on identified metrics, a 2 round Delphi survey on indicators for the identified quality care process metrics and a final consensus meeting with key stakeholders. The purpose of this report is to present the findings for each phase of the project work-stream focused on Acute Care.

Systematic Review

Aim

Phase one, the systematic review, provided a foundation for the project. The aim of this robust process was to identify the existing nursing and midwifery quality care process metrics and indicators in use nationally and internationally.

Literature Search

Eight electronic databases were searched, each from January 1st 2007 to December 31st 2017: PubMed, Embase, Applied Social Sciences Index and Abstracts (ASSIA), PsychINFO, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Cochrane Database of Systematic Reviews (CDSR), Cochrane Central Register of Controlled Trials (CENTRAL) and Database of Abstracts of Reviews of Effects (DARE). To identify additional studies that were not retrieved from the primary database search, the grey literature was appraised.

Study Selection

Studies were included if participants were registered nurses or midwives, as well as education programmes using nursing and midwifery metric systems in acute, children, intellectual disability, mental health, midwifery, older person, or public health nursing services or where participants were persons in receipt of nursing or midwifery care and services. An additional inclusion criterion was that studies should make a clear reference to nursing or midwifery care processes and identify a specific quality process in use or proposed use.

Results

For the acute care setting, the review comprised of 35 eligible academic studies and 84 eligible grey literature documents. Following full text review, 62 of these documents were included and 43 existing acute quality care process metrics were identified (Figure 1). Due to heterogeneity in the literature in relation to study design, meta-analysis was not possible, and a narrative synthesis was undertaken. The care processes identified from the systematic review are listed in Table 1 with their associated quality care process metrics. Care processes in this report are defined as an aspect of nursing care delivered to the patient. While a quality care process metric is defined as a quantifiable measure that captures quality in terms of how nursing care is being done in relation to an agreed standard.

A WSWG meeting was held on May 24th 2017, to present and discuss the preliminary findings from the systematic literature review. Findings solely from the academic literature were organised and presented under the six-care processes presented in Table 1. The discussions and deliberations during this meeting highlighted gaps pertinent to the academic literature and informed the development of metrics specifically related to infection control and surveillance of the deteriorating patient. Subsequently, data extraction from the grey literature contributed additional depth to the findings from the academic literature providing a practical level of analysis. All processes combined strengthened and supported the development of the Delphi Process.

Figure 1: Study Selection Process Flow Diagram for Acute Care Work-stream

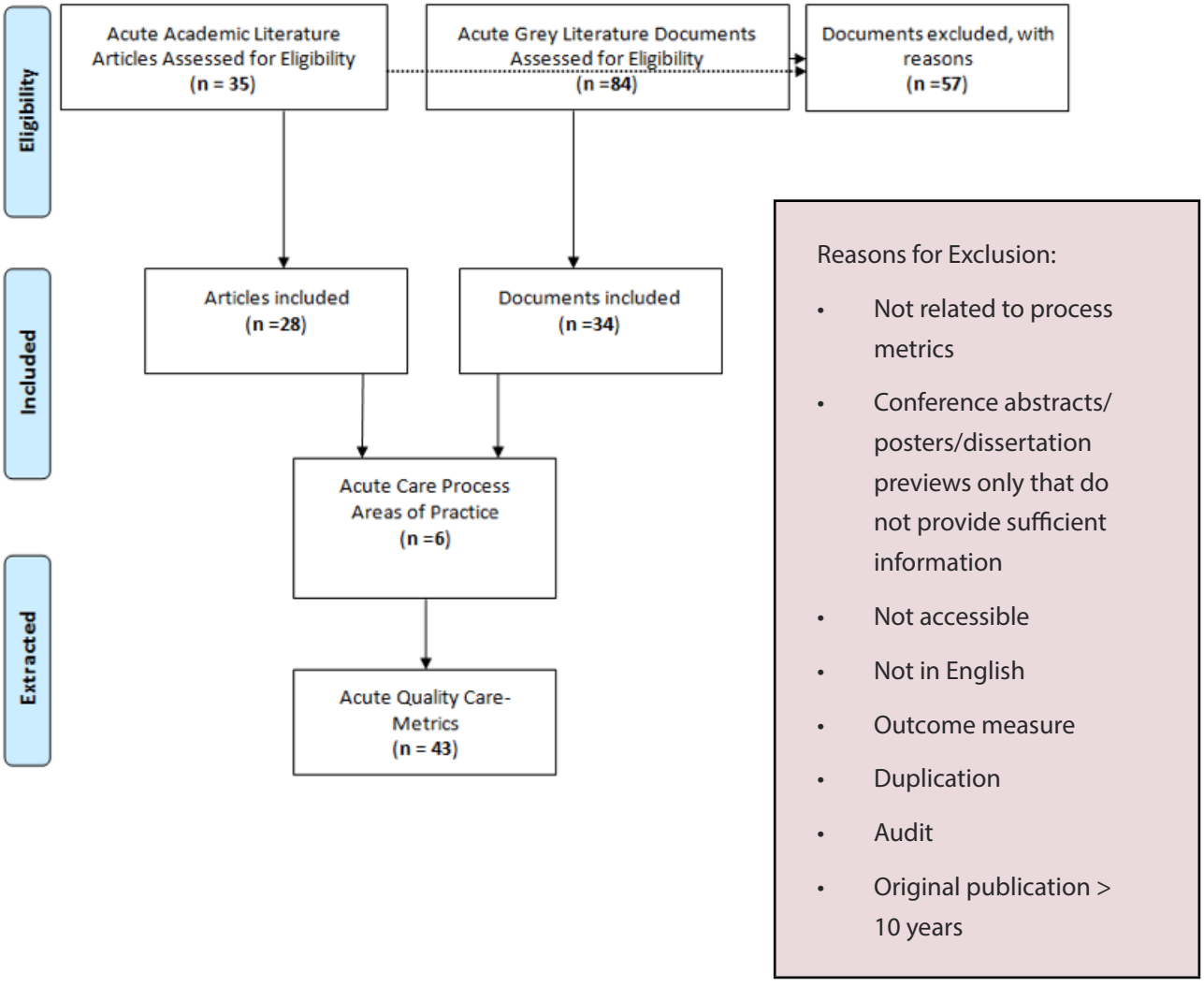

Table 1: Care Processes and their Associated Metrics Identified from the Systematic Review

Include	Exclude
PRESSURE ULCER	Pressure Ulcer Risk Assessment Pressure Ulcer Interpretation Primary Pressure Ulcer Prevention Secondary Pressure Ulcer Prevention Pressure Ulcer Intervention Pressure Ulcer Reassessment Pressure Ulcer Patient Engagement
FALLS	Falls Risk Assessment Primary Falls Prevention Secondary Falls Prevention Falls Intervention Falls Reassessment Falls Patient Engagement
PAIN	Pain Discrimination Pain Assessment Pain Interpretation Pain Prevention Pain Intervention Pain Reassessment
DELIRIUM	Delirium Assessment Delirium Interpretation Delirium Intervention Delirium Reassessment Delirium Patient Engagement
PATIENT SAFETY	Medication Optimization Medication Reassessment Continence Assessment Continence Reassessment Health Care Associated Infection Identification Health Care Associated Infection Prevention Patient Surveillance Nutrition Status Assessment Nutrition Status Reassessment Oral Health Intervention
INTERPERSONAL	Health Promotion Patient/Family/Carer Education Patient/Family/Carer Expectations Management Patient/Family/Carer Experience Patient/Family/Carer Engagement Patient/Family/Carer Enablement Patient/Family/Carer Bereavement Care Integration Professional and Ethical Demeanour
Total Care Processes: 6	**Total Metrics: 43**

Delphi Process

A consensus study involving a modified Delphi technique was used to allow for the addition by stakeholders of additional metrics and indicators (considered important but not identified through the systematic review), and to prioritise metrics and indicators for inclusion in the Acute Quality Care-Metrics system. The Delphi technique, developed by Dalkey and Helmer (1963), is a widely accepted iterative process for achieving a convergence of opinion on a specific topic from experts within the discipline (Hsu 2007). This research project's design incorporated face-to-face interactions with a patient representative and a select number of experts within the acute care services (WSWG), and the completion of 2 two-round pre-meeting surveys. Registered nurses within the seven Irish hospital groups (Ireland East, Royal College of Surgeons Ireland (RCSI), Dublin Midlands, University Limerick, South/South West, Saolta and the Children's Hospital Group) were eligible to complete the survey if they had experience in acute care nursing. 726 expressions of interest were collected through the efforts of the NMPDU Directors, Project Officers, and WSWG members from January 2017 to June 2017.

Participation in the project was by an "opt-in" informed consent approach. Eligible participants received an information package, which was approved by the University College Dublin's Research Ethics Committee and provided participants with an overview of the study details. For each consensus round, eligible participants received a formal email invitation and electronic questionnaire through the online survey platform, SurveyMonkey. This software system maintains data behind a firewall, thus, only researchers had access to participant information through the use of a password and user identifier. A web link was also created as an additional data collector and was hosted on the Health Service Executive (HSE) portal for the duration of each Delphi Round. Prior to accessing any of the Delphi questions, participants received, in the initial page of the online Delphi, the 'Study Information and Consent Agreement' form which contained the necessary information on which potential participants could base their decision as to whether or not they wished to participate in the Delphi Round. The receipt of this information and agreed understanding of their participation was then indicated by clicking to proceed onto the following page and beginning the Delphi Round.

Delphi Round 1

Delphi Round 1 was launched on June 6th 2017, closing June 27th 2017 (three week period) (Figure 3). In addition to participant's confirming their name and email address, the survey included demographic questions about age, geographic location of work (hospital group), division of registered nursing or midwifery, duration of employment in acute care services, and current grade of nursing or midwifery (Appendix E). Subsequently, consenting participants were asked to rate their level of support for the quality care process metrics identified in the systematic review on a 9-point Likert scale. 1 indicated that the metric was not considered important by participants, while 9 classified the metric as critical. The quantitative analysis of participant responses was performed using the online survey platform, SurveyMonkey. Likert scale responses for each metric were categorised into 3 tertiles. The categories were 1-3 "not important", 4-6 "important but not critical", and 7-9 "critical". Consensus for inclusion of a metric was pre-set. 70 percent of the votes were required to fall within the "critical" range of 7-9 for the measure to be included in the subsequent Delphi rounds. Delphi Round 1 concluded with open-ended questions for participants to contribute additional metrics that they felt were critical to practice, that were not captured in the proposed suite.

A total of 459 individual participant responses were collected in Delphi Round 1. However, 37 participants were not included in the overall response rate as they simply completed demographic information without contributing to the consensus process. The response rate for completed surveys for Delphi Round 1 was 58.1%. In terms of geographic distribution, there was representation from all Hospital Groups (Figure 2). Just over one third (35.31%) of respondents indicated a nursing grade of Clinical Nurse/Midwife Manager level 2 (CNM2/CMM2) or equivalent, followed by nearly one fifth (19.3%) with a grade of staff nurse or equivalent (Table 2). Feedback is considered an essential component of the Delphi process (Boulkedid et al. 2011). Thus, each participant received a copy of their individual response following Delphi Round 1 to help inform their decision for the subsequent Delphi Rounds.

Figure 2: Acute Care Delphi Participants by Hospital Group at Close of Delphi Round 1

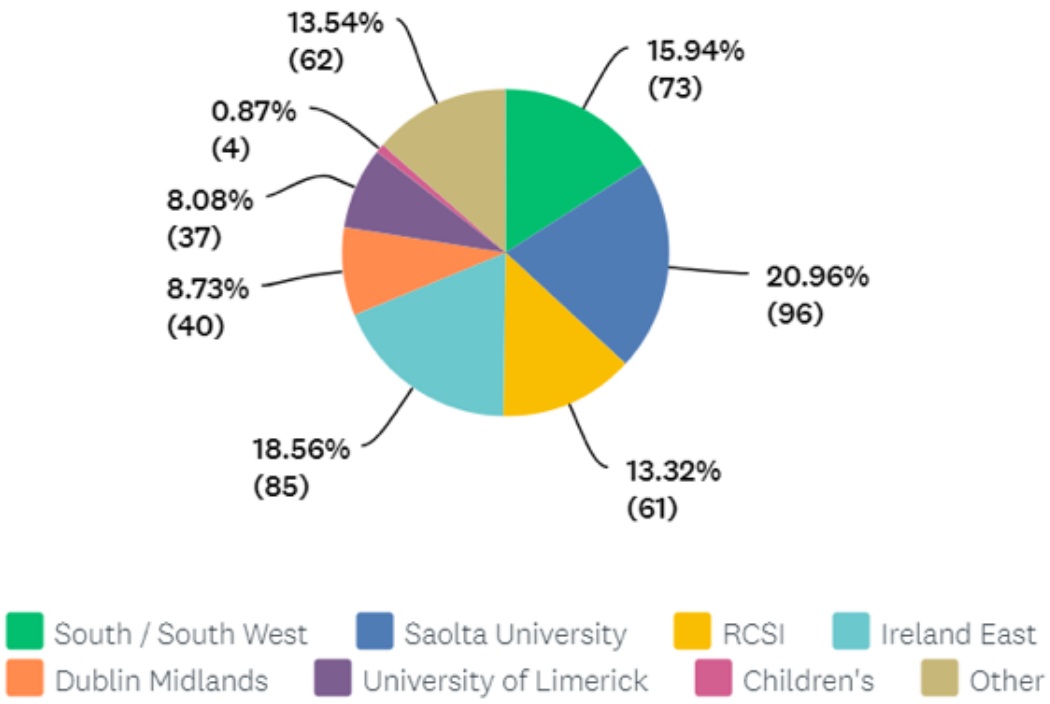

Table 2: Acute Care Delphi Participants by Nursing Grade at Close of Delphi Round 1

GRADE	% of Respondents	No. of Respondents
Staff Nurse or equivalent	19.30%	88
CNM1/CMM1 or equivalent	4.82%	22
CNM2/CMM2 or equivalent	35.31%	161
CNM3/CMM3 or equivalent	5.70%	26
Nurse/Midwife Tutor or equivalent	1.10%	5
Advanced Nurse/Midwife Practitioner	3.95%	18
Clinical Nurse/Midwife Specialist	7.68%	35
Assistant Director or equivalent	12.06%	55
Area Director (NMPDU)	0.00%	0
Director (NMPDU)	0.22%	1
Director of Nursing/Midwifery	2.63%	12
Lecturer	0.66%	3
Other	6.58%	30
TOTAL	Answered	**456**

The care processes and quality care process metrics presented in Table 3 are a result of the analyses and integration of data from the systematic review, in addition to contributions of clinical professionals (WSWG and Delphi Round 1 participants). Table 4 presents the acute quality care process metrics excluded following Delphi Round 1.

Table 3 Acute Quality Care Process Metrics Identified from the Systematic Review and Delphi Round 1

*** Additional metrics identified through the open-ended responses of Delphi Round 1**

Care Process	Quality Care Process Metric Delphi Round 1
WOUND/ ULCER CARE	Wound/Ulcer Risk Assessment Wound/Ulcer Interpretation Primary Wound/Ulcer Prevention Secondary Wound/Ulcer Prevention Wound /Ulcer Intervention Wound/Ulcer Reassessment Wound/Ulcer Engagement
FALLS	Falls Risk Assessment Primary Falls Prevention Secondary Falls Prevention Falls Intervention Falls Reassessment Falls Patient Engagement
PAIN	Pain Discrimination Pain Assessment Pain Interpretation Pain Prevention Pain Intervention Pain Reassessment
DELIRIUM	Delirium Assessment Delirium Interpretation Delirium Intervention Delirium Reassessment Delirium Patient Engagement

Care Process	Quality Care Process Metric Delphi Round 1
PATIENT SAFETY	Medication Optimisation Medication Reassessment Medication Therapy Safety* Medical Device Technology Assessment* Medical Device Technology Intervention* Medical Device Technology Reassessment* Health Care Associated Infection Identification Health Care Associated Infection Prevention Health Care Associated Infection Assessment* Health Care Associated Infection Reassessment* Patient Surveillance Continence Assessment Continence Reassessment Bowel Function Assessment* Bowel Function Intervention* Nutrition Status Assessment Nutrition Status Reassessment Oral Health Intervention Vulnerable Patient Protection*
INTERPERSONAL	Health Promotion Patient/Family/Carer Education Patient/Family/Carer Expectations Management Patient/Family/Carer Experience Patient/Family/Carer Engagement Patient/Family/Carer Enablement Patient/Family/Carer Bereavement Care Integration Professional and Ethical Demeanour Care Plan Development* Care Plan Evaluation*
Total Care Processes: 6	**Total Quality Care Process Metrics: 54**

Table 4 List of Acute Quality Care Process Metrics Excluded from Delphi Round 1

Delphi Round	Excluded Quality Care Process Metric based on Delphi Round 1 Rating	Delphi Round 1 Rating*
01	Falls Intervention	69.16%
	Delirium Interpretation	69.95%
	Delirium Intervention	66.82%
	Delirium Patient Engagement	69.32%
	Oral Health Intervention	59.22%
	Health Promotion	55.56%
	Patient/Family/Carer Education	68.66%
	Patient/Family/Carer Expectation Management	63.94%
	Total Quality Care Process Metrics Excluded: 8	

*** Consensus for mandatory inclusion of a quality care process metric into the subsequent Delphi Round 2 was achieved if 70 percent of the votes fell within the "critical" range of 7-9.**

Delphi Round 2

The metrics presented in Delphi Round 2 were revised based on the results of Delphi 1. Eleven new additional acute quality care process metrics were identified for possible inclusion in the final suite following Delphi Round 1 (Table 3), with eight quality care process metrics excluded (Table 4). Delphi Round 2 was launched on July 11th 2017, closing August 1st 2017 (three week period) (Figure 3). All nurses who participated in Acute Quality Care-Metrics Delphi Round 1 received a formal email invitation and electronic questionnaire through the online survey platform, SurveyMonkey. Participants were again asked to rate each metric in terms of how important it was to their practice, with consensus for mandatory inclusion achieved if 70 percent of votes fell within the "critical" range of 7-9.

A total of 323 individual participant responses were collected in Delphi Round 2. However, 27 participants were not included in the overall response rate. Despite providing their name and email address, these participants did not contribute to the consensus process. Thus, the response rate for Delphi Round 2 was 65.9%. Following the analysis of participant responses, five quality care process metrics were excluded (Table 5). The remaining metrics were ranked in descending order of importance and presented at a face-to-face meeting with the experts and a patient representative from the Work-stream Working Group on August 3rd, 2017. This process enabled further refinements to the metric suite as outlined in Table 6. The 42-proposed metrics that emerged from Delphi Rounds 1 and 2 were subsequently condensed into 14 metrics which were presented with their associated indicators in Delphi Rounds 3 and 4.

Table 5 List of Acute Quality Care Process Metrics Excluded from Delphi Round 2

DELPHI ROUND	EXCLUDED QUALITY CARE PROCESS METRIC BASED ON DELPHI ROUND 2 RATING	Delphi Round 2 Rating*
02	Medication Therapy Optimisation	64.91%
	Medication Therapy Reassessment	67.94%
	Medical Device Technology Assessment	51.56%
	Medical Device Technology Intervention	56.34%
	Medical Device Technology Reassessment	46.92%
	Total Quality Care Process Metrics Excluded: 5	

*** Consensus for mandatory inclusion of a quality care process metric into the subsequent Delphi Round was achieved if 70 percent of the votes fell within the "critical" range of 7-9.**

Table 6 Acute Quality Care Process Metrics Identified from Delphi Round 2 with Associated Refinements

Quality Care Process Metrics Presented in Delphi 2	Metric Refinements Following Work-stream Working Group Feedback Post Delphi Round 2
Patient Surveillance	**Patient Monitoring and Surveillance**
Patient/Family/Carer Experience Patient/Family/Carer Bereavement	**Patient/Family/ Carer Experience**
Patient/Family/Carer Engagement Patient/Family/Carer Enablement Patient/Family/Carer Education	**Patient Engagement / Enablement**
Professional and Ethical Demeanour	**Professional and Ethical Approach to Care**
Care Plan Integration Care Plan Development Care Plan Evaluation Vulnerable Patient Protection	**Care Plan Development and Evaluation**
Wound/Ulcer Interpretation Wound/Ulcer Risk Assessment Wound/Ulcer Intervention Wound/Ulcer Patient Engagement Primary Wound/Ulcer Prevention Secondary Wound/Ulcer Prevention Wound/Ulcer Reassessment	**Pressure Ulcer Prevention and Management** **Wound Care Management**
Nutrition Status Assessment Nutrition Status Reassessment Bowel Function Assessment Bowel Function Intervention	**Nutrition and Hydration**
Delirium Assessment Delirium Reassessment	**Delirium Prevention and Management**
Falls Risk Assessment Primary Falls and Injury Prevention Secondary Falls and Injury Prevention Falls Reassessment Falls Patient Engagement	**Falls and Injury Management**
Health Care Associated Infection Identification Health Care Associated Infection Assessment Health Care Associated Infection Prevention Health Care Associated Infection Reassessment	**Health Care Associated Infection Prevention and Control**
Pain Interpretation Pain Discrimination Pain Assessment Pain Prevention Pain Intervention Pain Reassessment	**Pain Assessment and Management**
Medication Therapy Safety	**Medication Safety**
Continence Assessment Continence Reassessment	**Continence Assessment and Management**
Total Metrics: 42	**Total Metrics: 14**

Figure 3: Acute Care Delphi Process Round 1 and 2

Delphi Round 1

- June 6th 2017: Delphi Round 1 launched, email invitation sent to eligible participants
- June 13th 2017: Reminder email sent to eligible participants
- Following an assessment of the Round 1 response rate, the initial proposed two week data collection period was extended for an additional week
- June 20th and June 26th 2017: A follow-up reminder email was sent to participants
- June 27th 2017 00.00am: Delphi Round 1 closed (3 weeks data collection period)
- June 27th 2017: Data analysis
- July 3rd 2017: Findings from Delphi Round 1 presented at a face-to-face meeting with the WSWG
- July 8th 2017: Participants received a copy of their individual response following Delphi Round 1 to help inform their decision for Delphi Round 2.

Delphi Round 2

- July 11th 2017: Delphi Round 2 launched, email invitation sent to the participants of Delphi Round 1
- July 25th and July 31st 2017: Reminder email sent to eligible participants
- August 1st 00.00am: Delphi Round 2 closed (3 weeks data collection period)
- August 1st: Data analysis
- August 3rd 2017: Findings from Delphi Round 2 presented at a face-to-face meeting with the WSWG: 42-proposed metrics that emerged from Delphi Rounds 1 and 2 were subsequently refined into 14 metrics

Delphi Round 3

Delphi Round 3 focussed on agreeing the associated indicators for the prioritised metrics identified from Delphi Rounds 1 and 2. Delphi Round 3 was launched on August 22nd 2017, closing September 12th 2017 (three week period) (Figure 5). All nurses who participated in the Acute Quality Care-Metrics Delphi Rounds 1 and 2 received a formal email invitation. In addition, new expressions of interest were collected through the efforts of the NMPDU Directors, Project Officers and Acute WSWG members. Those eligible to participate received a formal invitation using the online survey platform SurveyMonkey.

Participants in Delphi Round 3 were asked to rate each proposed indicator in terms of how relevant it was in capturing the nurse's role in the provision of quality patient care. Consensus for mandatory inclusion of a quality care process indicator was achieved if 70 percent of votes fell within the "critical" range of 7-9. Similar to Delphi Round 1, Delphi Round 3 concluded by providing open-ended questions for participants to contribute additional indicators that were deemed critical to practice, and not captured in the proposed suite.

A total of 281 individual participant responses were collected in Delphi Round 3. However, 30 participants were not included in the overall response rate as they simply completed demographic information without contributing to the consensus process. The response rate for completed surveys for Delphi Round 3 was 51.4%. In terms of geographic distribution, there was representation from all Hospital Groups excluding the Children's Hospital Group (Figure 4). The majority (38.93%) of respondents indicated a nursing grade of Clinical Nurse/Midwife Manager level 2(CNM2/CMM2) or equivalent, followed by one sixth (16.79%) with a grade of Assistant Director of Nursing/Midwifery (ADON/M) or equivalent (Table 7). Similar to Delphi Round 1, each participant received a copy of their individual response at the close of Delphi Round 3 to help inform their decision for Delphi Round 4.

Figure 4: Acute Care Delphi Participants by Hospital Group at Close of Delphi Round 3

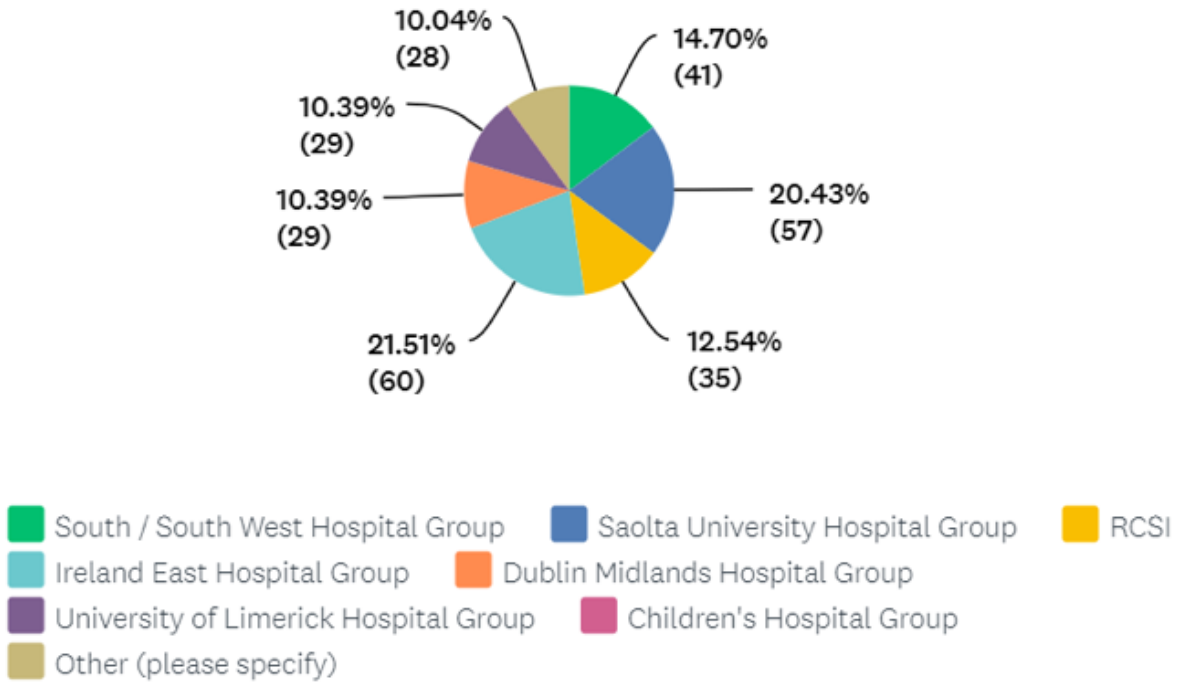

Table 7 Acute Care Delphi Participants by Nursing Grade at Close of Delphi Round 3

GRADE	% of Respondents	No. of Respondents
Staff Nurse or equivalent	13.93%	39
CNM1/CMM1 or equivalent	4.64%	13
CNM2/CMM2 or equivalent	38.93%	109
CNM3/CMM3 or equivalent	5.36%	15
Nurse/Midwife Tutor or equivalent	1.43%	4
Advanced Nurse/Midwife Practitioner	3.21%	9
Clinical Nurse/Midwife Specialist	6.07%	17
Assistant Director of Nursing/Midwifery or equivalent	16.79%	47
Area Director (NMPDU)	0.00%	0
Director (NMPDU)	0.00%	0
Director of Nursing/Midwifery	3.57%	10
Lecturer	0.36%	1
Other	5.71%	16
TOTAL	Answered	**280**

The acute quality care process indicators presented in Table 8 are a result of the analyses and integration of data from the systematic review of the academic and grey literature.

Table 8 Acute Quality Care Process Indicators Identified from the Systematic Review, Presented in Delphi Round 3

CARE PROCESS	Quality Care Process Metric Delphi Round 1
PATIENT MONITORING AND SURVEILLANCE	1 Documented baseline measurements, recorded and reassessed physiological parameters using the appropriate resources 2 Identified changes in the patient's condition, monitoring and documenting deterioration in the patient's level of function, dependency, impairment and self-care behaviours 3 Communicated effectively and timely with relevant members of the multi-disciplinary team using a structured communication tool 4 Escalated care appropriately, documenting the care that has been provided to prevent further deterioration in the patient's condition 5 Documented additional observations and assessments to support the timely recognition of deterioration
WOUND CARE MANAGEMENT	1 Completed a comprehensive assessment of the wound, documenting the type of wound, location, exudate description, size and the condition of the surrounding skin 2 Recorded and followed the wound care strategy developed in collaboration with the multi-disciplinary team and patient (family and carer) 3 Identified risk factors impacting effective wound healing and completed the associated documentation e.g. nutritional screening tool, pain assessment 4 Documented each wound assessment, evaluating the wound care strategy with the multi-disciplinary team and patient (family and carer) 5 Identified and recorded factors associated with wound infection, and developed a new wound care strategy with the multi-disciplinary team and patient (family and carers) if necessary 6 There is evidence that the new wound care strategy has been regularly reassessed by examining the individual's overall well-being and evaluating the interventions used based on their efficacy in resolving the signs and symptoms pertinent to wound infection (pain, exudate, malodour, erythema)
PRESSURE ULCER PREVENTION AND MANAGEMENT	1 A pressure ulcer risk assessment was conducted and recorded using a validated tool 2 If there were any significant changes in the patient's condition, the patient's pressure ulcer risk was reassessed and documented 3 If an individual is identified as at risk, daily skin inspections have been recorded (examining skin integrity, colour, temperature) 4 If a pressure ulcer is present, the grade has been recorded on the relevant documentation 5 There is evidence that ongoing evaluations of the pressure ulcer have been recorded with the patient's response to treatment documented 6 Recorded repositioning regimes, documenting the frequency and position adopted 7 Documented the use of pressure distributing devices and alternative pressure therapies based on skin assessment

CARE PROCESS	Quality Care Process Metric Delphi Round 1
PAIN ASSESSMENT AND MANAGEMENT	1 Monitored and recorded the patient's pain scores, acknowledging the type and potential source of pain 2 Differentiated between pain, agitation and delirium using the appropriate measures 3 Recorded the pharmacological or non-pharmacological therapies administered to the patient following the pain assessment 4 Documented the patient's response to the administered therapies, evaluating changes in the patient's level of comfort
NUTRITION AND HYDRATION	1 Documented the patient's nutritional status using an appropriate scale 2 There is evidence that the risk factors of malnutrition have been evaluated (cognitive impairment, feeding dependency, dehydration status, physical functioning) 3 The patient's weight has been recorded regularly 4 There is evidence that a bowel assessment has been completed, evaluating factors that may influence bowel function (medication, activity, diet, fluid intake) 5 There is evidence that changes in the patient's bowel function and dependency have been documented
MEDICATION SAFETY	1 Documented the administration of each medication in the medicine administration chart ensuring the ten rights of medication administration have been adhered to: right patient, right reason, right drug, right route, right time, right dose, right form, right action, right response, right documentation 2 Completed and recorded an assessment of the patient's medication management needs as part of their comprehensive assessment 3 Monitored and recorded the patient's response to medication, documenting if the desired effect has been achieved or any adverse findings 4 Identified, managed, recorded and reported any potential adverse drug event (near miss) according to medication management policies, procedures, protocols and guidelines 5 Monitored, prioritised, managed, and recorded the patient's health status during an adverse drug event to limit or prevent further harm to the patient 6 Identified, prioritised, intervened, and recorded the patient's health status during an adverse drug reaction 7 Recorded the administration of Controlled Drugs (such as morphine, oxycodone or fentanyl) in the patient's medical chart and in the Controlled Drugs register as per the Health Service Provider's PPPG 8 Recorded the administration, management and disposal of all Controlled Drugs (such as morphine, oxycodone, fentanyl) in accordance with specific PPPG's within the organisation/care setting 9 Recorded the prescribed medication not administered to the patient utilising the omission code in the patient's medication administration chart and informed the medical team and prescriber 10 Maintained an accurate record of the patient's clinical status to ensure their safety has not been compromised during a drug omission incident 11 Documented evidence that the patient's medication is under review by the multi-disciplinary team to ensure the patient is obtaining the best outcomes from their medications

CARE PROCESS	Quality Care Process Metric Delphi Round 1
HEALTH CARE ASSOCIATED INFECTION PREVENTION AND CONTROL	1 Recorded the cardinal vital signs associated with infection using the appropriate resources 2 Documented the use of aseptic procedures and techniques prior to and following patient interactions 3 The education provided to the patient, family and carer regarding the patient's infection risk has been documented 4 There is evidence that the patient's infection status has been documented and frequently reviewed with the multi-disciplinary team, patient, family and carer 5 Recorded the medical device technology in use, the rationale for the device and the care provided
FALLS AND INJURY MANAGEMENT	1 A multi factorial falls risk assessment was recorded on admission assessing gait, balance and mobility with evidence of regular reassessment 2 If an individual is identified as at risk of falling, there is documented evidence of the interventions in place to minimise the risk of falling 3 Documented evidence that the individual at risk of falling, their family and carers have been offered information about falls and are aware of their risk and the measures to prevent falls 4 If an individual has fallen, there is evidence that a post-falls protocol has been followed with the completion of the relevant post falls documentation 5 If an individual has fallen, there is documented evidence that the multi-disciplinary team have reviewed the possible contributing factors and have made the necessary changes to care e.g. alterations to medications
DELIRIUM PREVENTION AND MANAGEMENT	1 On admission, there is evidence that a delirium assessment has been completed for "at risk" patients (65 years or older, cognitive impairment, severe illness) using the appropriate resources 2 The therapeutic interventions that have been put in place to address the clinical factors possibly impacting delirium (dehydration, constipation, infection, hypoxia, pain) have been documented 3 Patient's response to therapies (pharmacological and non-pharmacological) have been assessed daily, documenting any adverse events associated with these therapeutic modalities 4 There is evidence that the education and information offered to the family and carers of a patient at risk of delirium has been documented
CONTINENCE ASSESSMENT AND MANAGEMENT	1 A continence assessment has been recorded on admission, identifying any possible causative factors to bladder dysfunction such as lifestyle factors (caffeine, weight, fluid intake) 2 Recorded patient's fluid balance, also documenting episodes of urinary incontinence 3 Documented any therapies or education given to the patient to aid bladder dysfunction (pelvic floor muscle training, bladder training, pharmacological treatment) 4 There is evidence that the impact of urinary symptoms on the patient's quality of life has been assessed at baseline and regularly reassessed to examine the outcome of treatment 5 If an individual requires the insertion of a urinary catheter, the actions taken to prevent infection have been documented and its requirement has been frequently evaluated to allow for its timely removal

CARE PROCESS	Quality Care Process Metric Delphi Round 1
CARE PLAN DEVELOPMENT AND EVALUATION	1 The nursing care plan is evident and reflects the individuals current condition, the goals and plan for care which has been developed with the patient, family and multi-disciplinary team 2 Clinically indicated risk assessments have been completed to identify the holistic needs of the patient as an inpatient and on discharge 3 Nursing interventions are individualised and holistic and reflect the patient's treatment preferences 4 Evaluation of the care plan is evident and has been updated according to the patient's changing needs 5 There is evidence that the patient's progress has been discussed with the patient, their family and the multi-disciplinary team and that the discharge care plan has been updated appropriately 6 If an individual was identified as a vulnerable patient, concerns regarding neglect and abuse have been documented and reported to the appropriate authorities according to local organisational policy
PATIENT/ FAMILY/ CARER EXPERIENCE	1 There is evidence that the patient's preferences have been documented with regards to the level of information they want to receive about their care and how they would like their family or carer to be involved 2 The support and information given to the patient and their family regarding procedures, goals of care, potential risks and benefits of interventions have been documented 3 There is a record that informed consent was obtained from the patient or family (if the patient does not have the capacity to make decisions) prior to receiving an intervention 4 The holistic, culturally sensitive care provided to the patient and their family during end-of-life care has been documented 5 There is evidence that the patient's family has been referred to a team specialising in bereavement support if requested
PATIENT ENGAGEMENT AND ENABLEMENT	1 The patients baseline self-management behaviours have been assessed, documented and regularly evaluated 2 The support and information provided to the patient and their family when making care decisions has been documented
PROFESSIONAL AND ETHICAL APPROACH TO CARE	1 There is evidence that while interacting with patients and their families, dignity and respect was maintained 2 There is evidence that a professional demeanour was presented while interacting with patients, families and other healthcare professionals
Total Quality Care Process Metrics: 14	**Total Quality Care Process Indicators: 72**

Eight acute quality care process indicators were excluded following the analysis of Delphi Round 3 (Table 9).

Table 9 List of Excluded Quality Care Process Indicators from Delphi Round 3

DELPHI ROUND	QUALITY CARE PROCESS METRIC	EXCLUDED QUALITY CARE PROCESS INDICATOR BASED ON DELPHI ROUND 3 RATING	Delphi Round 1 Rating*
03	**Health Care Associated Infection Prevention and Control**	Documented the use of aseptic procedures and techniques prior to and following patient interactions	66.40%
		The education provided to the patient, family and carer regarding the patient's infection risk has been documented	69.26%
		Recorded the medical device technology in use, the rationale for the device and the care provided	58.20%
	Delirium Prevention and Management	There is evidence that the education and information offered to the family and carers of a patient at risk of delirium has been documented	65.29%
	Continence Assessment and Management	Documented any therapies or education given to the patient to aid bladder dysfunction (pelvic floor muscle training, bladder training, pharmacological treatment	54.94%
		There is evidence that the impact of urinary symptoms on the patient's quality of life has been assessed at baseline and regularly reassessed to examine the outcome of treatment	59.58%
	Patient/ Family/ Carer Experience	The support and information given to the patient and their family regarding procedures, goals of care, potential risks and benefits of interventions have been documented	68.29%
	Patient Engagement and Enablement	The support and information provided to the patient and their family when making care decisions has been documented	69.42%
		Total Quality Care Process Indicators Excluded: 8	

*** Consensus for mandatory inclusion of a quality care process indicator into the subsequent Delphi Round 4 was achieved if 70 percent of the votes fell within the "critical" range of 7-9.**

Delphi Round 4

The indicators presented in Delphi Round 4 were revised based on the results of Delphi Round 3. Thirteen new additional indicators were identified from the open-ended responses of Delphi Round 3 (Table 10). Delphi Round 4 was launched on October 3rd 2017, closing October 24th 2017 (three week period) (Figure 5). All nurses who participated in Acute Quality Care-Metrics Delphi Round 3 received a formal email invitation and electronic questionnaire through the online survey platform, SurveyMonkey. Participants were again asked to rate each indicator in terms of how important it was to their practice, with consensus for mandatory inclusion achieved if 70 percent of votes fell within the "critical" range of 7-9. Unlike previous rounds, participants in Delphi Round 4 were given an opportunity to justify their Likert ratings and provide additional open-ended responses pertinent to each suite of indicators. This enabled a further exploration into the acceptability of the chosen measures. Thematic analysis was used to explore these open-ended responses and identify themes and patterns within and across the dataset.

A total of 204 individual participant responses were collected in Delphi Round 4. However, 18 participants were not included in the overall response rate as they simply provided their name and email address without contributing to the consensus process. Thus, the response rate for Delphi Round 4 was 68.1%. Following the quantitative and qualitative analysis of participant responses, one indicator was excluded (Table 11). All indicators despite their Delphi rating ("critical", "important but not critical" and "not important") were presented at a face-to-face meeting with the Work-stream Working Group on November 7th 2017. At this meeting, indicator refinements, grounded in the thematic analysis of participant responses were also presented (Table 12). No indicators were excluded following this meeting. Instead further refinements to the suite of 90 indicators were made (Table 12) and 99 indicators were presented for inclusion at the Consensus Meeting.

Figure 5: Acute Care Delphi Process Round 3 and 4

Delphi Round 3

- August 22nd 2017: Delphi Round 3 launched, email invitation sent to eligible pariticpants
- September 4th and September 11th 2017 : Reminder email sent to eligible participants
- September 12th 00:00am 2017: Delphi 3 closed (3 week data collection period)
- September 12th 2017: Data analysis
- September 12th 2017: Participant received a copy of their individual response following Delphi Round 3 to help inform their decision for Delphi Round 4
- September 25th 2017: Findings from Delphi Round 3 were presented to the Work-stream Working group via teleconference

Delphi Round 4

- October 3rd 2017: Delphi Round 4 launched, email invitation sent to the participants of Delphi Round 3
- October 16th and October 23rd 2017: Reminder email sent to eligible participants
- October 24th 00.00am 2017: Delphi 4 closed (3 week data collection period)
- October 24th 2017: Data analysis
- November 7th 2017: Findings from Delphi 4 were presented at a face-to-face meeting with the Work-stream Working Group: The proposed indicators presented in Delphi Round 4 were refined prior to the consensus meeting

Table 10 Acute Quality Care Process Indicators from Delphi Round 4

***Additional quality care process indicators identified through the open-ended responses of Delphi Round 3**

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Patient Monitoring and Surveillance	**Documented baseline measurements, recorded and reassessed physiological parameters using the appropriate resources**	"Q1… will be more than 1 indicator when up on the system!"
	There is evidence that the patient's physiological observations have been regularly measured and documented using the NEWS score*	"In relation to the "NEWS" score - it may be more generic to state "the appropriate Early Warning Score/System" as a scenario may arise where a pre/post-partum woman may be admitted to an acute facility (medical/ surgical ward in an acute hospital) with a medical condition. The appropriate system to use in this instance would be the IMEWS." "NEWS only applicable in acute setting. Also consider IMEWS(gynae)" ""Patient's physiological observations regularly measured" is a very open question. What is "regularly"? - maybe change to "measured 12 hourly at a minimum" which is the policy" "In relation to NEWS this could be incorporated into one of the… points I.e. no 1" "the first of the new indicators is a repetition…just with the tool named" "Duplication of some of the questions…"
	Identified changes in the patient's condition, monitoring and documenting deterioration in the patient's level of function, dependency, impairment and self-care behaviours	"Q3…will be more than 1 indicator when up on the system!" "unclear of what you are asking - question one mentioned reassessment so terminology in question two e.g. dependency - impairment - self-care - what assessment tool is this based on"
	Communicated effectively and timely with relevant members of the multi-disciplinary team using a structured communication tool	"…more than 1 indicator when up on the system!" "Evidence that ISBAR is being used?" "Not enough to report the deterioration... must be closed off by CNM on ward... evidence of escalation action must be documented" "Don't think that a structured communication tool is necessary-In acute deterioration completing the Isbar sticker and placing it in chart is not a nursing priority!" "Term 'effectively and timely' up for interpretation - better to refer to as per national escalation protocols such as NEWS or parameter settings"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Patient Monitoring and Surveillance	**Escalated care appropriately, documenting the care that has been provided to prevent further deterioration in the patient's condition**	No additional open-ended responses
	Documented additional observations and assessments to support the timely recognition of deterioration	"Is this question necessary as the questions preceding it refer to documentation"
	If acute compartment syndrome is suspected, there is evidence that a neurovascular assessment has been completed using the appropriate resources in accordance with hospital policy*	"Very detailed to single out one clinical condition i.e. compartment syndrome - all changes on a patients status require in-depth nursing assessment" "Why single out compartment syndrome, we could have a list of acute events such as ischemic foot, leaking aneurysm and concussion to name a few that require neurovascular assessment" "I'm not confident that all nurses would recognise acute compartment syndrome- more important to recognise what is abnormal and act on that" "Neurovascular assessment - critical only in specific clinical areas / conditions e.g. orthopaedic patients" "The reliability of an adequate assessment tool for compartment syndrome ,and the reliability of pain as the only symptom of compartment syndrome, is important so that the practice of withholding pain relief for lower limb surgery(i.e. regional or spinal blocks) can be discontinued" "Acute Compartment Syndrome: This would apply to a very small number of patients for it to be added to national metrics for every chart audited" "In relation to neurovascular assessment perhaps specific to specialised areas of work" "Neurovascular assessment should be done on all orthopaedic patients whether they have compartment syndrome or not. The idea is to catch deterioration early. In X all patients who have undergone orthopaedic surgery should be on neurovascular observations as per our guidelines." "I am unsure of this as I work in a medical ward and would not encounter compartment syndrome" "Compartment syndrome not applicable to patients in all settings"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Patient Monitoring and Surveillance	**If acute compartment syndrome is suspected, there is evidence that a neurovascular assessment has been completed using the appropriate resources in accordance with hospital policy***	"Don't think the question on acute compartment syndrome should be added. It is such a specialised and rare occurrence for the MAJORITY of organisations. We can't tailor theses metrics to specific organisations if they are supposed to be generic. Also, I would question the validity of adding a new indicator in this final stage of the study. I don't think it is reasonable" "From the viewpoint of essential care for patients it is important to measure the use of a neurovascular tool. I would like to see it included as a baseline observation" "compartment syndrome is new staff will need to be clarified on this" "Acute compartment syndrome question is too specific for a National tool" "Compartment Syndrome needs to be addressed in an urgent manner. There will be a baseline neurovascular assessment on the Orthopaedic patient but once there is suspicion of compartment syndrome action or intervention must be taken rather than waiting for a deterioration in neurovascular assessment" "Final indicator…acute compartment syndrome is very site specific question" "Acute compartment syndrome - who completes the neurovascular assessment? Not all hospitals will have an assessment or policy on this?" "Is it if the Nurse suspects compartment syndrome or medical team? How would that be determined?" "only one of numerous acute deteriorations ?relevance to this over others" "Where in the body is the acute compartment syndrome? What does the neurovascular assessment entail? Most nurses don't perform assessments to such an advanced level" "Acute compartment syndrome is not relevant to general areas." "Compartment syndrome - important for clinical care but perhaps not in suite of nursing sensitive indicators which are deemed applicable to all acute patients" "very specialised area - ? If relevant to all area would the requirement for vascular observation warmth movement sensation posterior tibial pulses etc. be required."

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Wound Care Management	**Completed a comprehensive assessment of the wound, documenting the type of wound, location, exudate description, size and the condition of the surrounding skin**	"I think that the wound assessment sections above are extremely detailed and require CNS assessment and input. and difficult for nurses to have assessed and documented all aspects included." "standardised assessment tool required"
	Recorded and followed the wound care strategy developed in collaboration with the multi-disciplinary team and patient (family and carer)	"I don't think family have big role to play in wound assessment and treatment while patient is in hospital but the multidisciplinary team have a big role to play" "patient family -need to be aware of patients right to privacy" "Need to consider how you could specifically measure following wound care strategy - not specific enough. Need clarity of language. Is this question pertaining to the wound management care plan ?" "Nurses should be able to evaluate the wound themselves and make an educated suggestion of dressing type. MDT doesn't always have input in dressing type…" "nursing very capable of carry out wound assessment ? requirement of MDT in each metric" "Why is the MDT involved at all times? It is only in very specialized areas that the MDT would be involved e.g. burns, diabetic foot ulcers, necrotizing fasciitis and they would not be involved in every wound assessment carried out (which is done at each change of dressing)....." "Difficult to quantify what is a wound strategy is present when collecting data. Would need to delineate exactly the appropriate risk factors to guide data collection"
	Identified risk factors impacting effective wound healing and completed the associated documentation e.g. nutritional screening tool, pain assessment	"Factors associated with wound infection should be part of the wound assessment and the follow up care required" "requires a full list of risk factors" "Que 3 - keep theses assessments in defined sections such as pain and nutrition. This will be negatively marked twice if included in this section also. Happy to discuss"
	Documented each wound assessment, evaluating the wound care strategy with the multi-disciplinary team and patient (family and carer)	No additional open-ended responses

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Wound Care Management	**Identified and recorded factors associated with wound infection, and developed a new wound care strategy with the multi-disciplinary team and patient (family and carers) if necessary**	No additional open-ended responses
	There is evidence that the new wound care strategy has been regularly reassessed by examining the individual's overall well-being and evaluating the interventions used based on their efficacy in resolving the signs and symptoms pertinent to wound infection (pain, exudate, malodour, erythema)	"Is the last question…required, as it is addressed in all the wound care questions preceding it???" "all new wound care strategies should be reassessed not just when there is a wound infection"
Pressure Ulcer Prevention and Management	**A pressure ulcer risk assessment was conducted and recorded using a validated tool**	"Would suggest assessment (within 6 hours of transfer/admission to ward/department and documenting 'at risk' as scoring 10 or above on Waterlow risk assessment"
	If there were any significant changes in the patient's condition, the patient's pressure ulcer risk was reassessed and documented	"'significant changes' in patient's condition may be open to subjectivity, would prefer to associate it with raised NEWS or prompt more regular assessment for patients scoring 20 or above on Waterlow score" "Duplication with que 2 and 5 - also for data collector to ascertain changes in pts condition a review of narrative notes required."
	If an individual is identified as at risk, daily skin inspections have been recorded (examining skin integrity, colour, temperature)	"All patients "at risk" (unreliable measures) do not need to have their skin examined by the nurse and the dignity of patients is not considered in these items when paired alongside the known unreliability of the assessment tools some of which over predict risk. Standardising all these as metrics without any filtering is inappropriate but may make auditors happy" "If an individual is identified as at risk, daily skin inspections have been recorded by the nurse (examining skin integrity, colour, temperature) - if a patient is functionally independent with mobility nutrition and hygiene I do not think that a daily skin inspection is warranted-A nurse could use their professional Judgement on the necessity for a daily skin inspection depending on the patients overall health and not just what score is triggered on a pressure ulcer risk assessment."

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Pressure Ulcer Prevention and Management	**If a pressure ulcer is present, the grade has been recorded on the relevant documentation**	"Appreciate that all hospitals may use different risk assessments. Would like to promote the grading of pressure ulcers from 1-4."
	There is evidence that ongoing evaluations of the pressure ulcer have been recorded with the patient's response to treatment documented	"There is evidence that ongoing evaluations of the pressure ulcer have been recorded with the patient's response to treatment documented..???remove this question, repetition." "Evaluation achieved and closed and continuous monitoring tailored to the patient"
	Recorded repositioning regimes, documenting the frequency and position adopted	"I don't think repositioning charts are vital as I don't think they are ever accurately recorded due to lack of time and just filled in because it is necessary" "? Position adopted - What does this mean"
	Documented the use of pressure distributing devices and alternative pressure therapies based on skin assessment	"Pressure devices might be used as a preventative measure additional to skin inspection and/or waterlow etc. e.g. based on skin assessment or other appropriate rationale..."
Pain Assessment and Management	**Assessed, monitored and recorded the patient's pain regularly, acknowledging the type and potential source of pain**	"What does regularly mean? Quantify: baseline + forward based on this... " "Question 1 needed but need to qualify 'regular' in this question." "Questions too multifactorial to audit. Each question should audit one aspect of practice. Much too complex" "Wording for review of que 1 - too many elements included - what if assessment score and type included but potential source not determined - is that a no for that answer - better to break down what is been asked so that action plans can be directed at the areas for improvement"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Pain Assessment and Management	**There is evidence that the patient's pain at rest and on movement has been assessed, documenting any changes in pain intensity and any impact on the patient's self-care activities***	"Indicator 2 is covered in indicator 1" "The evaluation at 'rest & on movement' is included in full assessment? And revaluation? much repetition…" "Points 1 and 2 very similar" "again the new metric is repetition" "New pain indicator I would feel is 2 separate questions. "What is the patients pain at rest and movement" and then how does the pain impact on the patients self-care activities" "The new indicator where pain impacts on patients 'self-care activities' may not apply to every patient as sometimes they are unable to do their own self-care and nurses have to do things for them. Even doing this pain can be an issue. Would changing the wording to engage with their rehab, therapy or something like this be more inclusive" "Question 2 in this section: please see my previous comment in relation to adding a new indicator at this final stage of the survey. I don't believe it is reasonable" "Documenting pain at rest and on movement is part of overall pain assessment it is critical all types of are assessed and therapies evaluated in all patients. I don't see the relevance of breaking into rest and movement as a metric. If it was to be examined, would it not need to be two different statements within the standard as it could cause confusion for example if pain on movement was evaluated and documented but pain at rest was not because there was none would they fail the standards because both elements were not documented" "again, the inclusion of 'at rest and with movement' in relation to pain monitoring is welcome"
	Differentiated between pain, confusion, agitation and delirium using the appropriate measures	"Cognitive assessment process as a part of the integrated Care Pathway for MDT..." "What measures or tools are there for defining agitation and delirium?" "Do we have assessment tools to differentiate between pain, confusion, agitation and delirium in acute practice and what do we do with the findings?" "Evidence of 2nd opinion regarding Pain V delirium ensuring no over diagnosis of Delirium." "no 3 has to documented" "Que 3 to broad"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Pain Assessment and Management	**Recorded the pharmacological or non-pharmacological therapies administered to the patient following the pain assessment**	No additional open-ended responses
	Recorded the patient's response to the administered therapies, evaluating changes in the patient's level of pain at rest and on movement	"Good Clinical Governance practice Reporting medication Errors" "Questions relating to medication administration and effect of same also important"
Nutrition and Hydration	**Documented patient's nutritional status using an appropriate scale**	"We then need evidence that someone acted on the poor nutritional status and that the patient was assisted with eating.... and that the constipation or otherwise was attended to and action was taken..." "Nutritional screening and not full assessments are appropriate in the acute environment. Have you lost weight without trying and how your appetite is? No dignity for patient in standardised measurements of everyone's BMI, inappropriate use of scarce resources in the acute hospital unless screening prompts this or the nurse is allowed to use their professional assessment skills and patient conditions such as stroke, cancer or dementia." "answered as if the patient was max dependency, as not all patients are dependant, an initial assessment of needs and reassessment is important to rationalise the amount of unnecessary paperwork generated which can sometimes obscure areas of true concern" "…MDT assessment not only relevant to nursing caution needs to be applied assessing nursing on this"
	There is evidence that the risk factors of malnutrition have been evaluated (cognitive impairment, feeding dependency, dehydration status, physical functioning)	"It is important to look at all the factors that influence appetite e.g. Constipation so it is good bowel care is included in this metric." "Indicator 2 is covered in indicator 1" "need to clarify the specific request here - is it related to care plan for nutrition, or another risk assessment" "Que 2 is beyond MUST and also for dietician and MDT involvement"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Nutrition and Hydration	**The patient's weight has been recorded regularly**	"Define regularly? baseline weight and plan forward based on this full (baseline) assessment" "'regular recording of weight' - do we need to include as per your policy as the frequency of this may vary widely" "The patient's weight has been recorded regularly. What is regularly??" "Patients weight (suggest to include on admission to department and as per local guidelines thereafter). This metric was measured initially and was sadly removed. It had a positive impact on aptly ensuring that weight was recorded on the drug prescription kardex."
	There is evidence that a bowel assessment has been completed, evaluating factors that may influence bowel function (medication, activity, diet, fluid intake)	"Assessment /reassessment frequency should be qualified to be done as per hospital policies" "Would like to see the use of a standardised stool assessment e.g. Bristol stool chart." "Que 4 - difficult to answer and review from documents - crosses over on med rec -MDT involvement required to answer this que - how does a nurse prove she considered all those four elements. Is it daily assessment - we do not diagnose so we can say related to or associated with"
	There is evidence that changes in the patient's bowel function and dependency have been documented	"The…question would or should have been covered in an effective bowel assessment so is therefore shouldn't be needed" "Not sure what last point means Include that there is a record of when the patient 's bowels move Timely intervention for constipation/ diarrhoea Evidence of appropriate infection control measures if norovirus etc. suspected " "two separate questions" "What tools are available for nurses - difficulty to find evidence for these questions?"
	There is evidence that the patient's oral health status has been assessed and that the nursing care provided has been documented	"great to see oral health as an indicator" "patient's oral health status should be assessed if applicable"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Medication Safety	**Documented the administration of each medication in the medicine administration chart ensuring the ten rights of medication administration have been adhered to: right patient, right reason, right drug, right route, right time, right dose, right form, right action, right response, right documentation**	"Patient identification is not addressed in the metrics - should it be considered for inclusion? We see a huge number of errors relating to patient identification in relation to Haemovigilance but the same errors in many cases could be assigned to medication management, procedures etc." "Patient's allergies are documented in drug kardex prior to drug administration" "A lot of these points over lap How are auditors going to audit the ten rights of medication administration Controlled drug - should it be drug prescription sheet instead of medical notes" "First indicator…very wordy and difficult to audit objectively, too many elements" "It will be difficult to ensure the 10 rights have been adhered to in retrospect working only from a kardex after the fact. Only some elements may be possible to confirm after a time lapse" "There are only 5 Rights to medication Management as per current NMBI statutory guidelines 2007. This has not changed yet - despite other bodies suggesting 10!" "Medication Management Policy that we are governed by at present is 2008 Medication Management Policy which is 5 Rights of Medication Management. I don't think it is appropriate to measure a metric on a policy that is still not published. I know it is proposed but not published or enforced at present." "10 rights (as I understand this is coming for a not yet published document) quite patronising and a shorter list would reflect more mature thinking. Measuring these 10 rights in one metric seems absurd. " "The ten rights of medication administration are not in use currently- remains a draft NIMBI 2015- it remains 5 rights" "have the 10 rights been signed off by NMBI still awaiting new standards" "Again questions to complex. Ten rights - retrospective audit. not measurable" "Question 1 - keep to five rights - research showing 10 will dilute the safety of the 5 rights"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Medication Safety *(continued)*	**Completed and recorded an assessment of the patient's medication management needs as part of their comprehensive assessment**	"Indicator… is not clear to me - should be done by MDT and not solely nursing" "Assessing the patients medication management needs in full is not the remit of the nurse and may be inappropriate in an acute setting delaying an appropriate medical review. By all means review and report any possible discrepancies or concerns. Prescribers should document their own medication reviews is this what you mean?" "is this a nursing metric - as it would normally be carried out by the medical team Will there be a n/a option when answering these metrics as not all of them will occur In question" "Que 2 - for a prescriber authority"
	Monitored and recorded the patient's response to medication, documenting if the desired effect has been achieved or any adverse findings	"It is not possible to see an effect good or bad from a lot of medications a patient may be taking" "Documenting unexpected outcomes or measurable outcomes of medication may be appropriate but not effects of all medications per patient differentiating which ones are helping what aspect?" "Nursing cannot assess impact of all medication" "measure of this question difficult due to complexity" "MDT and how will the data collector acquire this information" "question 3 and 4 are very similar"
	Identified, managed, recorded and reported any potential adverse drug event (near miss) according to medication management policies, procedures, protocols and guidelines	No additional open-ended responses
	Monitored, prioritised, managed, and recorded the patient's health status during an adverse drug event to limit or prevent further harm to the patient	"Shared Governance process regarding patient Medication Safety Reporting SRE and Near Miss Ongoing training on up to date Medications" "Medication variances - separate clinical audit. Clinical Risk Management - NIMIS. Duplication of audit process. Again indicators too complex to audit." "Questions re health status and monitoring patients clinical status - beyond nursing - open to interpretation - how is this recorded."
	Identified, prioritised, intervened, and recorded the patient's health status during an adverse drug reaction	"There is some duplication here"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Medication Safety *(continued)*	**Recorded the administration of Controlled Drugs (such as morphine, oxycodone or fentanyl) in the patient's medical chart and in the Controlled Drugs register as per the Health Service Provider's PPPG**	"It is not a requirement for nurses to record admin of MDA's in the medical chart, only on drug prescription chart. These metrics should only measure items that are within nurse's sphere of control." "Controlled drug - should it be drug prescription sheet instead of medical notes" "in point seven as we meaning medication record or HCR 9 if medication record 5 if HCR Point eight - may have difficulty if to contact prescriber OOH's last point - documented by whom" "Med rec not been completed by nursing staff"
	Recorded the administration, management and disposal of all Controlled Drugs (such as morphine, oxycodone, fentanyl) in accordance with specific PPPG's within the organisation/care setting	No additional open-ended responses
	Recorded the prescribed medication not administered to the patient utilising the omission code in the patient's medication administration chart and informed the medical team and prescriber	"Indicator 9, omission code being recorded is enough, do not agree with informing medical team and prescriber" "Action to be taken if drug omitted may require MD on call to be notified if the prescriber is not present or on duty" "informed the medical team and prescriber- no need to inform both- the appropriate medical/nursing prescriber may be more appropriate" "may have difficulty if to contact prescriber OOH's"
	Maintained an accurate record of the patient's clinical status to ensure their safety has not been compromised during a drug omission incident	"MDT role"
	Documented evidence that the patient's medication is under review by the multi-disciplinary team to ensure the patient is obtaining the best outcomes from their medications	"Final indicator – not sure how nursing can capture this as an MDT indicator" "Safe administration and monitoring effectiveness is a nursing duty and responsibility falls on the nurse to document and report this. Overall Medication management needs and review ultimately Falls on the Dr's and pharmacist and having this as a standard in nursing metrics does not seem appropriate as nurse have very little control as to what is carried out in this regard." "Doctor should be responsible for the assessing of meds/prescribing etc…"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Medication Safety *(continued)*	**Documented evidence that the patient's medication is under review by the multi-disciplinary team to ensure the patient is obtaining the best outcomes from their medications** (continued)	"documented evidence of medication outcomes and medications under review should be carried out by the medics and not the sole responsibility of nursing staff" "Very difficult to answer this as it involves the Doctors and this is not always done and not always documented" "Last question - again this is led by the medical team so should it be included as a nursing metric" "Little evidence at present that any doctor reassesses the effect of the medication they prescribe routinely. Currently in my experience the only time meds are reassessed is when the patient condition changes. This is very frustrating as for example ....analgesia and antibiotics are not being reviewed and/ or discontinued" "medication under review by MDT- how would this be evident and is the metric only measuring the nursing response" "There is documented evidence that the patient's medication is under review by the multi-disciplinary team to ensure the patient is obtaining the best outcomes from their medications: I feel this is less of a nursing metric and more of an MDT metric" "last point - documented by whom" "MDT role" "Last que - this is for MDT and not just a nursing determination. Again the practicality of acquiring the information posed… is not reasonable in the clinical setting and for a data collector to acquire. Happy to discuss"
Health Care Associated Infection Prevention and Control	**Recorded the cardinal vital signs associated with infection using the appropriate resources**	"Perhaps the cardinal vital signs of infection can be captured in the NEWS/sepsis screening pathway." "vital signs associated with infection and documented (would this not be a part of your NEWS score and identified there) please no more tools (NG tube, PEG, IVC, PIVS, CVC) + U/C" "cardinal vital signs - need to be specific" "Que 1 a repeat of previous que re NEWS"
	There is evidence that the patient's infection status has been documented and frequently reviewed with the multi-disciplinary team, patient, family and carer	"if there has been a change in the patient with infection status has sepsis been considered and screened for" "question 2 -'frequently' needs to be qualified Urinary catheter could be added here"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Health Care Associated Infection Prevention and Control *(continued)*	**There is evidence that the date of insertion for the invasive device (NG tube, PEG, IVC, PIVS, CVC) in use has been recorded as per hospital policy***	"Dates of insertion of invasive devices should be completed by the person who inserted them so not always a nursing responsibility" "The…three questions could possibly be amalgamated to the patient's PVC bundle is in place and completed" "Point re insertion date of devices very broad. Possibly remove ng and peg and include urinary catheter" "Sepsis is being audited via national group. Invasive devices - criteria not as per HIQA requirements."
	The rationale for the device has been evaluated and regularly reassessed by the multidisciplinary team to allow for its timely removal *	"Very important to have the assessment tools for invasive devices and to ensure timely removal if same when not required any longer" "Nurses will remove PVC and possibly catheters without correspondence with the MDT" "Once again I feel we are measuring an MDT related metric v's nursing"
	A daily inspection of the site has been completed and the nursing care provided to prevent invasive device-related infection has been documented*	"require greater than daily inspection of cannula"
Falls and Injury Management	**A multi factorial falls risk assessment was recorded on admission assessing gait, balance and mobility with evidence of regular reassessment**	"Risk assess all - reassess based on base assessment/ related change in patients condition; 'regular' assessment may not be required; & for all?" "A multi factorial falls risk assessment -this would be unnecessary for some patients and waste valuable nursing time" "…recorded by whom? physio as detailed last point - again completed by whom"
	If an individual is identified as at risk of falling, there is documented evidence of the interventions in place to minimise the risk of falling	"If the measure to prevent falls for a certain patient is one to one care with a healthcare assistant or constant supervision this must be implemented and recorded as being in place." "Would suggest concentrating in the nursing interventions for prevention and management of falls. Multidisciplinary approach is vital; however these metrics should measure nursing input only."
	Documented evidence that the individual at risk of falling, their family and carers have been offered information about falls and are aware of their risk and the measures to prevent falls	"Some patients dislike their autonomy being eroded when family is given information without their permission". "Nurses must ensure that the patient and family understand the risks and measures taken to prevent falls. Patient and family information delivered is key and evidence provided"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Falls and Injury Management *(continued)*	**If an individual has fallen, there is evidence that a post-falls protocol has been followed with the completion of the relevant post falls documentation**	No additional open-ended responses
	If an individual has fallen, there is documented evidence that the multi-disciplinary team have reviewed the possible contributing factors and have made the necessary changes to care e.g. alterations to medications	"As 'acute nursing metrics' it is impossible for us to provide evidence of multidisciplinary review only that we have reported falls and deteriorating condition to appropriate members of the team ultimately the evidence for each element of the review falls on the speciality team to whom it has been reported" "Once again I question the measuring of an MDT metric in nursing metrics." "Concern that if MDT did not review that this results in a negative marking for nursing care."
	If there is a suspicion that a patient has frailty (falls, sudden change in mobility, acute/worsening confusion, new onset/worsening incontinence), a frailty risk assessment has been completed using a validated tool and there is evidence that the appropriate referrals have been made*	"It is important all staff are familiar with the frailty team as it is new to my hospital." "A frailty assessment is similar to a falls risk assessment and it is enough to do a falls risk!!!!!!" "should have been addressed in the first indicator as all these are or should be covered in the falls assessment" "We on the coal face have so many tools which in real terms equates to more paperwork, this is turn means more time away from the patient if another tool is added. Could this assessment be included with the falls risk assessment tool?" "Could it not be added in with the fall risk form or there will too many assessment and it will end up that done will get done" "This is hard to answer because the Doctors only refer to the Frailty team not CNM / Nurses". "Frailty question should include in consultation with the patient if these metrics apply to all patients as a standard then assessing gait etc. on admission is inappropriate and not mindful of the patient's dignity and respect. A screening tool should be used initially." "A frailty risk assessment has been completed using a validated tool (another tool???)" "Clearly assesses the nursing role in relation to falls Again I am concerned that some of these metrics are placing new roles solely on nursing medication e.g. reconciliation"

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Delirium Prevention and Management	**On admission, there is evidence that a delirium assessment has been completed for "at risk" patients (65 years or older, 1cognitive impairment, severe illness) using the appropriate resources**	"On admission, there is evidence that a delirium assessment has been completed for "at risk" patients (65 years or older, cognitive impairment, severe illness) using the appropriate resources who is responsible for ensuring this?" "I would worry that we are 'nursing by Numbers' and not valuing Nurses professional judgement. Over reliance on assessments - some (but not all) may be appropriate for the individual patients" "Delirium can be present in the under 65s and can be present in people who don't have a history of cognitive impairment." "Is done as part of holistic assessment with referrals as appropriate for full assessment"
	The therapeutic interventions that have been put in place to address the clinical factors possibly impacting delirium (dehydration, constipation, infection, hypoxia, pain) have been documented	No additional open-ended responses
	Patient's response to therapies (pharmacological and non-pharmacological) have been assessed daily, documenting any adverse events associated with these therapeutic modalities	"Greater than daily assessment?" "Question about therapeutic modalities is confusing"
Continence Assessment and Management	**A continence assessment has been recorded on admission, identifying any possible causative factors to bladder dysfunction such as lifestyle factors (caffeine, weight, fluid intake)**	"The reason for the slightly lower score for the continence assessment on admission is that it is subjective and based on anecdotal evidence for the patient/family. It can take a period of time for a full continence assessment to be undertaken to reflect the true picture of continence." "Incontinence assessment would not be necessary for a lot of patients " "Could use better examples for causative factors of bladder dysfunction?" "there is a lot more than lifestyle factors such as neuro status/ medications/ dementia etc."

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Continence Assessment and Management *(continued)*	**A continence assessment has been recorded on admission, identifying any possible causative factors to bladder dysfunction such as lifestyle factors (caffeine, weight, fluid intake)**	"It is difficult to interpret the reason for the metrics as there is no relationship to the reason for admission and focusing on that. The sections are not couched in any meaningful terms indicating that the nurses would need a day to assess a person in the way that this tool seems to be developing. That is unfortunate. All patients do not need assessment. They need to be asked if they have a problem and then decide is an assessment is needed unless that is a known issues or part of the reason for admission. This is why I {score} some items as a 1 as there is no context to the item."
	Following a continence assessment, if the patient requires a urinary catheter, the rationale for insertion has been documented and the date of insertion and removal have been clearly recorded as per hospital policy*	"the decision to insert a catheter in the majority of cases is not associated with continence but with a medical condition that require strict output monitoring" "Who decides that a urinary catheter is to be inserted following a continence assessment? Unsure of this rationale and meaning?" "Does the patient need a urological assessment???"
	If an individual has a urinary catheter, it's clinical requirement is reviewed daily with the multidisciplinary team to allow for its timely removal	"Daily review of urinary catheter need? I assume this is in relation short term catheters only? Surely a documented "date due for removal" in care plan is enough without having to review its need Daily?" "Daily MDT seems unrealistic as most clinical areas do not have full ward rounds every day."
	All actions taken to prevent a catheter associated urinary tract infection have been documented*	"'All actions' versus national guidelines followed?" "Actions to prevent UCAI such as care bundle might be better term to use"
	Recorded patient's fluid balance, also documenting episodes of urinary incontinence	"Fluid balance recording as indicated not all patients will need it" "Recorded the patient's fluid balance-not all patients require this! It is important for those that do but not important for those that don't! Gave it a 5 but depending on patient could be given a 1 or a 10"
Care Plan Development and Evaluation	**The nursing care plan is evident and reflects the individuals current condition, the goals and plan for care which has been developed with the patient, family and multi-disciplinary team**	No additional open-ended responses

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Care Plan Development and Evaluation *(continued)*	**Clinically indicated risk assessments have been completed to identify the holistic needs of the patient as an inpatient and on discharge**	"For benchmarking hospitals suggest to have a nationally agreed list of risk assessments" "Clinically indicated risk assessments-which ones are appropriate" "these assessment tools not in practice"
	There is evidence that the patient's functional status (level of dependency with hygiene needs, eating, mobilising, elimination) has been regularly assessed to aid in discharge planning (discharge to own home, nursing home, convalescence, hospice)*	"…very hard to measure - too many variables"
	Nursing interventions are individualised and holistic and reflect the patient's treatment preferences	No additional open-ended responses
	Evaluation of the care plan is evident and has been updated according to the patient's changing needs	"Should possibly read ' Daily evaluation of the care plan is evident and has been updated according to the patient's changing needs" "Question 5 - important but too many variables in question"
	There is evidence that the patient's progress has been discussed with the patient, and their family and that a predicted discharge date has been decided, a discharge plan documented, and referrals made as necessary (e.g. primary care services)	"The PDD is generally recorded by the medical team" "I do not see why a care plan includes the patient's family unless the patient asks or there is problem but this seems to be a norm in this section? Confidentiality is a right of the patient. needs assessments detailed… are not required for all patients and this is not reflected in the items" "Discussing things with family needs to be related to permission from the patient Not sure how some of these indicators will be measured?" "Patient must consent to their care being discussed with family. This needs to be reflected in metrics" "Understanding of consent regarding nursing care delivered in acute and community settings Closure on all actions and follow up care pathway agreed and discussed with the patient and his /her family/carer" "family involvement may not be wanted or required depending on patient wishes" "Discussion and engagement with families is paramount to the seamless discharge of patients" "This section is care planning & evaluation. PDD is the remit of the Medical Practitioner Neglect and abuse not relevant in this section."

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Care Plan Development and Evaluation *(continued)*	**There is evidence that the patient's progress has been discussed with the patient, and their family and that a predicted discharge date has been decided, a discharge plan documented, and referrals made as necessary (e.g. primary care services)**	"There is evidence that the patient's discharge options have been discussed with the patient and family and that the patient's preferences for discharge - in the acute services it is not possible to facilitate all patients preferences for discharge - our metrics need to be realistic"
	Maintained comprehensive accurate, contemporaneous nursing records that have been documented in accordance with NMBI Guidelines (dated and times, legible, signed, in chronological order)*	"We are measuring our record keeping, do we really need to put in a new metric with a tick box in reference to the NMBI. Not necessary as our written records should reflect our professional competency."
	If an individual was identified as a vulnerable patient, concerns regarding neglect and abuse have been documented and reported to the appropriate authorities according to local organisational policy	No additional open-ended responses
Patient/ Family/ Carer Experience	**There is evidence that the patient's preferences have been documented with regards to the level of information they want to receive about their care and how they would like their family or carer to be involved**	"As regards level of information patient wants to receive this is more likely to occur with medical team" "patient's preferences have been documented with regards to the level of information they want to receive about their care, (please clarify levels of information)"
	There is a record that informed consent was obtained from the patient or family (if the patient does not have the capacity to make decisions) prior to receiving an intervention	"While it is important that patients give their consent for nursing interventions, does stating informed consent suggest that written consent is required?" "Consent can be assumed if a patient allows interventions-cannot document that 'consent obtained' for every intervention-e.g. taking obs/venepuncture/physical exam etc.- has to be some level of assumption when the patient agrees to it" "Do we really need documented evidence that we've asked the patient for consent for assistance with wash??" "I don't think it should be necessary to document consent for tasks in the everyday care of the patient. While verbal consent is critical documenting same is time consuming and would leave no time for patient care" "Consent for the majority of nursing interventions is either verbal or implied. Recording this for individual interventions would be impossible"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Patient/ Family/ Carer Experience *(continued)*	**There is a record that informed consent was obtained from the patient or family (if the patient does not have the capacity to make decisions) prior to receiving an intervention**	"Documented consent for nursing intervention such as assistance with ADL's, blood glucose monitoring would be impractical in the clinical area as this is implied consent in most cases. If the Patient refused this would be documented in nursing notes." "In relation to record of informed consent for all health interventions implies that it should be written either on consent form or in nursing notes. There is also implied consent where by patient puts out finger for blood glucose monitoring etc. Would refusal to consent for a procedure/intervention be the metric to measure and the action taken?" "A record of informed consent is not recorded in the notes at present." "Informed consent is vital, but if it is recorded for every interaction it becomes farcical" "Verbal consent is obtained for delivering health interventions so a record of informed consent is not kept - this will significantly increase the workload of nursing staff and I would question the need to include this In relation to the last question - not all services would have this available" ""Record that informed consent" is this to be documented in the patient's notes each time an intervention is done???" "point two would have MDT impact also" "There is a record that informed consent was obtained prior to delivering all health interventions to the patient (e.g. physical examinations, assistance with ADLs, blood tests, blood glucose monitoring) - need to link in practical way to national consent policy" "Implicit in fundamental care is a discussion with a patient prior to any interaction. If a nurse has to document consent for every interaction with a patient this will be very difficult to document" "Informed consent is presumed after all procedures are explained clearly"
	The holistic, culturally sensitive care provided to the patient and their family during end-of-life care has been documented	"holistic sensitive end of life care is an inherent implied part of being a nurse and a human I am not sure how this type of care can be documented" "Important that a nurse delivers this care rather than documents it."

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Patient/ Family/ Carer Experience *(continued)*	**There is evidence that the patient's family has been referred to a team specialising in bereavement support if requested**	"Must ensure that local areas have these supports in place prior to inclusion of a metric (referral times can also be an issue)" "Don't have a bereavement team. Holistic care for family etc. critical but documenting it not so Important" "The last point should have covered in the indicator prior therefore I feel this is not needed." "There is evidence that the patient's family have been referred to a team specialising in bereavement support if requested-does end of life care audit this metric" "Should it be a question asked vs requested" "Only a small proportion of bereaved families will require specialist bereavement support. The need for this support does not become evident immediately following the bereavement" "There is evidence that the patient's family have been referred to a team specialising in bereavement support if requested: I wonder if the % of families requiring this warrants this being a metric, i.e. numbers could be small enough" "Do all areas have this service available?"
Patient Engagement and Enablement	**The patients baseline self-management behaviours have been assessed, documented and regularly evaluated**	"Confusing question while enablement for those deemed at risk or known to be should be addressed if that is the intention" "self -Management behaviours require further clarification" "How will this be audited?" "Measurability of this" "Difficult to assess - observational capacity audits not feasible unless a dedicated audit department in place" "Too many elements in this indicator." "This may have to be further broken down but it is a very valuable metric area" "Too much unnecessary documentation" "Is this repetitive" "Patients don't have the freedom to walk on their own for fear of a fall. Our fear not theirs, limiting their independence" "Is this not the role of the Occupational Therapist? The staff nurse will communicate this with the Occupational Therapist" "Relevant conversations with the patient recorded...including the patient's own wishes to self-discharge or be discharged to their own home....and evidence that Nursing supports the patient Choice" "Discussed at the MDT and any actions implemented and closed"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Professional and Ethical Approach to Care		"How do you document this???? It is subjective to the patient"
		"Difficult to demonstrate this 'evidence' but it is important but I don't know how this be objectively measured from the patient's notes"
		"How can we record evidence that the nurse was professional, ethical, at all times?"
		"both of these elements are important but impossible to provide evidence for as they are subjective in nature therefore would need to be observed rather than documented"
		"This is vital though difficult to quantify"
		"Again can be difficult to assess"
		"This would be difficult to monitor in the clinical area without observing nursing staff in the clinical area for a period of time."
	There is evidence that while interacting with patients and their families, dignity and respect was maintained	"HOW WOULD THIS BE DOCUMENTED? HOW DO YOU GIVE EVIDENCE?"
		"Very hard to find in the chart audit: not measurable"
		"Difficult to capture the evidence of the…2 points"
	There is evidence that a professional demeanour was presented while interacting with patients, families and other healthcare professionals	"This is important but what evidence are we looking for specifically? This indicator would be difficult to access unless the patient was interviewed as part of the metrics??"
		"how would these be measured , these are observed behaviours"
		"This is very subjective and could not be measured."
		"There is evidence that a professional demeanour was presented while interacting with patients, families and other healthcare professionals: while this is important : I question how this can be measured without bias, if the manner of measuring metrics is as it is to date"
		"Difficult to measure in an objective manner"
		"Very subjective how is this going to be measured/assessed I am concerned about the number of metrics that are not exclusive to nursing. We as a profession need to be cautious about taking responsibility for other professions and cannot allow ourselves to be judged on this. Nursing metrics need to focus on nursing"
		"How is this assessed?"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Professional and Ethical Approach to Care *(continued)*		"…observational based and difficult to audit and subjective Concerns in general over the content of the metrics questions. Clinical staff would value input to share the practicality of how data is collected in the acute setting and what when multiple things asked in a question it is very difficult for a data collector to mark yes or no - keep the questions clear and defined for one aspect. Happy to offer input and have a group of experienced data collectors to also advise the group designing this tool. We appreciate the difficult job you have in this development but concerned over current design for what outcomes will be achieved and impact they will have on patient care."
		"Regularly ask the patients and families for feedback on care given and interaction with Staff and that information is relevant"
	There is evidence that while interacting with patients and their families, dignity and respect was maintained	"? Code of conduct should be sufficient to support here. Is evidence in this instance ' no Complaints made'?"
		"Again, it is critical that we are doing this - but do we really need to have documented evidence that we are demonstrating these innate nursing qualities?"
	There is evidence that a professional demeanour was presented while interacting with patients, families and other healthcare professionals	"All staff should be professional and empathetic at all times and documentation of same should not be necessary."
		"Professional demeanour is always used but doesn't not need to be documented"
	(continued)	"While I recognize the inherent value for these metrics, I cannot see how I will have time to add to the metrics I and my colleagues already carry out. Eight times a month!!"
		"Again an over reliance on HCA'S who are allowed to work alone and unsupervised and, as far as I am aware, there is little evidence of continuous assessment after qualification of HCA's means that sometimes there is lack of awareness around patient dignity. Also I have seen first-hand that professional demeanour not always as it should be amongst all professions if documentation would improve this I would be in favour of it"
		"Should the questions here be more specific e.g.; Does the Nurse maintain the dignity of the patient by maintaining privacy and comfort and security when attending to personal hygiene. Does the Nurse ensure utmost discretion when discussing confidential information in relation to the patient?"

QUALITY CARE PROCESS METRIC	QUALITY CARE PROCESS INDICATORS FROM DELPHI ROUND 4	Open-Ended Responses for the Quality Care Process Indicator from Delphi Round 4
Professional and Ethical Approach to Care *(continued)*	**There is evidence that while interacting with patients and their families, dignity and respect was maintained** **There is evidence that a professional demeanour was presented while interacting with patients, families and other healthcare professionals** (continued)	"I sometimes regret the path nursing has taken, we are now the only ones responsible for every incident, and it always falls back on us. I probably wold prefer the care assistants job, that's where we were 20 years ago, caring and obs and meds. Now we are stuck signing our signature and getting the writing done…" "Evidence of Education and training for staff patients and families"
Total Quality Care Process Metrics: 14	**Total Quality Care Process Indicators: 77**	

Table 11 List of Excluded Quality Care Process Indicators Delphi Round 4

DELPHI ROUND	QUALITY CARE PROCESS METRIC	EXCLUDED QUALITY CARE PROCESS INDICATOR BASED ON DELPHI ROUND 3 RATING	Delphi Rating Round 4*
04	**Patient/Family/ Carer Experience**	There is a record that informed consent was obtained prior to delivering all health interventions to the patient (e.g. physical examinations, assistance with ADLs, blood tests, blood glucose monitoring)	60.44%
		Total Quality Care Process Indicators Excluded: 1	

*** Consensus for mandatory inclusion of a quality care process indicator into the Consensus Meeting was achieved if 70 percent of the votes fell within the "critical" range of 7-9.**

Table 12 Acute Quality Care Process Indicator Refinements Post Delphi Round 4

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Patient Monitoring and Surveillance	**Assessed the patient's baseline physiological measurements using an Early Warning Score (EWS)**	Assessed the patient's physiological measurements using an Early Warning Score (EWS)
	Recorded the patient's baseline physiological measurements using an Early Warning Score (EWS)	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Reassessed the patient's physiological measurements using an Early Warning Score (EWS)	No refinements
	There is evidence that the patient's physiological observations have been regularly measured and documented using the NEWS score	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Identified a deterioration in the patient's condition	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Documented the deterioration in the patient's condition as per National Guidelines	Documented a deterioration in the patient's condition as per National Guidelines
	Communicated with relevant members of the multi-disciplinary team using the ISBAR tool as per the National Escalation Protocol (EWS)	Escalated care and communicated with the medical team using the ISBAR tool as per the National Escalation Protocol
	Escalated care as per the National Escalation protocol (EWS)	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Documented the care that has been provided to prevent further deterioration in the patient's condition	Documented the care that has been provided to manage a deterioration in the patient's condition
	Documented additional observations such as assessments of sensory and motor (neuro) and peripheral circulation (vascular) to support the timely recognition of deterioration	Documented additional observations; sensory and motor (neuro) and peripheral circulation (vascular) to support the timely recognition of deterioration
	Escalated care using the sepsis screening pathway if appropriate	Escalated care using the sepsis screening pathway in accordance with the National Escalation protocol

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Wound Care Management	**Completed a comprehensive assessment of the wound (type of wound, location, exudate description, size and the condition of the surrounding skin)**	Completed a comprehensive wound assessment
	Identified the risk factors impacting effective wound healing as per the National Wound Management Guidelines	No refinements
	Recorded the wound care plan	No refinements
	Documented the evaluation of the wound care plan	Documented the evaluation of the wound care plan, wound resolution and consulted with the multidisciplinary team if necessary
	Identified and recorded factors associated with wound infection	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Documented a new wound care plan if necessary with the multi-disciplinary team and patient	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	There is evidence that the new wound care plan has been reassessed by examining the rate of resolution in the signs and symptoms pertinent to wound infection (pain, exudate, malodour, erythema)	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Pressure Ulcer Prevention and Management	**A pressure ulcer risk assessment was recorded using a validated tool within 6 hours of admission**	A pressure ulcer risk assessment was recorded using a validated tool within 6 hours of admission or transfer
	If there were any changes in the patient's condition, the patient's pressure ulcer risk was reassessed	If there were any changes in the patient's condition, the pressure ulcer risk was reassessed
	If there were any changes in the patient's condition, the patient's pressure ulcer risk was documented	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	If an individual is identified as at risk, daily skin inspections have been recorded (examining skin integrity, colour, temperature)	If a patient is identified as at risk, daily skin inspections have been recorded as per the National Wound Management Guidelines
	If a pressure ulcer is present, the grade has been recorded on the relevant documentation	No refinements
	There is evidence that evaluation of the pressure ulcer has been recorded with the patient's response to treatment documented	Evaluations of the pressure ulcer have been completed in accordance with National Wound Management Guidelines.
	Recorded the frequency of repositioning regimes	Recorded the frequency of repositioning
	Documented the use of pressure distributing devices and alternative pressure therapies based on skin assessment	Documented the use of pressure distributing devices

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Pain Assessment and Management	**Assessed, monitored and recorded the patient's pain regularly, acknowledging the type and potential source of pain**	Assessed pain within 24 hours of admission using a validated tool that is consistent with the patient's age, condition and ability to understand Performed and documented a pain assessment using a validated tool at least every 8 hours Performed and documented a pain assessment using a validated tool before and after a pain-relieving intervention
	There is evidence that the patient's pain at rest and on movement has been assessed, documenting any changes in pain intensity and any impact on the patient's self-care activities	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Differentiated between pain, confusion, agitation and delirium using the appropriate measures	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Recorded the pharmacological or non-pharmacological therapies administered to the patient following the pain assessment	Documented the time, name, route and dosage of each administered opioid and non-opioid analgesic Provided education on pain management treatment plan and safe use of opioids and non-opioid medications when prescribed Evaluated and documented any adverse outcome associated with pain treatments
	Recorded the patient's response to the administered therapies, evaluating changes in the patient's level of pain at rest and on movement	Communicated with the medical team when there is a need for initiation of pain management, report of severe pain or modification of pain treatment plan Documented evidence of pain-related education provision on the pain management plan to the patient and family on discharge

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Nutrition and Hydration	**Assessed the patient's nutritional status using an appropriate screening tool**	Assessed the patient's nutritional status using a screening tool
	There is evidence that a plan of care has been documented based on the nutritional assessment and Local Guidelines	No refinements
	There is evidence that the nutritional status of a patient identified as at risk of malnutrition has been reassessed as per Local Guidelines	No refinements
	There is evidence that the risk factors of malnutrition have been evaluated (cognitive impairment, feeding dependency, dehydration status, physical functioning)	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	The patient's weight has been recorded regularly	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	There is evidence that the patient's oral health status has been assessed and that the nursing care provided has been documented.	No refinements
	There is evidence that a bowel assessment has been completed using the Bristol Stool Chart	No refinements
	There is evidence that changes in the patient's bowel function and dependency have been assessed and documented using the Bristol Stool Chart	There is evidence that changes in the patient's bowel pattern have been assessed e.g. using the Bristol Stool Chart

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Medication Safety	**Documented the administration of each medication in the medicine administration chart ensuring the ten rights of medication administration have been adhered to: right patient, right reason, right drug, right route, right time, right dose, right form, right action, right response, right documentation**	Evidence of contribution to building the patient's medication history, in collaboration with the multi-disciplinary team for that patient, including medication adherence and the last medication dose taken prior to admission All prescribed medication is administered in accordance with Local PPPGs and National Guidelines Prescribed medication not administered has an omission code entered and appropriate action taken
	Completed and recorded an assessment of the patient's medications	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Monitored and recorded the patient's response to medication, documenting if the desired effect has been achieved or any adverse findings	Evidence of appropriate action being taken in response to monitoring for medication effects and adverse effects
	Identified, managed, recorded and reported any potential adverse drug event (near miss) according to medication management policies, procedures, protocols and guidelines	Evidence of appropriate monitoring and intervention being taken in accordance with medication PPPGs if an adverse drug event (harm which may be preventable or not) and/or error has occurred
	Monitored, prioritised, managed, and recorded the patient's health status during an adverse drug event to limit or prevent further harm to the patient	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Identified, prioritised, intervened, and recorded the patient's health status during an adverse drug reaction	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Medication Safety *(continued)*	**Recorded the administration of Controlled Drugs (such as morphine, oxycodone or fentanyl) in the patient's medical chart and in the Controlled Drugs register as per the Health Service Provider's PPPG**	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Recorded the administration, management and disposal of all Controlled Drugs (such as morphine, oxycodone, fentanyl) in accordance with specific PPPG's within the organisation/care setting	The administration, management and disposal of Controlled Drugs and recording of same is in accordance with the organisation's PPPGs.
	Recorded the prescribed medication not administered to the patient utilising the omission code in the patient's medication administration chart and informed the medical team and prescriber	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Maintained an accurate record of the patient's clinical status to ensure their safety has not been compromised during a drug omission incident	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Documented evidence that the patient's medication is under review by the multi-disciplinary team to ensure the patient is obtaining the best outcomes from their medications	Evidence of contribution to patient understanding of medication, particularly changes, during admission and on discharge and of communication of information regarding medication on discharge, in collaboration with the multi-disciplinary team

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Health Care Associated Infection Prevention and Control	**Assessed the cardinal vital signs associated with infection using an Early Warning Score (EWS) and sepsis screening pathway**	Work-stream Working Group consensus to remove this indicator and incorporate sepsis into the patient surveillance metric- revisited at consensus meeting
	There is evidence that the patient's infection status has been documented and reviewed with the multi-disciplinary team, and patient	No refinements
	There is evidence that the date of insertion for the invasive device in use has been recorded as per hospital policy	There is evidence that a care bundle has been completed for each invasive device in use
	The rationale for the invasive device has been reassessed to allow for its timely removal	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	There is evidence that the site for the invasive device has been inspected	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	There is evidence that the nursing care provided to prevent invasive device-related infection has been documented	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Falls and Injury Management	**A falls risk assessment was recorded on admission**	A falls risk assessment was recorded on admission and on transfer
	If an individual is identified as at risk of falling, there is documented evidence of the nursing interventions in place to minimise the risk of falling	If the patient is identified as at risk of falling, there is documented evidence of the nursing interventions in place to minimise the risk of falling
	Documented evidence that the individual at risk of falling, and their family have been offered information about falls	Documented evidence that the patient at risk of falling, and their family have been offered information about falls
	If an individual has fallen, there is evidence that a Post-Falls Protocol has been followed with the completion of the relevant post falls documentation	If a patient has fallen, there is evidence that a Post-Falls Protocol has been followed with the completion of the relevant post falls documentation
	If an individual has fallen, there is documented evidence that the multi-disciplinary team have reviewed the possible contributing factors and have made the necessary changes to care e.g. alterations to medications	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	If there is a suspicion that a patient has frailty a frailty risk assessment has been completed using a validated tool and referrals have been made as appropriate	There is evidence that a frailty assessment was completed if required
Delirium Prevention and Management	**On admission, there is evidence that a delirium assessment has been completed for "at risk" patients using the appropriate resources**	A delirium assessment has been completed if necessary If a patient has delirium, a care plan has been developed
	The therapeutic interventions that have been put in place to address the clinical factors possibly impacting delirium (dehydration, constipation, infection, hypoxia, pain) have been documented	There is documented evidence of the nursing interventions which target the precipitating factors of delirium
	Patient's response to therapies (pharmacological and non-pharmacological) have been assessed and documented	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Continence Assessment and Management	**A continence assessment has been recorded on admission**	A continence assessment has been recorded on admission and on transfer if applicable
	If an individual has a urinary catheter, it's date of insertion and removal has been documented	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	If an individual has a urinary catheter, it's clinical requirement is reviewed with the multidisciplinary team to allow for its timely removal	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	All nursing care taken to prevent a catheter associated urinary tract infections have been documented	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Recorded fluid balance monitoring if appropriate	Fluid balance monitoring has been recorded where appropriate
	Recorded episodes of urinary incontinence if appropriate	Episodes of urinary incontinence have been recorded where appropriate There is evidence that a urinary catheter care bundle has been completed

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Care Plan Development and Evaluation	**Clinically indicated assessments have been completed to identify the holistic needs of the patient (physical cognitive, social, cultural, emotional, spiritual, environmental, and behavioural).**	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	The nursing care plan is evident and reflects the individuals current condition, the goals and plan for care which has been developed with the patient	The nursing care plan reflects the patient's goals and plan for care which has been developed with the patient
	There is evidence that the patient's activities of living have been regularly reassessed to aid in discharge planning (discharge to own home, nursing home, convalescence, hospice	There is evidence that the patient's care plan has been regularly reassessed to evaluate the patient's progress and to aid in discharge planning
	Nursing interventions are individualised and holistic and reflect the patient's treatment preferences	No refinements
	Daily evaluation of the care plan is evident and has been updated according to the patient's changing needs	A daily evaluation of the care plan is evident and has been updated according to the patient's changing needs
	There is evidence that the patient's progress has been discussed with the patient, and a discharge plan documented	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	There is evidence that the necessary referrals prior to discharge have been made (e.g. primary care services) if appropriate	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	There is evidence that the patient's discharge options have been discussed with the patient and family and that the patient's preferences for discharge have been documented and discussed with the multi-disciplinary team	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	All entries into the patient records are documented in accordance with NMBI Guidelines (dated and times, legible, signed, in chronological order)	All entries into the patient records are documented in accordance with NMBI Guidelines
	If an individual was identified as a vulnerable patient, concerns regarding neglect and abuse have been documented and reported to the appropriate authorities according to local organisational policy	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4

QUALITY CARE PROCESS METRIC	Indicator Refinements Following Open-Ended Responses of Delphi Round 4	Indicator Refinements Following Work-Stream Working Group Face-to-Face Meeting Post Delphi Round 4
Patient/ Family Experience	**There is evidence that the patient's preferences have been documented with regards to the information they want to receive about their care, discharge planning and how they would like their family to be involved**	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	There is a record that informed consent was obtained prior to delivering all health interventions to the patient (e.g. physical examinations, assistance with ADLs, blood tests, blood glucose monitoring)	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting- voted as "important but not critical" in Delphi 4
	The holistic (physical, cognitive, social, cultural, emotional, spiritual, environmental, and behavioural), culturally sensitive care provided to the patient during end-of-life care has been documented	A nursing care plan for end of life has been completed which incorporates a holistic needs assessment and symptom management plan
	There is evidence that the patient's family received bereavement support if requested	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
Patient Engagement and Enablement	**The patient's baseline self-care activities have been assessed**	The patient's self-care activities have been assessed
	The support given to the patient to improve their self-care activities has been documented	The support given to the patient to improve their self-care activities and progress has been documented
	The patient's progress has been regularly evaluated	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
Professional and Ethical Approach to Care	**There is evidence that while interacting with patients the dignity, privacy and security of the patient was maintained**	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	There is evidence that a professional demeanour was presented while interacting with patients, families and other healthcare professionals	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
Total Quality Care Process Metrics: 14	**Total Quality Care Process Indicators: 90**	

Total Quality Care Process Metrics presented at the Consensus Meeting following the Work-Stream Working Group face-to-face meeting post Delphi Round 4: 14

Total Quality Care Process Indicators presented at the Consensus Meeting following the Work-Stream Working Group face-to-face meeting post Delphi Round 4: 99

Acute Care Consensus Findings

A face-to-face consensus meeting between the research team and the Acute Work-stream Working Group was held on November 27th 2017. The purpose of the Consensus Meeting was to review the findings from the Delphi process and build consensus on the prioritised quality care process metrics and respective indicators. Participants at this meeting were representative of Acute Work-Stream key stakeholders with regards to grade and geographical representation. The patient representative was also present to contribute their experience as a service-user. In addition to the Acute Work-stream Working Group members, additional specialist experts from the field of acute care were present to add further clarity and validity pertinent to their respective suite of quality care process metrics and indicators. To ensure the Consensus Meeting was robust, the process was underpinned by a systematic literature review (Appendix F). Five core guidelines were derived from the literature and are presented in Appendix G. These guidelines identified the optimum approach to conduct a face to face Consensus Meeting and aided in the management of this process.

Group consensus was measured for each metric and indicator through the process of anonymous electronic voting (Poll Everywhere). This method was used to facilitate the presentation of immediate results. Once again, consensus for mandatory inclusion of a quality care process metric or indicator was pre-set at 70 percent. To assist in the selection of Nursing and Midwifery Quality Care-Metrics, a judgement framework was developed (Appendix H). This tool is a modified version of the eRegistries indicator evaluation tool by Flenady et al. (2016). It was designed as a guideline for the voting process and consisted of 4 domains; Process Focused, Important, Operational and Feasible. **Process Focused** examined whether the metric or indicator contributes clearly to the measurement of nursing or midwifery care processes. The domain **Important** reflected on whether the contribution of the metric or indicator is significant in improving nursing or midwifery care processes. The **Operational** domain questioned whether reference standards are available or could be developed for the process metric. While **Feasible** referred to the ability to collect and report data on the prioritised metrics/indicators.

The quality care process metrics and indicators presented in Table 15 are a result of the analyses and integration of data from Delphi Rounds 1, 2, 3, 4 and the Consensus Meeting. Figure 6 presents the voting results of each metric prioritised from Delphi Rounds 1 and 2. Three quality care process metrics and 48 indicators were removed following the Consensus Meeting (Table 13 and Table 14). Some of these quality care process indicators were subsumed or incorporated into more suitable metrics (Table 14). Subsequently eleven quality care process metrics and 53 associated indicators were developed for the acute care setting (Table 15).

Figure 6: Electronic Voting: Quality Care Process Metrics

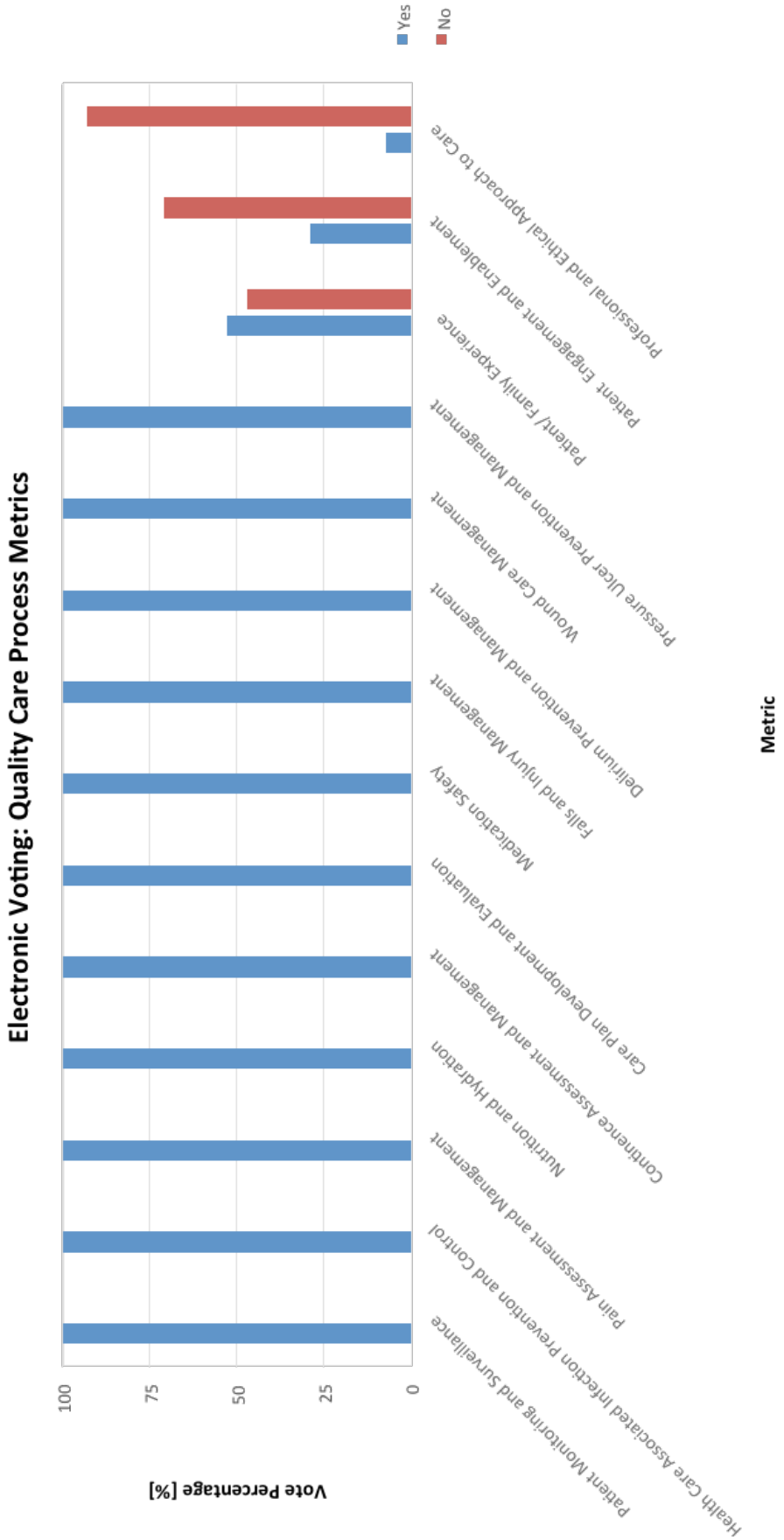

Table 13 List of Excluded Quality Care Process Metrics Following the Consensus Meeting

QUALITY CARE PROCESS METRICS EXCLUDED FOLLOWING THE CONSENSUS MEETING	Rationale for Exclusion Following the Consensus Meeting
Patient/ Family Experience	Although critical, this information is already collected through multiple different surveys Wrong title? Should it be "Patient preferences"? Incorporated in the care plan
Patient Engagement and Enablement	Important aspect of care-incorporated as indicators in the care plan
Professional and Ethical Approach to Care	Although important, not feasible to measure currently
Total Quality Care Process Metrics Excluded: 3	

Table 14 List of Excluded Quality Care Process Indicators Following the Consensus Meeting

QUALITY CARE PROCESS METRIC	Quality Care Process Indicators Excluded Following the Consensus Meeting	Rationale for Exclusion Following the Consensus Meeting
Pain Assessment and Management	**There is evidence that the patient's pain at rest and on movement has been assessed, documenting any changes in pain intensity and any impact on the patient's self-care activities.** **Provided education on pain management treatment plan and safe use of opioids and non-opioid medications when prescribed**	Following expert advice, both indicators are subsumed into indicators included in the final suite pertinent to the metric
	Differentiated between pain, confusion, agitation and delirium using the appropriate measures	Indicator incorporated in the Delirium Prevention and Management metric
	Documented the time, name, route and dosage of each administered opioid and non-opioid analgesic	Indicator incorporated in the Medication Safety Metric

QUALITY CARE PROCESS METRIC	Quality Care Process Indicators Excluded Following the Consensus Meeting	Rationale for Exclusion Following the Consensus Meeting
Nutrition and Hydration	**There is evidence that the risk factors of malnutrition have been evaluated (cognitive impairment, feeding dependency, dehydration status, physical functioning)**	Following expert advice, the two indicators are subsumed into indicators included in the final suite pertinent to the metric
	The patient's weight has been recorded regularly	
	There is evidence that a bowel assessment has been completed using the Bristol Stool chart	According to expert advice, a bowel assessment cannot be completed with the Bristol Stool chart, it can simply examine bowel pattern which is an indicator included in this metric within the final suite
	If a patient has a urinary catheter, the date of insertion and removal has been documented	The three indicators will be included as prompts in the Standard Operating Procedure document to support staff when completing the indicator included in the final suite pertinent to the metric
	If a patient has a urinary catheter, it's clinical requirement is reviewed with the multidisciplinary team to allow for its timely removal	
	All nursing care actions taken to prevent a catheter associated urinary tract infections have been documented	
Continence Assessment and Management	**Episodes of urinary incontinence have been managed where appropriate**	Indicator is subsumed into an indicator included in the final suite pertinent to the metric
Care Plan Development and Evaluation	**Clinically indicated risk assessments have been completed to identify the holistic needs of the patient (physical, cognitive, social, cultural, emotional, spiritual, environmental, and behavioural).**	The five indicators are subsumed into indicators included in the final suite pertinent to the metric
	Nursing Interventions are individualised and holistic and reflect the patient's treatment preferences	
	A daily evaluation of the care plan is evident and has been updated according to the patient's changing needs	

QUALITY CARE PROCESS METRIC	Quality Care Process Indicators Excluded Following the Consensus Meeting	Rationale for Exclusion Following the Consensus Meeting
Care Plan Development and Evaluation *(continued)*	**There is evidence that the necessary referrals prior to discharge have been made (e.g. primary care services) if appropriate**	The five indicators are subsumed into indicators included in the final suite pertinent to the metric
	There is evidence that the patient's discharge options have been discussed with the patient and family and that the patient's preferences for discharge have been documented and discussed with the multi-disciplinary team	
Falls and Injury Management	**If an individual has fallen, there is documented evidence that the multi-disciplinary team have reviewed the possible contributing factors and have made the necessary changes to care e.g. alterations to medications**	Not feasible to measure MDT review
	There is evidence that a frailty assessment was completed if required	Although viewed as an important aspect of care, not feasible to measure currently
Delirium Prevention and Management	**Patient's response to therapies (pharmacological and non-pharmacological) have been assessed and documented**	Indicator subsumed into an indicator included in the final suite pertinent to the metric
Medication Safety	**Evidence of contribution to building the patient's medication history, in collaboration with the multi-disciplinary team for that patient, including medication adherence and the last medication dose taken prior to admission.**	Following expert advice, it is acknowledged that although critical, hard to capture the nurse's specific role in medication reconciliation (MDT input) without unnecessary duplication of documentation
	Completed and recorded an assessment of the patient's medication management needs as part of their comprehensive assessment	Following expert advice, group consensus that this indicator is outside of the nurse's scope of practice

QUALITY CARE PROCESS METRIC	Quality Care Process Indicators Excluded Following the Consensus Meeting	Rationale for Exclusion Following the Consensus Meeting
Medication Safety	**Monitored, prioritised, managed, and recorded patient's health status during an adverse drug event to limit or prevent further harm to the patient**	Following expert advice, the five indicators are subsumed into indicators included in the final suite pertinent to the metric
	Identified, prioritised, intervened, and recorded the patient's health status during an adverse drug reaction	
	Recorded the administration of Controlled Drugs (such as morphine, oxycodone or fentanyl) in the patient's medical chart and in the Controlled Drugs register as per the Health Service Provider's PPPG	
	Recorded the prescribed medication not administered to the patient **utilising the omission code in the patient's medication administration chart and informed the medical team and prescriber**	
	Maintained an accurate record of the patient's clinical status to ensure their safety has not been compromised during a drug omission incident	
	There is documented evidence that the patient's medication is under review by the multi-disciplinary team to ensure the patient is obtaining the best outcomes from their medications	Following expert advice, it is acknowledged that it is not feasible to measure this indicator as it requires MDT review
Wound Care Management	**Identified the risk factors impacting effective wound healing as per the National Wound Management Guidelines**	Following expert advice, the four indicators are subsumed into indicators included in the final suite pertinent to the metric
	Documented the evaluation of the wound care plan, wound resolution and consulted with the multidisciplinary team if necessary	
	Identified and recorded factors associated with wound infection	
	Documented a new wound care plan if necessary with the multi-disciplinary team and patient	

QUALITY CARE PROCESS METRIC	Quality Care Process Indicators Excluded Following the Consensus Meeting	Rationale for Exclusion Following the Consensus Meeting
Wound Care Management *(continued)*	**There is evidence that the new wound care plan has been reassessed by examining the rate of resolution, the signs and symptoms pertinent to wound infection (pain, exudate, malodour, erythema)**	Following expert advice, the indicator is subsumed into an indicator included in the final suite pertinent to the metric. This indicator will also be included as a prompt in the Standard Operating Procedure document to support staff when completing the indicator included in the final suite relating to wound reassessment
Pressure Ulcer Prevention and Management	**If there were any changes in the patient's condition, the pressure ulcer risk was documented**	Following expert advice, the indicator is subsumed into an indicator included in the final suite pertinent to the metric
Patient/Family Experience *(Metric removed Table 13)*	**There is evidence that the patient's preferences have been documented with regards to the information they want to receive about their care, discharge planning and how they would like their family to be involved**	Group consensus that the indicator is incorporated in the Care Plan Development and Evaluation metric already
	There is a record that informed consent was obtained prior to delivering all health interventions to the patient (e.g. physical examinations, assistance with ADLs, blood tests, blood glucose monitoring)	Similar to their associated metric, the two indicators did not receive 70 percent support for mandatory inclusion in the final suite
	There is evidence that the patient's family have received bereavement support if requested	
Patient Engagement and Enablement *(Metric removed Table 13)*	**The patient's progress has been regularly evaluated**	Indicator incorporated in an indicator included in the Care Plan Development and Evaluation metric
Professional and Ethical Approach to Care *(Metric removed Table 13)*	**There is evidence that while interacting with patients the dignity, privacy and security of the patient was maintained**	Although important, consensus that this aspect of care is not feasible to measure currently, therefore both indicators were excluded
	There is evidence that a professional demeanour was presented while interacting with patients, families and other healthcare professionals	
	Total Quality Care Process Indicators Excluded: 48	

Table 15 Suite of Acute Quality Care Process Metrics and Indicators Following the Consensus Meeting

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Patient Monitoring and Surveillance	1 Assessed and recorded the patient's baseline physiological observations using the appropriate Early Warning System/ Score (EWS) 2 There is evidence that the patient's physiological observations have been regularly measured and documented using the appropriate Early Warning System/ Score (EWS) 3 Documented a deterioration in the patient's condition as per National Guidelines 4 Escalated care and communicated with the medical team using the ISBAR as per the National Escalation Protocol 5 Documented the care that has been provided to manage a deterioration in the patient's condition 6 Escalated care using the sepsis form and in accordance with the National Escalation Protocol if infection was suspected to be the cause of the patient's deterioration
Health Care Associated Infection Prevention and Control	1 There is evidence that the patient's infection status has been documented and reviewed with the multi-disciplinary team and patient 2 There is evidence that a care bundle has been completed for each invasive device in use
Pain Assessment and Management	1 Assessed pain within 24 hours of admission using a validated tool that is consistent with the patient's age, condition and ability to understand 2 Performed and documented a pain assessment using a validated tool at least every 12 hours 3 Performed and documented a pain assessment using a validated tool before and after a pain-relieving intervention 4 Evaluated and documented any adverse outcome associated with pain treatments 5 Communicated with the medical team/prescriber when there is an identified need for a patient pain review 6 Documented evidence of pain-related education provision to the patient and family on the pain management plan during admission and on discharge
Nutrition and Hydration	1 There is evidence that the patient's risk of malnutrition has been screened 2 There is evidence that a plan of care has been developed based on the patient's risk of malnutrition 3 There is evidence that the patient's risk of malnutrition has been screened again as appropriate 4 There is evidence that the patient's oral health status has been assessed and that the nursing care provided has been documented. 5 There is evidence that changes in the patient's bowel pattern have been assessed

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Continence Assessment and Management	1 A continence assessment has been recorded on admission and on transfer if applicable 2 There is evidence that a urinary catheter care bundle has been completed 3 Fluid balance monitoring has been recorded where appropriate 4 There is evidence that changes in the patient's urinary continence pattern have been assessed, recorded and managed
Care Plan Development and Evaluation	1 The patient's self-care activities have been assessed 2 The support given to the patient to improve their self-care activities and progress has been documented 3 The care plan reflects the patient's goals and plan for care which has been developed with the patient 4 There is evidence that the patient's care plan has been regularly reassessed to evaluate the patient's progress and to aid in discharge planning 5 There is evidence that the patient's discharge plan has been discussed with the patient and documented 6 A care plan for end of life has been completed which incorporates a holistic needs assessment and symptom management plan 7 All entries into the patient records are documented in accordance with NMBI Guidelines 8 If an individual was identified as a vulnerable patient, concerns regarding neglect and abuse have been documented and reported to the appropriate authorities according to Local Policy
Medication Safety	1 All prescribed medication is administered in accordance with Local PPPGs and National Guidelines 2 Prescribed medications not administered have an omission code entered and appropriate action taken 3 Evidence of appropriate action being taken in response to monitoring for medication effects and adverse effects 4 Evidence of appropriate monitoring and intervention being taken in accordance with medication PPPGs if an adverse drug event (harm which may be preventable or not) and/or error has occurred. 5 The administration, management and disposal of Controlled Drugs and recording of same is in accordance with the organisation's PPPGs 6 Evidence of contribution to patient understanding of medication, particularly changes to medications
Falls and Injury Management	1 A falls risk assessment was recorded on admission and on transfer if applicable 2 If the patient is identified as at risk of falling, there is documented evidence of the nursing interventions in place to minimise the risk of falling 3 Documented evidence that the patient at risk of falling has been offered information about falls 4 If a patient has fallen, there is evidence that a Post-Falls Protocol has been followed with the completion of the relevant post falls documentation
Delirium Prevention and Management	1 A delirium assessment has been completed if necessary 2 If a patient has delirium, a care plan has been developed 3 There is documented evidence that a care plan for the patient with delirium has been evaluated

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Wound Care Management	1 Completed a comprehensive wound assessment 2 Reassessed and recorded the wound care plan/chart
Pressure Ulcer Prevention and Management	1 A pressure ulcer risk assessment was recorded using a validated tool within 6 hours of admission or transfer 2 If there were any changes in the patient's condition, the pressure ulcer risk was reassessed and documented 3 If a patient is identified as at risk, at least daily skin inspections have been recorded as per the National Wound Management Guidelines 4 If a pressure ulcer is present, the grade/category/stage has been recorded on the relevant documentation 5 Evaluations of the pressure ulcer have been completed 6 Recorded the frequency of patient repositioning 7 Documented the use of pressure distributing devices
Total Quality Care Process Metrics: 11	**Total Quality Care Process Indicators: 53**

Following the consensus meeting and guidance from the expert external reviewer, further refinements were made to the suite of quality care process metrics and respective indicators (Table 16). These refinements were made by the NMPDU Director and the NMPDU Project Officers to align the language used wherever possible across all seven workstreams. This was to ensure optimum fit with the "Test Your Care" system prior to the implementation of the final suite of 11 quality care process metrics and 53 respective indicators in the acute care setting.

Table 16 Final Suite of Acute Quality Care Process Metrics and Indicators for Implementation in the Acute Care Setting

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Patient Monitoring and Surveillance	1 The patient's baseline physiological observations were assessed and recorded using the appropriate Early Warning System/ Score (EWS) 2 The patient's physiological observations have been regularly reassessed and recorded using the appropriate Early Warning System/ Score (EWS) 3 Any deterioration in the patient's condition is recorded as per National Guidelines 4 Care is escalated and communicated to the medical team using the ISBAR as per National Escalation Protocol 5 The care provided to manage a deterioration in the patient's condition has been recorded 6 Care is escalated using the sepsis form and in accordance with the National Escalation Protocol if infection was suspected to be the cause of the patient's deterioration
Health Care Associated Infection Prevention and Control	1 The patient's infection status has been documented and reviewed with the multi-disciplinary team and patient 2 There is evidence that a care bundle has been completed for each invasive device in use
Pain Assessment and Management	1 Pain is assessed and documented within 24 hours of admission using a validated tool that is consistent with the patient's age, condition and ability to understand 2 Pain is assessed and documented using a validated tool at least every 12 hours 3 Pain is assessed and documented using a validated tool before and after a pain-relieving intervention 4 Any adverse outcome associated with pain treatments is evaluated and documented 5 Documented evidence of communication with the medical team/ prescriber when there is an identified need for patient review 6 Documented evidence of pain-related education provision to the patient and family on the pain management plan during admission and prior to discharge
Nutrition and Hydration	1 There is evidence that the patient's risk of malnutrition has been screened 2 There is evidence that a plan of care has been developed based on the patient's risk of malnutrition 3 There is evidence that the patient's risk of malnutrition has been re-screened as appropriate 4 There is evidence that the patient's oral health status has been assessed and the nursing care provided has been documented 5 There is evidence that changes in the patient's bowel pattern has been assessed, recorded, and managed
Continence Assessment and Management	1 A continence assessment has been recorded on admission and on transfer if applicable 2 A urinary catheter care bundle has been completed 3 There is evidence that fluid balance monitoring has been assessed, recorded and managed 4 There is evidence that changes in the patient's urinary continence pattern have been assessed, recorded, and managed

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Care Plan Development and Evaluation	1 The patient's self-care activities have been assessed 2 The support given to the patient to improve their self-care activities and progress has been documented 3 The care plan reflects the patient's goals and plan for care which has been developed with the patient 4 There is evidence that the patient's care plan has been regularly reassessed to evaluate the patient's progress and to aid in discharge planning 5 There is evidence that the patient's discharge plan has been discussed with the patient and documented 6 A care plan for End of Life has been completed which incorporates a holistic needs assessment and symptom management plan 7 All nursing entries into the patient records are documented in accordance with NMBI Guidelines 8 If an individual was identified as a vulnerable patient, concerns regarding neglect and abuse have been documented and reported to the appropriate authorities according to local policy
Medication Safety	1 All prescribed medication is administered in accordance with local and national policies, procedures, protocols and guidelines (PPPGs) 2 Prescribed medication not administered have an omission code entered and appropriate action taken 3 There is documented evidence of appropriate action being taken in response to monitoring for medication effects and adverse effects 4 If an adverse drug event (harm which may be preventable or not) and/or error has occurred there is evidence of appropriate monitoring and intervention in accordance with medication PPPGs 5 The administration, management and disposal of Controlled Drugs and record of same is in accordance with the organisation's PPPGs 6 There is evidence of nursing contribution to patient education, particularly changes to medications
Falls and Injury Management	1 A falls risk assessment was recorded on admission and on transfer if applicable 2 If the patient is identified as at risk of falling, there is documented evidence of the nursing interventions in place to minimise the risk of falling 3 Documented evidence that the patient at risk of falling has been offered information about falls 4 If a patient has fallen, there is evidence that a post-falls protocol has been followed with the completion of the relevant post falls documentation
Delirium Prevention and Management	1 A delirium assessment has been completed 2 If a patient has delirium, a care plan has been developed 3 There is documented evidence that a care plan for the patient with delirium has been evaluated
Wound Care Management	1 A comprehensive wound assessment has been completed 2 The wound care plan/chart has been reassessed and recorded

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Pressure Ulcer Prevention and Management	1 A pressure ulcer risk assessment was recorded using a validated tool within 6 hours of admission or transfer 2 The pressure ulcer risk was reassessed and documented in response to any changes in the patient's condition 3 If a patient is identified as at risk, at least daily skin inspections have been recorded as per the National Wound Management Guidelines 4 If a pressure ulcer is present, the grade/ category/stage has been recorded on the relevant documentation 5 Reassessment and evaluation of the pressure ulcer have been completed 6 The frequency of patient repositioning is recorded 7 The use of pressure distributing devices is recorded
Total Quality Care Process Metrics: 11	**Total Quality Care Process Indicators: 53**

Conclusion

The need to deliver greater value and increased efficiency while guaranteeing ever-higher quality care is placing a requirement on healthcare organisations to provide evidence of the quality and safety of their care. However, quality and patient safety cannot be measured, and improvements cannot be made without reviewing the appropriate data. The existing suites of metrics established in 2012 were not developed through a robust process and were modified by individual hospitals for use. This created challenges for comparing quality of nursing care across the health system. This report presents the process employed to develop a robust suite of quality care process metrics and respective indicators that can be used to consistently measure care processes in the acute care setting. By creating a national suite of quality care process metrics and indicators, more robust monitoring can be achieved which will enable the provision of evidence for any national level changes to policy and practice that may be required to improve care delivery. The importance of an evidence-based approach in persuading staff to adopt the new suite is also evident from the literature (McSherry 1997; Nolan et al. 1998; Upton & Upton 2005; Majid et al. 2011). It is suggested that staff are more likely to adopt a practice if they know there is scientific evidence to support that practice. The collaborative, participatory approach used ensures the relevancy of the developed quality care process metrics and indicators, engenders participant ownership, increasing the capacity for adoption of the chosen suite in the acute care setting, heightening the sustainability of metric and indicator use in practice as the nurses and midwives involved in the research process have become advocates for the developed suite (Jagosh et al. 2012).

The process of developing an agreed set of evidence-based quality care process metrics and indicators in this project incorporated; a systematic literature review, a two-round Delphi survey on identified metrics, a two-round Delphi survey on associated indicators for the identified metrics as well as a consensus meeting with key stakeholders. Through using this robust collaborative research design a suite of 11 quality care process metrics and 53 associated indicators were developed for the acute care setting.

Recommendations

The implementation of the 11 quality care process metrics and 53 associated indicators is due to begin in the acute care setting in 2018. To examine the effectiveness of the developed suite, we recommend a robust evaluation of the quality care process metrics and associated indicators on nursing and midwifery care processes in the acute care setting. Adherence is a key challenge for any new guideline or measurement and in order to ensure the suite is fully utilised it would be important to explore any issues that might arise during the testing of the quality care process metrics and indicators. Consequently, there is a need to evaluate not only summative endpoint outcomes following implementation but also a requirement to perform formative and process evaluations of implementation (Stetler et al. 2006). Thus, a robust approach is required to examine the impact of the newly developed metrics and indicators on nursing and midwifery care processes in the setting of acute care.

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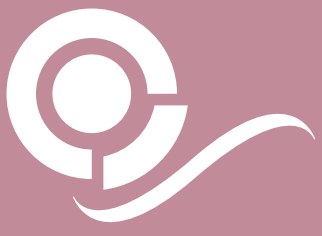
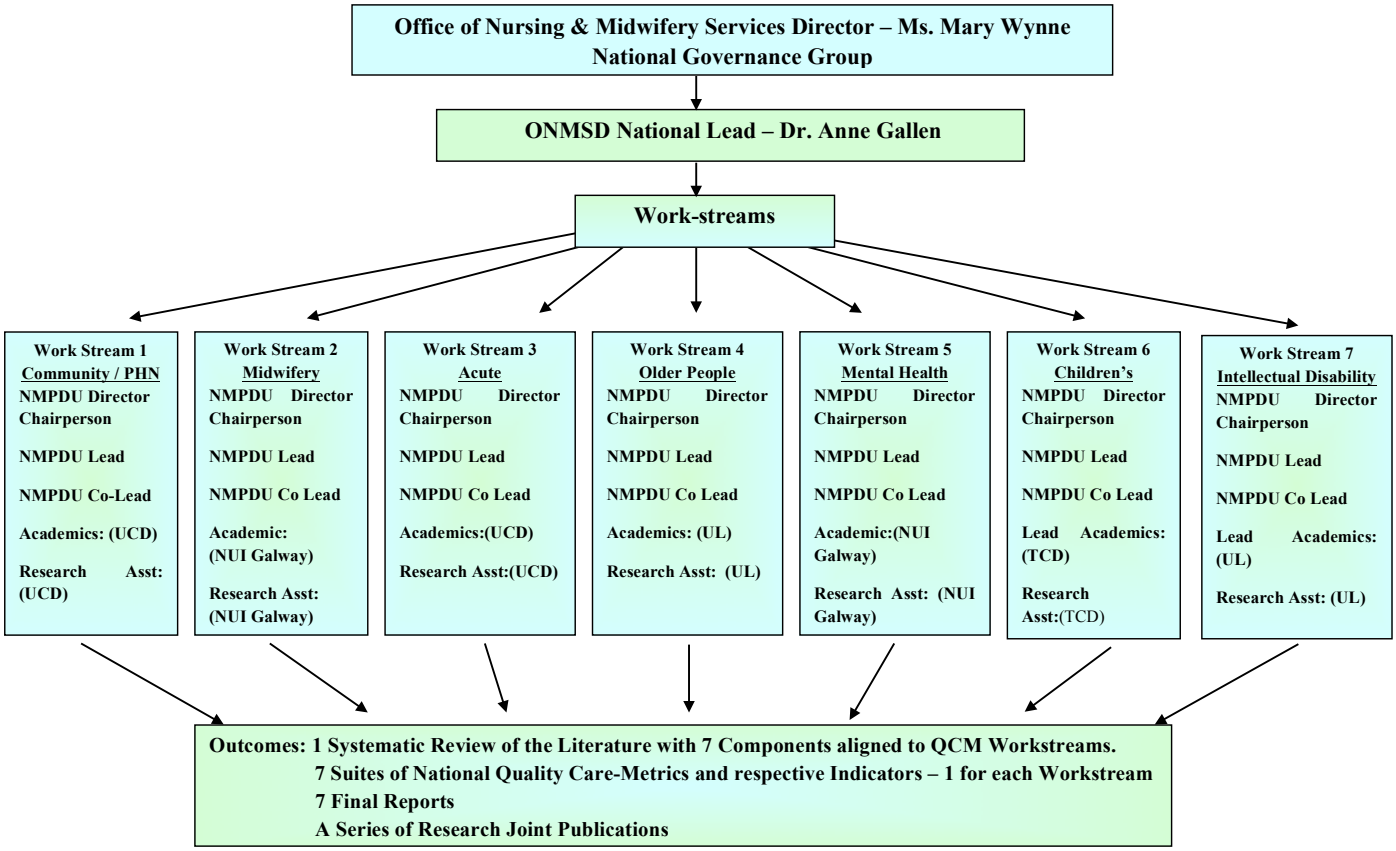
Appendices



NURSING & MIDWIFERY
QUALITY
CARE-METRICS

Appendix A:
Nursing & Midwifery Quality Care-Metrics – Governance Structure



Appendix B:
Nursing & Midwifery Quality Care-Metrics – Academic & NMPD Steering Group Membership

OFFICE OF NURSING & MIDWIFERY SERVICE DIRECTOR	**Ms. Mary Wynne,** HSE, Interim Nursing and Midwifery Services Director & Assistant National Director, Office of the Nursing & Midwifery Services Director
NATIONAL LEAD	**Dr. Anne Gallen,** Director, NMPDU, HSE North West
ACUTE WORKSTREAM:	
NMPD DIRECTOR – CHAIRPERSON – CURRENT: NMPD DIRECTOR – CHAIRPERSON – PREVIOUS:	**Dr. Mark White,** Interim Area Director, NMPD, HSE South **Ms. Miriam Bell,** Interim Director, NMPDU, HSE South
NMPD LEAD –CURRENT : NMPD LEAD(S) - PREVIOUS:	**Ms. Leonie Finnegan,** QCM Project Officer, NMPDU, HSE South East **Ms. Paula Kavanagh,** QCM Project Officer, NMPDU, HSE North West
NMPD CO-LEAD – CURRENT : NMPD CO-LEAD – PREVIOUS:	**Ms. Ciara White,** QCM Project Officer, NMPDU, HSE Dublin North **Ms. Angela Killeen,** QCM Project Officer, NMPDU, HSE North West **Ms. Aoife Lane,** QCM Project Officer, NMPDU, HSE South (Cork/Kerry) **Ms. Loretto Grogan,** QCM Project Officer, NMPDU, Dublin South, Kildare & Wicklow
LEAD ACADEMIC (S)	**Prof. Laserina O`Connor,** University College Dublin **Prof. Eilish McAuliffe,** University College Dublin
RESEARCH ASSISTANT(S)	**Ms. Lisa Rogers,** University College Dublin **Ms. Bianca vanBavel,** University College Dublin
COMMUNITY/PHN WORKSTREAM:	
NMPD DIRECTOR – CHAIRPERSON:	**Ms. Carmel Buckley,** Director, NMPDU, HSE South (Cork/Kerry)
NMPD LEAD – CURRENT : NMPD LEAD(S) - PREVIOUS:	**Ms. Margaret Nadin,** QCM Project Officer, NMPDU, HSE Dublin North East **Ms. Martina Giltenane,** QCM Project Officer, NMPDU, HSE Dublin North
NMPD CO-LEAD – CURRENT : NMPD CO-LEAD – PREVIOUS:	**Ms. Caroline Kavanagh,** QCM Project Officer, NMPDU, HSE Dublin North **Ms. Aoife Lane,** QCM Project Officer, NMPDU, HSE South (Cork/Kerry)
LEAD ACADEMIC (S)	**Prof. Declan Devane,** National University of Ireland Galway **Prof. Valerie Smith,** Trinity College Dublin
RESEARCH ASSISTANT	**Ms. Lisa Rogers,** University College Dublin **Ms. Bianca van Bavel,** University College Dublin

MIDWIFERY WORKSTREAM:	
NMPD DIRECTOR – CHAIRPERSON	**Ms. Mary Frances O`Reilly,** Director, NMPDU, HSE West/Mid-West
NMPD LEAD	**Ms. Margaret Nadin,** QCM Project Officer, NMPDU, HSE Dublin North East
NMPD CO-LEAD	**Ms. Gillian Conway,** QCM Project Officer, NMPDU , HSE West/Mid-West
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RESEARCH ASSISTANT	**Ms. Nora Barrett,** National University of Ireland, Galway
OLDER PERSONS WORKSTREAM:	
NMPD DIRECTOR – CHAIRPERSON – CURRENT: NMPD DIRECTOR – CHAIRPERSON – PREVIOUS:	**Ms. Joan Donegan,** Director, NMPDU, HSE North East **Ms. Deirdre Mulligan,** Interim Area Director, NMPDU, HSE North East
NMPD LEAD –CURRENT :	**Ms. Mary Nolan,** QCM Project Officer, NMPDU, HSE Midlands
NMPD CO-LEAD – CURRENT : NMPD CO-LEAD – PREVIOUS:	**Ms. Angela Killeen,** QCM Project Officer, NMPDU, HSE North West **Ms. Paula Kavanagh,** QCM Project Officer, NMPDU, HSE North West
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NMPD LEAD	**Ms. Gillian Conway,** QCM Project Officer, NMPDU , HSE West/Mid-West
NMPD CO-LEAD	**Ms. Caroline Kavanagh,** QCM Project Officer, NMPDU, HSE Dublin North
LEAD ACADEMIC (S)	**Dr. Andrew Hunter,** National University of Ireland Galway
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CHILDREN`S WORKSTREAM:	
NMPD DIRECTOR – CHAIRPERSON – CURRENT: NMPD DIRECTOR – CHAIRPERSON – PREVIOUS:	**Ms. Susanna Byrne,** Director, NMPDU, HSE Dublin South, Kildare & Wicklow **Ms. Aine Lynch,** Interim Director, NMPDU, HSE Dublin South, Kildare & Wicklow
NMPD LEAD –CURRENT : NMPD LEAD(S) - PREVIOUS:	**Ms. Ciara White,** QCM Project Officer, HSE Dublin North **Ms. Loretto Grogan,** QCM Project Officer, NMPDU, HSE Dublin South, Kildare & Wicklow
NMPD CO-LEAD – CURRENT :	**Ms. Mary Nolan,** QCM Project Officer, NMPDU, HSE Midlands
LEAD ACADEMIC (S)	**Dr. Maria Brenner,** Trinity College Dublin
RESEARCH ASSISTANT(S)	**Dr. Catherine Browne,** University College Dublin

INTELLECTUAL DISABILITY WORKSTREAM:	
NMPD DIRECTOR – CHAIRPERSON – CURRENT: NMPD DIRECTOR – CHAIRPERSON – PREVIOUS:	**Ms. Judy Ryan,** Interim Director, NMPDU, HSE Midlands **Ms. Eilish Croke,** Director, NMPDU, HSE Mid-Leinster
NMPD LEAD –CURRENT : NMPD LEAD(S) - PREVIOUS:	**Ms. Johanna Downey,** QCM Project Officer, NMPDU, HSE South (Cork/Kerry) **Ms. Aoife Lane,** QCM Project Officer, NMPDU, HSE South (Cork/Kerry) **Ms. Mary Nolan,** QCM Project Officer, NMPDU, HSE Midlands **Ms. Martina Giltenane,** QCM Project Officer, NMPDU, HSE Dublin North
NMPD CO-LEAD – CURRENT : NMPD CO-LEAD – PREVIOUS:	**Ms. Mary Nolan,** QCM Project Officer, NMPDU, HSE Midlands **Ms. Margaret Nadin,** QCM Project Officer, NMPDU, HSE Dublin North East
LEAD ACADEMIC (S)	**Prof. Fiona Murphy,** University of Limerick **Dr. Owen Doody,** University of Limerick **Ms. Rosemary Lyons,** University of Limerick
RESEARCH ASSISTANT	**Dr. Duygu Sezgin,** Postdoctoral Researcher, University of Limerick

ADDITIONAL MEMBERS:	
PROJECT OFFICER	**Ms. Deirdre Keown ,** QCM Project Officer, NMPDU, HSE, North West
ADMINISTRATION	**Ms. Anita Gallagher,** NMPDU, HSE, North West

Appendix C:
Nursing & Midwifery Quality Care-Metrics – National Governance Steering Group Membership

Chairperson	**Ms. Mary Wynne,** HSE, Interim Nursing and Midwifery Services Director & Assistant National Director, Office of the Nursing & Midwifery Services Director
Area Director NMPD	**Ms. Catherine Killilea,** Area Director, HSE, NMPDU South
ONMSD National Lead QCM	**Dr. Anne Gallen,** Director, HSE, NMPD North West
QCM Academic Group Representative	**Prof. Laserina O`Connor,** University College Dublin
QCM NMPD Project Officers Representative	**Ms. Gillian Conway,** QCM Project Officer, NMPD, HSE West/Mid-West
Hospital Group Chief Nurse Representatives / IADNAM DON/M Representatives: • Acute Care • Midwifery • Children's Nursing • Older Persons	**Ms. Julie Nohilly,** Director of Nursing, Galway University Hospital **Ms. Mary Brosnan,** Director of Midwifery & Nursing, The National Maternity Hospital, Adjunct Associate Professor, UCD School of Nursing, Midwifery and Health Systems, **Ms. Suzanne Dempsey,** Chief Director of Nursing, Children's Hospital Group **Ms. Georgina Bassett,** National Leadership & Innovation Centre for Nursing and Midwifery NLIC, Office of the Nursing & Midwifery Services Director ONMSD
Area Director of Mental Health Nursing Representative	**Ms. Catherine Adams,** Office of the Area Director of Nursing, Mid-West Mental Health Services
Director of Public Health Nursing	**Ms. Mary B Finn-Gilbride,** Director Public Health Nursing, HSE South, Upper George's Street, Wexford
Director of Nursing Intellectual Disability	**Ms. Theresa O'Loughlin,** Oakridge Children's Services Manager, Daughters of Charity Disability Support Services
HSE Quality Improvement Division Representative	**Dr. Jennifer Martin,** Quality Improvement Division Lead on Measurement for Improvement, Stewart's Hospital, Dublin
HSE ICT Representative	**Mr. Pat Kelly,** Corporate IT Delivery Director, Office of the CIO
INMO Representative	**Ms. Martina Harkin-Kelly,** President, Irish Nurses & Midwives Organisation
PNA Representative	**Ms. Aisling Culhane,** Research and Development Advisor, Psychiatric Nurses Association
SIPTU Representative	**Ms. Aideen Carberry,** Assistant Organiser, SIPTU Health Division
Patient Representative	**Ms. Anne Harris,** Development & Case Support - Southern Area, SAGE (Support & Advocacy Service)
Secretary to the Group	**Ms. Anita Gallagher,** HSE, NMPD North West

Appendix D:
Nursing & Midwifery Quality Care-Metrics - Acute Workstream Working Group Membership

OFFICE OF NURSING & MIDWIFERY SERVICE DIRECTOR	**Ms. Mary Wynne,** HSE, Interim Nursing and Midwifery Services Director & Assistant National Director, Office of the Nursing & Midwifery Services Director
NATIONAL LEAD	**Dr. Anne Gallen,** Director, NMPDU, HSE North West
ACUTE WORKSTREAM	
NMPD DIRECTOR – CHAIRPERSON –CURRENT: NMPD DIRECTOR – CHAIRPERSON – PREVIOUS:	**Dr. Mark White,** Interim Area Director, NMPD, HSE South **Ms. Miriam Bell,** Interim Director, NMPDU, HSE South
NMPD LEAD –CURRENT : NMPD LEAD(S) - PREVIOUS:	**Ms. Leonie Finnegan,** QCM Project Officer, NMPDU, HSE South East **Ms. Paula Kavanagh,** QCM Project Officer, NMPDU, HSE North West
NMPD CO-LEAD – CURRENT : NMPD CO-LEAD – PREVIOUS:	**Ms. Ciara White**, QCM Project Officer, NMPDU, HSE Dublin North **Ms. Angela Killeen,** QCM Project Officer, NMPDU, HSE North West **Ms. Aoife Lane,** QCM Project Officer, NMPDU, HSE South (Cork/ Kerry) **Ms. Loretto Grogan,** QCM Project Officer, NMPDU, Dublin South, Kildare & Wicklow
LEAD ACADEMIC (S)	**Prof. Laserina O`Connor,** University College Dublin **Prof. Eilish McAuliffe,** University College Dublin
RESEARCH ASSISTANT- CURRENT WORD ASSISTANT- PREVIOUS	**Ms. Lisa Rogers,** University College Dublin **Ms. Bianca van Bavel,** University College Dublin

WORKSTREAM WORKING GROUP MEMBERS	**Ms. Carolyn Donohoe**, Practice Development Lead, IEHG, St. Vincent`s University Hospital **Ms. Helen Molloy,** Practice Development Lead, IEHG, St. Luke's Hospital, Kilkenny **Ms. Deirdre Brennan**, Nurse Practice Development Coordinator, RCSI HG, Connolly Hospital **Ms. Judy McEntee**, Director of Nursing, RCSI HG, Connolly Hospital **Ms. Marina O`Connor**, Practice Development Lead, RCSI HG, Our Lady of Lourdes Hospital **Ms. Patricia Suresh**, Audit & Practice Development Facilitator, RCSI HG, Our Lady of Lourdes Hospital **Ms. Clare O`Dea**, Divisional Nurse Manager, Midlands Regional Hospital, Tullamore, Dublin Midlands **Ms. Breda Dreelan**, Acting Nurse Practice Development Coordinator, Naas General Hospital, Dublin Midlands **Ms. Gerardine Kennedy**, Nurse Practice Development Coordinator, Assistant Director of Nursing, University of Limerick Hospital, University Limerick Hospital Group **Ms. Bernadette O`Malley**, Assistant Director of Nursing, University of Limerick Hospital, University Limerick Hospital Group **Ms. Orla Goulding**, Clinical Placement Coordinator, South/South West Representative, Cork University Hospital, South West Hospital Group **Ms. Ursula Morgan**, Director of Nursing, Roscommon, Saolta-West North West Hospital Group **Ms. Eileen Carolan**, Clinical Nurse Manager 2 Practice Development, Sligo University Hospital, Saolta-West North West Hospital Group **Ms. Caitriona Rayner**, Clinical Nurse Manager 2, AMNIG Representative, Saolta University Health Care Group **Ms. Bharati Prabhu**, National Clinical Nurse Manager 2 Representative, St. Columcille`s Hospital, IEHG **Ms. Catherine Hanlon**, Respiratory Clinical Nurse Specialist (CNS) , National CNS Representative, Mallow General Hospital, South/South West Hospital Group **Mr. Gerald Kearns**, Registered Advanced Nurse Practitioner (RANP) Cardiology, St. Vincent`s Hospital. National RANP Representative, IEHG **Ms. Annette Cuddy**, Assistant Director of Nursing and Midwifery (Prescribing), University of Limerick Hospital, University Limerick Hospital Group **Ms. Josephine Griffin**, Patient Liaison & Access Officer, National Patient Representative, Mercy University Hospital Cork, South/South West Hospital Group **Kate Bree,** ADON Practice Development Sligo University Hospital **Sinead Keogh,** A/Practice Development Co-Ordinator, Naas Hospital **Una O Brien,** Nurse Practice Development Coordinator University Hospital Waterford **Nora O Mahoney,** ADON Practice Development NAAS Hospital

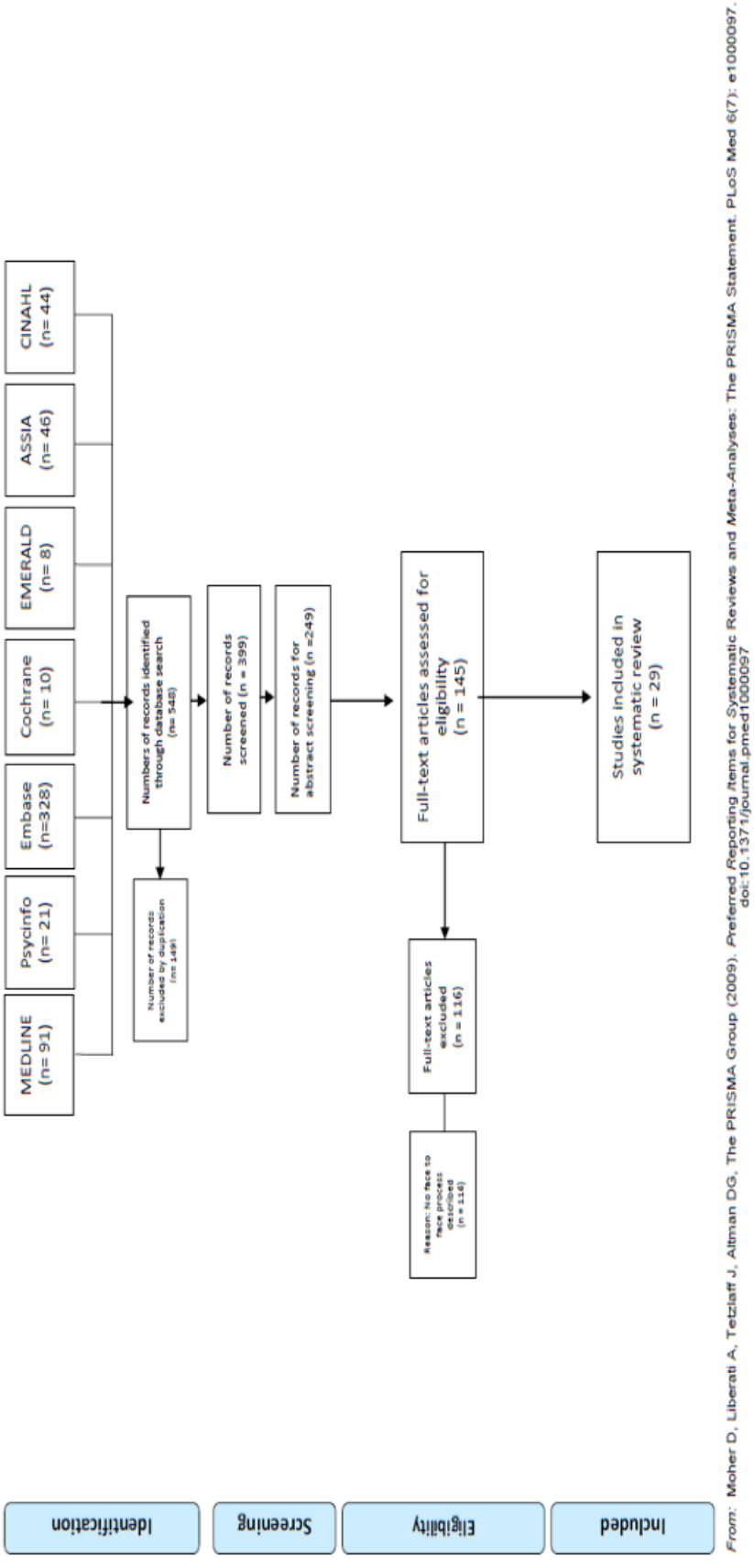
Appendix E:
Description of Nursing & Midwifery Grades

Grade	Description
Staff Nurse / Staff Midwife / Registered Nurse Community / Registered Midwife Community	Relates to a nurse or midwife registered in the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. The role includes assessing, planning, implementing and evaluation of care to the highest professional and ethical standards within the model of care relevant to the care setting. Generally reports to a Clinical Nurse/Midwife Manager grade and is professionally accountable to nursing/midwifery management levels.
Public Health Nurse (PHN)	Registered in the PHN division of the professional register of the Nursing & Midwifery Board of Ireland. Works as a member of the primary care team and provides a range of nursing and midwifery services to people of all ages in the community. Reports to the Assistant Director of Public Health Nursing
Clinical Nurse/ Midwife Manager 1 (CNM/CMM 1)	Registered in the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. Provides clinical and professional leadership and development to the nursing/midwifery team. Responsible for the management and delivery of care to the optimum standard within the designated area of responsibility. Generally reports to the Clinical Nurse/Midwife Manager 2 or 3 grades, depending on the structure of the organisation, and is professionally accountable to the Assistant Director or Director of Nursing/Midwifery.
Clinical Nurse/ Midwife Manager 2 (CNM/CMM2)	Registered in the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. Responsible for the management of a nursing/midwifery team and the service delivery within a specific area. Generally reports to a Clinical Nurse/ Midwife Manager 3 or Assistant Director of Nursing/Midwifery grade, and is professionally accountable to the Assistant Director or Director of Nursing/ Midwifery.
Clinical Nurse/ Midwife Manager 3 (CNM/CMM 3)	Registered in the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. Usually responsible for more than one clinical area within the organisation. The role incorporates resource management and the continuing professional leadership of nursing and midwifery teams. Reports to the Assistant Director or Director of Nursing/Midwifery.

Clinical Nurse/ Midwife Specialist (CNSp/CMSp)	Registered in the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. Works in a clinical area of speciality practice which requires the application of specially focused knowledge and skills for safe care delivery. The specialist practice encompasses a major clinical focus. A level 8 postgraduate qualification and experience in the clinical specialist field are required for appointment. Reports to the Assistant Director or Director of Nursing/ Midwifery/PHN.
Community Mental Health Nurse (CMHN)	Registered in the psychiatric division of the professional register of the Nursing & Midwifery Board of Ireland. Works in a community area of speciality practice which requires the application of specially focused knowledge and skills for safe care delivery. The specialist practice encompasses a major clinical focus. A level 8 postgraduate qualification and experience in the clinical specialist field are required for appointment. Reports professionally and is operationally accountable to the Area Director of Nursing.
Clinical Skills Facilitator	Registered in the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. Provides clinical support, education and guidance to nurses, midwives and students to support them to achieve/maintain their required clinical skills and competencies.
Practice Development Co-ordinator (PDC)	Registered in the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. Works at the grade of an Assistant Director of Nursing/Midwifery/ PHN with a specific focus on the development of nursing/midwifery practice. Reports to the Director of Nursing/Midwifery/Public Health Nursing
Advanced Nurse/Midwife Practitioner (AN/MP)	Registered in the AN/MP professional register of the Nursing & Midwifery Board of Ireland. Uses advanced nursing/midwifery knowledge and critical thinking skills as an autonomous practitioner to deliver optimum care through caseload management of acute and chronic illness. The role is an expert in clinical practice, educated to Master's level 9 or above and reports professionally to the Director of Nursing/Midwifery/PHN.
Assistant Director of Nursing/ Midwifery/ Public Health Nursing (ADON/M/PHN)	Registered in the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. Manages the service delivery function and the nursing and midwifery teams within the area of responsibility. The role encompasses strategic planning and development. Reports to the Director of Nursing / Midwifery / Public Health Nursing
Director of Nursing/ Midwifery/ Public Health Nursing (DON/M/PHN)	Registered in the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. Responsible for all of the nursing and midwifery teams within the specific organisation. Works as part of the senior management team to achieve the organisational goals. Reports operationally to the General Manager/CEO. In acute hospital care the professional reporting relationship is to the Chief Director of Nursing/Midwifery.

Nurse / Midwife Lecturer /Educator / Tutor / Specialist Co-ordinator	Registered on the Nurse Tutor division of the professional register of the Nursing & Midwifery Board of Ireland. Normally employed within an educational institution with responsibility for the delivery of nursing and midwifery education at undergraduate, postgraduate or continuing professional development level.
Director of Centre of Nursing/ Midwifery Education (CNME)	Registered on the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. Responsible for overseeing the delivery of continuing professional development education, training and development to enable registered nurses, midwives and healthcare assistants to maintain and develop knowledge, skills and competence.
Director of Nursing & Midwifery Planning and Development Unit (NMPDU)	Registered on the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. Leads and manages a nursing and midwifery team within a designated regional area to provide strategic, professional, practice, education and clinical leadership to enable the future development of nursing and midwifery services
Nursing & Midwifery Planning & Development Officer (NMPD Officer)	Registered on the general, midwifery, children's, psychiatric or intellectual disability division of the professional register of the Nursing & Midwifery Board of Ireland. The role is to support and enhance healthcare delivery through the development of nursing and midwifery in acute hospital and/or community healthcare organisations.

Appendix F:
Nursing Metrics Consensus Management Systematic Review PRISMA Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement.* PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

Appendix G:
Guidelines on Managing Face to Face Consensus Meetings

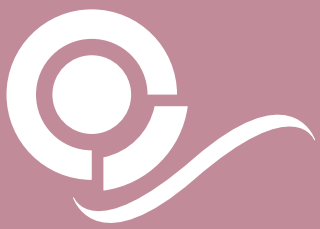
	GUIDELINE	RATIONALE
1	**Have a moderator.**	To control and manage the group process to ensure that all participants have their say.
2	**Clearly present the issue to be discussed and allow enough time for discussion.**	Some issues (metrics) may be contentious and so sufficient time must be allowed for discussion. However prolonged discussions may not be helpful and hence the group needs to be managed.
3	**Allow (if possible) anonymous voting.**	To ensure that participants do not feel coerced in their voting. Interactive anonymous systems such as 'clickers' was one suggestion.
4	**Use the same system of rating as was used in the survey phases.**	To avoid confusion.
5	**Identify beforehand the percentage needed for agreement through the voting process.**	Aim for around 75-80% agreement.

Appendix H:
Nursing and Midwifery Quality Care-Metrics/Indicators Evaluation Tool

DOMAIN		
1	**PROCESS FOCUSED**	The metrics/ indicator contributes clearly to the measurement of nursing or midwifery care processes.
2	**IMPORTANT**	The data generated by the metric/indicator will likely make an important contribution to improving nursing or midwifery care processes.
3	**OPERATIONAL**	Reference standards are developed for each metric or it is feasible to do so. The indicators for the respective metric can be measured.
4	**FEASIBLE**	It is feasible to collect and report data for the metric/indicator in the relevant setting.

Modified from: eRegistries indicator evaluation tool (Flenady et al. 2016)

Notes



NURSING & MIDWIFERY

QUALITY CARE-METRICS

JUNE 2018

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Clinical Strategy and Programmes Directorate

Health Service Executive
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