NURSING AND MIDWIFERY QUALITY CARE-METRICS:

PUBLIC HEALTH NURSING RESEARCH REPORT

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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:

Public Health Nursing Research Report

Academic Research Team	Quality Care-Metrics Project Team
Professor Laserina O'Connor Professor of Clinical Nursing and Joint Clinical Chair UCD School of Nursing, Midwifery and Health Systems in partnership with Mater Misericordiae Hospital and St. Vincent's Health Care Group	**Dr. Anne Gallen** Quality Care-Metrics National Lead, Nursing and Midwifery Planning and Development Unit, Health Service Executive
Professor Eilish McAuliffe Professor of Health Systems UCD School of Nursing, Midwifery and Health Systems	**Carmel Buckley** Director, Nursing and Midwifery Planning and Development Unit, Health Service Executive
Bianca van Bavel Research Assistant UCD School of Nursing, Midwifery and Health Systems	**Margaret Nadin** Project Officer, Nursing and Midwifery Planning and Development Unit, Health Service Executive
Lisa Rogers Research Assistant UCD School of Nursing, Midwifery and Health Systems	**Martina Giltenane** Project Officer, Nursing and Midwifery Planning and Development Unit, Health Service Executive
Professor Mary Ellen Glasgow Dean and Professor of Nursing, Duquesne University, Pittsburgh, PA, USA. Expert External Reviewer	**Caroline Kavanagh** Project Officer, Nursing and Midwifery Planning and Development Unit, Health Service Executive
	Deirdre Keown Project Officer, Nursing and Midwifery Planning and Development Unit, Health Service Executive

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For further information in relation to access, please contact Dr. Anne Gallen : anne.gallen@hse.ie

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

National Lead
Quality Care-Metrics
Director Nursing and Midwifery
Planning and Development Unit

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 and midwives within each of the nine Community Healthcare Organisations have also contributed tremendously to the project by completing the Delphi Rounds. The UCD research team would like to acknowledge the contributions of NMPDU Director; Carmel Buckley and NMPDU Project Officers; Margaret Nadin, Caroline Kavanagh and Martina Giltenane. They worked enthusiastically, aided by inputs from Work-stream Working Group members (Appendix D), who have helped develop this evidence-based suite of quality care process metrics and indicators for the public health nursing service.

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 Nursing and Midwifery Planning Development Units (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); 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 (PHN) 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 public health nursing 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 public health nursing 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 PHN Quality Care-Metrics system.

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

Phase 4) Consensus Meeting with Key Stakeholders: A consensus meeting between the research team and key stakeholders from the PHN 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 14 nursing quality care process metrics and 69 associated process indicators were developed for the PHN setting.

Recommendation

The implementation of these quality care process metrics and respective indicators into the PHN 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.

Adherence: describes a presumed agreement between the prescriber and client about the prescriber's recommendations for a medicines regimen. It may be defined as the extent to which the client's action matches the agreed recommendations.

Adverse event: Any undesirable event experienced by a person while they are having a drug or any other treatment or intervention, regardless of whether or not 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 medicines management process that leads to, or has the potential to lead to harm to the client.

Alternative pressure therapies: is a method of pressure management, relieving pressure over bony prominences.

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 client come together to identify needs and concerns. Client assessment guides safe practice, and encompasses physical, cognitive, 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

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

C

Carer: is described as someone who is providing an ongoing significant level of care to a person who is in need of care in the home due to illness or disability or frailty.

Care plan: is the written record of the care planning process which incorporated identifying the client's holistic needs, selecting the interventions that would improve the client's condition and evaluating the client's progress; assessment, diagnosis, intervention and evaluation.

Child and Family Needs Assessment: is a framework that consists of a child and family health needs assessment record with supporting tools that enable Public Health Nurses to assess, interpret and analyse risk and protective factors in their work with children and families. This framework assists in identifying children, who are in need of early intervention and require additional supports.

Child protection: the process of protecting children identified as either suffering, or likely to suffer, significant harm as a result of abuse or neglect.

Child welfare: encompasses all aspects of a child's wellbeing: physical, social, emotional, religious, moral and intellectual welfare.

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

Client/Family/Carer experience: encompasses the range of interactions that clients, their families, and carers have with the health care system. This incorporates both technical and interpersonal aspects of care provision over the duration of the relationship.

Client 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.

Communicate: the exchange of information, thoughts and feelings among healthcare professionals, clients, their families and carers using speech or other means.

Containment products: are products used to control or contain the leakage of urine and / or faeces.

Continence: is 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.

Core health visit: the public health nursing service provides child developmental screening and health education to parents/families at the core child health visits. These visits take place at birth (within 48 hours of discharge from hospital), 3 months, 7-9 months, 18 months- 2 years, and 3.25-3.5 years.

D

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

Disposal: the activities associated with the removal and discarding of medicines 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 client. Through documentation, nurses communicate to other healthcare professionals their observations, decisions, actions and outcomes of care. Documentation is an accurate account of what occurred and when it occurred.

E

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 client in knowledge, care and affection who are connected through their common biological, legal, cultural, and emotional history.

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.

Healthcare Associated Infection: a healthcare-associated infection is an infection that is acquired after contact with healthcare services.

Healthcare Associated Infection Prevention and Control: the discipline and practice of preventing and controlling healthcare-associated infection and the spread of infectious diseases in a healthcare service.

Health Promotion: is the process of enabling people to increase control over their health and its determinants, thereby improve their health.

Holistic: is grounded in an understanding of the social, emotional, cultural, spiritual, psychological and physical experiences of clients, and is based upon the best available research and experiential evidence.

I

Informed consent: the giving of permission or agreement for an intervention, receipt or use of a service or participation in research following a process of communication in which the client has received sufficient information to enable them to understand the nature, potential risks and benefits of the proposed intervention or service.

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

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

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.

Maternal Health: refers to the health of women during pregnancy, childbirth and the postpartum period.

Medication administration: the administration to a client or by a client 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 client harm while the medication is in the control of the health care professional or client. Such events may be related to professional practice, healthcare 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 in providing care.

Medication Safety: freedom from preventable harm with medication use.

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

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

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 proving care that prevents, reduces or stops pain sensations.

PPPGs: Policies, Procedures, Protocols and Guidelines

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

Postnatal period: is the period immediately after the birth of a child and extending for about six weeks. The period is also known as postpartum period and, less commonly, puerperium.

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

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 localized 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.

Public Health: is the science and art of preventing disease, prolonging life and promoting, protecting and improving health through the organised efforts of society.

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 client's response to planned interventions. A client'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 client record.

Referral: the process of directing or redirecting care to an appropriate specialist or agency for definitive treatment.

Risk: risk is the effect of uncertainty on objectives. It is measured in terms of consequences and likelihood.

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

Safeguarding: means protecting peoples' health, wellbeing and human rights, and enabling them to live free from harm, abuse and neglect. It is a key part of providing high-quality health and social care.

U

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 client with the condition).

Vulnerable adult: is an adult 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 Donebedian'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 (PHN) 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 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 Public Health Nursing.

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 public health nursing (PHN) setting, the review comprised of 9 eligible academic studies and 231 eligible grey literature documents. Following full text review, 70 of these documents were included and 43 existing PHN 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. 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 Work-stream Working Group meeting was held on May 25th 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 eight 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 child and maternal health, as well as infection control and patient surveillance. 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 the PHN Work-stream

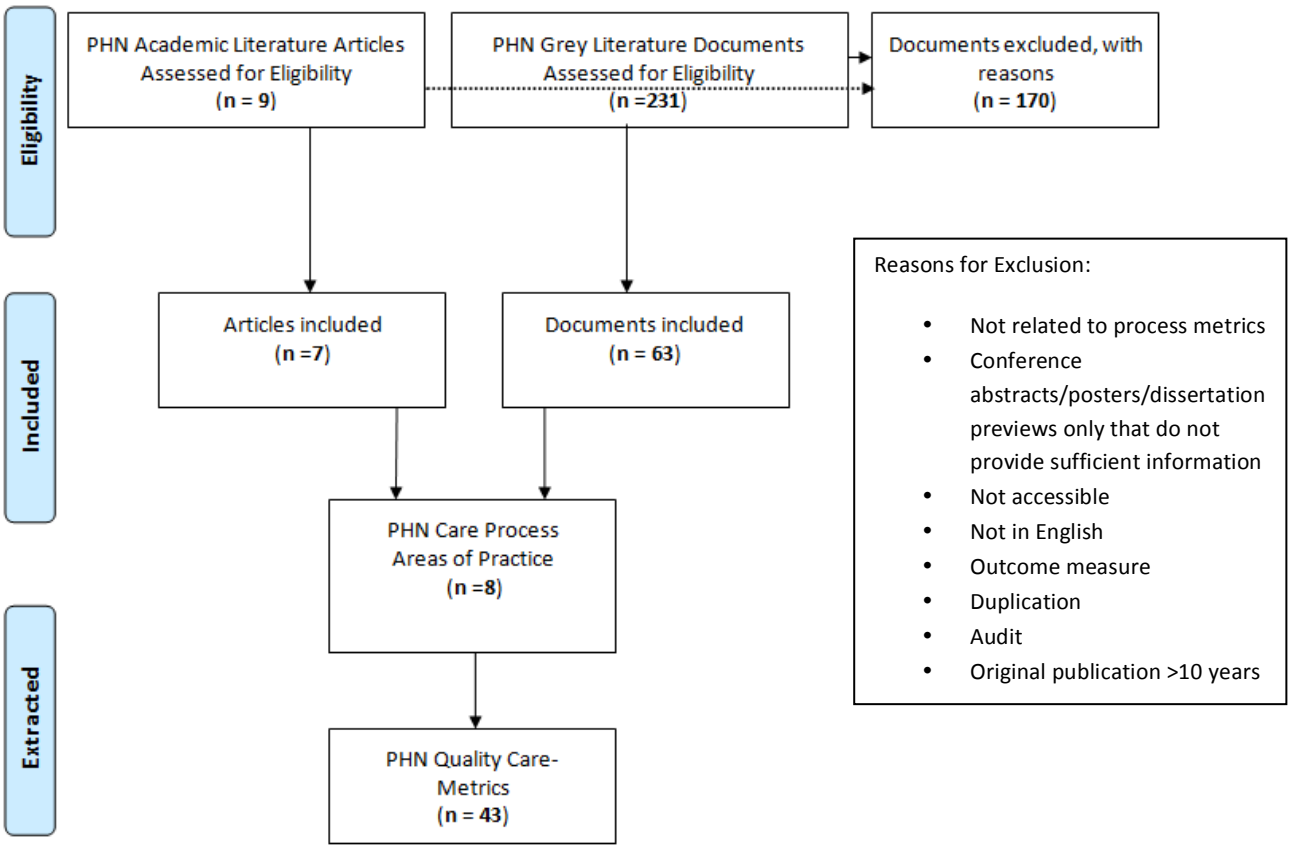

Table 1 Care Processes and their Associated Metrics Identified from the Systematic Review

Care Process	Metric
WOUNDS AND ULCERS	Wound/Ulcer Risk Assessment Wound/Ulcer Interpretation Primary Wound/Ulcer Prevention Secondary Wound/Ulcer Prevention Wound/Ulcer Intervention Wound/Ulcer Reassessment Wound/Ulcer Patient Engagement
FALLS	Falls Risk Assessment Primary Falls and Injury Prevention Secondary Falls and Injury Prevention Falls Intervention Falls and Injury Reassessment Falls and Injury Patient Engagement
PATIENT SAFETY	Medication Therapy Assessment Medication Therapy Monitoring Medication Therapy Reassessment Medication Therapy Patient Engagement Medication Therapy Prescription Medication Therapy Optimization Nutrition Status Assessment Nutrition Status Reassessment Child and Family Needs Assessment Child Development Surveillance Maternal Surveillance Maternal Health Engagement
HEALTH CARE ASSOCIATED INFECTION	Health Care Associated Infection Identification Health Care Associated Infection Prevention
CHRONIC CONDITION MANAGEMENT	Chronic Condition Assessment Chronic Condition Surveillance Chronic Condition Patient Engagement
CARE CO-ORDINATION	Care Integration Health Promotion Care Plan Development Care Plan Evaluation
INTERPERSONAL	Professional and Ethical Demeanour Patient/Family/Carer Education Patient/Family/Carer Expectation Management Patient/Family/Carer Experience Patient/Family/Carer Engagement Patient/Family/Carer Enablement Patient/Family/Carer Bereavement
CONTINENCE	Continence Assessment Continence Surveillance
Total Care Processes: 8	**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 PHN 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 from all grades of nursing within the PHN services nationally (Work-stream Working Group) and the completion of 2 two-round pre-meeting surveys. Registered nurses within the nine Community Healthcare Organisations (CHOs) were eligible to complete the survey if they had experience delivering care as part of PHN services. 358 expressions of interest were collected through the efforts of the NMPDU Directors, Project Officers and Work-stream Working Group 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 survey, 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 (CHO area) (Appendix E), division of registered nursing or midwifery, duration of employment in PHN services, and current grade of nursing or midwifery (Appendix F). Subsequently, consenting participants were asked to rate their level of support for the 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 and were not captured in the proposed suite.

A total of 218 individual participant responses were collected in Delphi Round 1. However, 25 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 1 was 53.9%. In terms of geographic distribution, there was representation from all 9 CHOs (Figure 2). The majority of respondents (56.42%) indicated a nursing grade of PHN 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 1 to help inform their decision for the subsequent Delphi Rounds.

Figure 2: PHN Delphi Participants by Community Healthcare Organisation Area at Close of Delphi-Round 1

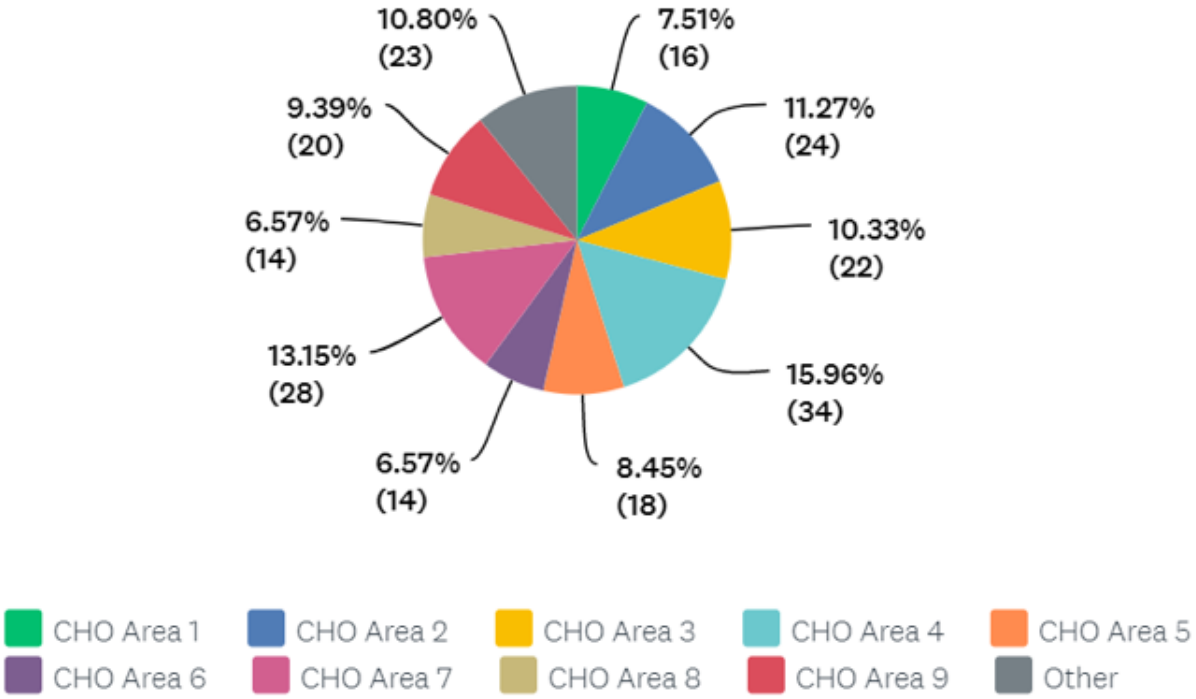

Table 2 PHN Delphi Participants by Nursing Grade at Close of Delphi-Round 1

GRADE	% of Respondents	No. of Respondents
Staff Nurse or equivalent	6.88%	15
CNM1/CMM1 or equivalent	0.92%	2
CNM2/CMM2 or equivalent	4.13%	9
CNM3/CMM3 or equivalent	0.00%	0
Nurse/Midwife Tutor or equivalent	0.00%	0
Advanced Nurse/Midwife Practitioner	0.46%	1
Clinical Nurse/Midwife Specialist	2.29%	5
Student Public Health Nurse	1.38%	3
Public Health Nurse	56.42%	123
Assistant Director or equivalent	18.81%	41
Director of Nursing/Midwifery	4.59%	10
Area Director (NMPDU)	0.46%	1
Director (NMPDU)	0.46%	1
Lecturer	0.00%	0
Other	3.21%	7
TOTAL	Answered	**218**

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 of the literature, in addition to contributions of clinical professionals (Work-stream Working Group and Delphi Round 1 participants). Table 4 presents the PHN quality care process metrics excluded following Delphi Round 1.

Table 3 PHN 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 Patient Engagement
FALLS	Falls Risk Assessment Primary Falls and Injury Prevention Secondary Falls and Injury Prevention Falls Intervention Falls and Injury Reassessment Falls and Injury Patient Engagement
PATIENT SAFETY	Medication Therapy Assessment Medication Therapy Monitoring Medication Therapy Reassessment Medication Therapy Patient Engagement Medication Therapy Prescription Medication Therapy Optimization Medication Therapy Safety* Nutrition Status Assessment Nutrition Status Reassessment Child and Family Needs Assessment Child Development Surveillance Maternal Surveillance Maternal Health Engagement Vulnerable Adult, Older Person and Child Protection* Pain Assessment* Pain Intervention* Pain Reassessment*
HEALTH CARE ASSOCIATED INFECTION	Health Care Associated Infection Identification Health Care Associated Infection Prevention Health Care Associated Infection Assessment* Health Care Associated Infection Reassessment* Medical Device Technology Assessment* Medical Device Technology Intervention* Medical Device Technology Reassessment*

CHRONIC CONDITION MANAGEMENT	Chronic Condition Assessment Chronic Condition Surveillance Chronic Condition Patient Engagement
CARE CO-ORDINATION	Care Integration Health Promotion Care Plan Development Care Plan Evaluation
INTERPERSONAL	Professional and Ethical Demeanour Patient/Family/Carer Education Patient/Family/Carer Expectation Management Patient/Family/Carer Experience Patient/Family/Carer Engagement Patient/Family/Carer Enablement Patient/Family/Carer Bereavement
CONTINENCE	Urinary Continence Assessment Continence Surveillance Bowel Function Assessment* Bowel Function Intervention* Bowel Function Evaluation*
Total Care Processes: 8	**Total Quality Care Process Metrics: 56**

Table 4 List of PHN 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	Primary Falls and Injury Prevention	62.11%
	Secondary Falls and Injury Prevention	68.42%
	Falls Intervention	55.79%
	Falls and Injury Reassessment	48.42%
	Falls and Injury Patient Engagement	68.42%
	Medication Therapy Assessment	40.43%
	Medication Therapy Monitoring	46.28%
	Medication Therapy Reassessment	31.91%
	Medication Therapy Patient Engagement	48.69%
	Medication Therapy Prescription	41.49%
	Medication Therapy Optimization	35.64%
	Total Quality Care Process Metrics Excluded: 11	

*** 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. Thirteen new additional quality care process metrics were identified for possible inclusion in the final suite following Delphi Round 1 (Table 3), with eleven 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 PHN 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 159 participant responses were collected in Delphi Round 2. However, 26 participants were not included in the overall response rate. Despite providing their name and email address, they did not contribute to the consensus process. Thus, the response rate for Delphi Round 2 was 69.2%. Following the quantitative analysis of participant responses, eleven 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 experts and a patient representative from the PHN Work-stream Working Group on August 2nd 2017. This process enabled further refinements to the metric suite as outlined in Table 6. The 44-proposed metrics that emerged from Delphi Rounds 1 and 2 were subsequently condensed into 15 metrics which were presented with their associated indicators in Delphi Rounds 3 and 4.

Table 5 List of PHN 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	Primary Wound/Ulcer Prevention	69.92%
	Pain Assessment	69.70%
	Pain Intervention	54.96%
	Pain Reassessment	58.78%
	Bowel Function Intervention	67.44%
	Bowel Function Evaluation	64.62%
	Health Care Associated Infection Assessment	42.42%
	Health Care Associated Infection Reassessment	47.69%
	Medical Device Technology Assessment	50.00%
	Medical Device Technology Reassessment	51.52%
	Medication Therapy Safety	65.91%
	Total Quality Care Process Metrics Excluded: 11	

*** 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 PHN 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
Child Development Surveillance	**Child Development Surveillance**
Child and Family Needs Assessment	**Child and Family Needs Assessment**
Vulnerable Adult, Older Person and Child Protection	**Child Protection** **Safeguarding Adults and Older Persons**
Professional and Ethical Demeanour	**Professional and Ethical Demeanour**
Patient/Family/Carer Bereavement Patient/Family/Carer Experience	**Patient/Family/Carer Experience**
Health Promotion Patient/Family/Carer Education	**Health Promotion**
Wound/Ulcer Risk Assessment Wound/Ulcer Reassessment Wound/Ulcer Patient Engagement Wound/Ulcer Intervention Wound/Ulcer Interpretation Primary Wound/Ulcer Prevention Secondary Wound/Ulcer Prevention	**Pressure Ulcer Prevention and Management** **Wound Care Management**
Health Care Associated Infection Assessment Health Care Associated Infection Identification Health Care Associated Infection Prevention Health Care Associated Infection Reassessment Medical Device Technology Assessment Medical Device Technology Intervention Medical Device Technology Reassessment	**Health Care Associated Infection Prevention and Control**
Patient/Family/Carer Engagement Patient/Family/Carer Enablement Care Plan Development Care Plan Integration Care Plan Evaluation Complex Chronic Condition Surveillance Complex Chronic Condition Patient Engagement Patient/Family/Carer Expectation Management Nutritional Status Assessment Nutritional Status Reassessment Falls Assessment Pain Assessment Pain Intervention Pain Reassessment Bowel Assessment Bowel Intervention Bowel Evaluation	**Care Plan Development and Evaluation**
Urinary Continence Assessment Urinary Continence Surveillance	**Continence Assessment**
Maternal Surveillance	**Maternal Health**
Maternal Health Engagement	**Infant Nutrition**
Medication Therapy Safety	**Medication Therapy Safety**
Total Metrics: 44	**Total Metrics: 15**

Figure 3: PHN 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 Work-stream Working Group
- 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 2nd 2017: Findings from Delphi Round 2 presented at a face-to-face meeting with the Work-stream Working Group: 44-proposed metrics that emerged from Delphi Rounds 1 and 2 were subsequently refined into 15 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 previous PHN 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 PHN Work-stream Working Group 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 PHN'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 were not captured in the proposed suite.

A total of 126 individual participant responses were collected in Delphi Round 3. However, 21 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 43.2%. In terms of geographic distribution, there was representation from all 9 CHOs (Figure 4). The majority of respondents (80.0%) indicated a nursing grade of PHN 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: PHN Delphi Participants by Community Healthcare Organisation Area at Close of Delphi-Round 3

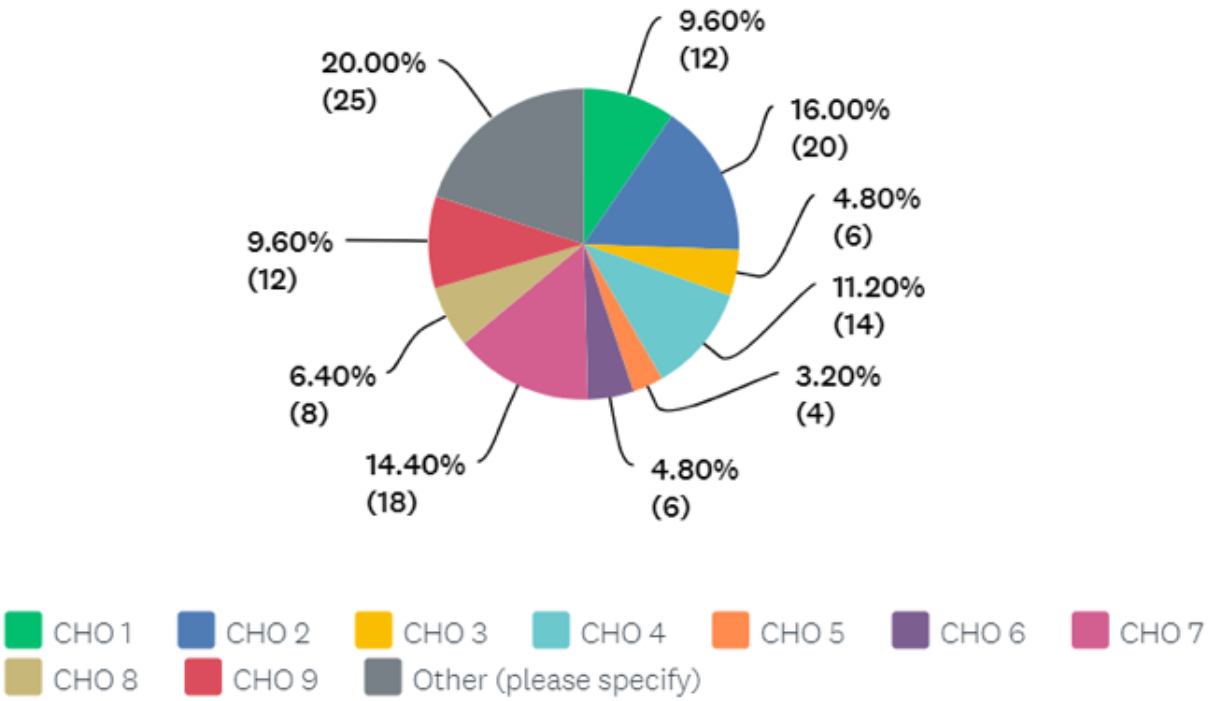

Table 7 PHN Delphi Participants by Nursing Grade at Close of Delphi-Round 3

GRADE	% of Respondents	No. of Respondents
Staff Nurse or equivalent	7.20%	9
CNM1/CMM1 or equivalent	1.60%	2
CNM2/CMM2 or equivalent	5.60%	7
CNM3/CMM3 or equivalent	0.00%	0
Nurse/Midwife Tutor or equivalent	0.80%	1
Advanced Nurse/Midwife Practitioner	0.80%	1
Clinical Nurse/Midwife Specialist	2.40%	3
Public Health Nurse	48.00%	60
Asstistant Director or equivalent	25.60%	32
Director of Nursing/Midwifery	2.40%	3
Area Director (NMPDU)	0.00%	0
Director (NMPDU)	0.80%	1
Lecturer	0.80%	1
Other	10.40%	13
TOTAL	Answered	**125***

**Respondents could choose more than 1 relevant nursing grade*

The PHN 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 PHN Quality Care Process Indicators Identified from the Systematic Review, Presented in Delphi Round 3

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator Presented in Delphi Round 3
PRESSURE ULCER PREVENTION AND MANAGEMENT	A pressure ulcer risk assessment was conducted and recorded using a validated tool If there were any significant changes in the patient's condition, there is evidence that the patient's pressure ulcer risk was reassessed and recorded If a pressure ulcer is present, the grade has been recorded on the relevant documentation There is evidence that ongoing evaluations of the pressure ulcer have been recorded including the response to treatment Recorded repositioning regimes, documenting the frequency and position adopted Documented the use of pressure distributing devices and alternative pressure therapies based on skin assessment Documented the education and support provided to the patient (and family or carer) to reduce the risk of developing or worsening pressure ulcers
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 Recorded the wound care strategy developed in collaboration with the patient (family and carer) Identified risk factors effecting wound healing and completed the associated documentation e.g. nutritional assessment Identified and recorded factors associated with wound infection, and developed a new wound care strategy with the patient (family and carers) if necessary 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)
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 Completed and recorded an assessment of the patient's medication management needs as part of their comprehensive assessment Monitored and recorded the patient's response to medication, documenting if the desired effect has been achieved or any adverse findings Identified, managed, recorded and reported any potential adverse drug event (near miss) according to medication management policies, procedures, protocols and guidelines Monitored, prioritised, managed, and recorded the patient's health status during an adverse drug event to limit or prevent further harm to the patient Identified, prioritised, intervened, and recorded the patient's health status during an adverse drug reaction

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator Presented in Delphi Round 3
MEDICATION SAFETY *(continued)*	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 Documented evidence that the patient's medication is under review to ensure each therapy is safe and that the patient is obtaining the best outcomes from their medications To optimise medication safety, there is evidence that a general practitioner or other care professionals have been consulted with regards safe treatment medication options for the breastfeeding mother
HEALTH CARE ASSOCIATED INFECTION PREVENTION AND CONTROL	Recorded the cardinal vital signs associated with infection, documenting findings using the relevant resources Documented the use of aseptic procedures and techniques prior to and following patient interactions The information provided to patients, families and carers regarding the patient's risk of infection has been documented Evidence that the patient's infection risk and status has been documented and frequently evaluated with the patient, family and carer Recorded the medical device technology in use, the rationale for the device, the care provided and the patient's response to treatment
CONTINENCE ASSESSMENT AND MANAGEMENT	If appropriate a continence assessment has been recorded, which includes a detailed medical and surgical history, and identifies the possible causative factors to bladder dysfunction (caffeine, weight, fluid intake) Documented the education given to the patient regarding therapeutic options to improve bladder control (pelvic floor muscle training, bladder training, pharmacological therapy) Evidence that the impact of urinary symptoms on the patient's quality of life has been assessed at baseline and regularly reassessed to examine treatment outcomes If an individual uses an intermittent or indwelling urinary catheter, the care provided and the education given to the patient (family/carer) to prevent infection has been documented
PATIENT/FAMILY/ CARER EXPERIENCE	Documented the patient's needs and their preferences regarding the level and type of information they want to receive about their care, clarifying how they would like their family or carer to be involved Documented the support and information given to the patient and their family regarding procedures, goals of care, potential risks and benefits of interventions Recorded the holistic care provided to the family and the patient receiving end of life care, documenting the information and support given following the patient's death Documented the referral of the family to a team specialising in bereavement support if appropriate
PROFESSIONAL AND ETHICAL APPROACH TO CARE	Evidence that while interacting with patients and their families, dignity and respect was maintained Evidence that a professional demeanour was presented while interacting with patients, families and other healthcare professionals
HEALTH PROMOTION	There is evidence that the PHN has assessed the patient/ family's educational needs and has documented a plan to achieve these aims There is evidence that the patient/ family/ carer has received the appropriate education pertinent to their individual circumstance to make an informed decision regarding treatment options

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator Presented in Delphi Round 3
CARE PLAN DEVELOPMENT AND EVALUATION	The nursing care plan is evident and reflects the individual's current condition, the goals and plan for care which has been developed with the patient and family Clinically indicated assessments have been completed to identify the holistic needs of the patient (physical, psychological, social, environmental) The patients baseline self-management behaviours have been assessed, documented and regularly evaluated Nursing interventions are individualised and holistic and reflect the patient's treatment preferences There is evidence in the care plan that discharge planning has begun in collaboration with the patient, family and other members of the primary care team Evaluation of the care plan is evident and has been adjusted in accordance to the patient's changing needs If the patient is identified as at risk of malnutrition, there is evidence that the risk factors impacting their nutritional status have been evaluated, education has been provided to the patient/family and referrals have been made as appropriate A comprehensive falls risk assessment has been recorded, there is evidence that all potential risk factors were evaluated (mobility, mental status, medications, dependency level) and that the patient is aware of their risk and the measures to prevent falls There is evidence that a bowel assessment has been completed, evaluating factors that may influence bowel function (medication, activity, diet, fluid intake) and a bowel management plan has been developed with the patient, their family and other members of the primary care team as appropriate Completed a holistic assessment of pain, recording the patient's pain score, acknowledging the type and possible source of pain Recorded the pharmacological and non-pharmacological therapies administered to the patient following the patient's pain assessment Documented the patient's response to the administered therapy, evaluating changes in the patient's level of comfort On discharge, all health promotion education given to the patient has been documented including the contact details for the PHN service if further support is required in the future
MATERNAL SURVEILLANCE	There is evidence that an individualised care plan has been developed with the woman, documenting relevant information from the antenatal, intrapartum and postnatal periods Any specific physical, social, mental or environmental problems have been identified and documented There is evidence that all nursing interventions have been regularly evaluated At each postnatal visit, the woman's emotional well-being and level of social support has been assessed and documented If a woman is identified as at risk of developing a mental health problem, there is evidence of the support provided and the referrals made The information and education provided to the family about maternal health and infant health has been documented

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator Presented in Delphi Round 3
INFANT NUTRITION	There is documented evidence of the information given to the family to encourage and support breastfeeding There is documented evidence that a breastfeed was observed, with any concerns/issues addressed and the outcomes documented in the care plan developed with the mother There is evidence that the mother's breastfeeding progress has been evaluated with any problems assessed (mastitis, engorgement, sore nipples, blocked ducts) and the relevant education provided There is evidence that tailored education has been given to families who have chosen to give their infants formula feed
CHILD DEVELOPMENT SURVEILLANCE	The child's health and developmental progress has been assessed and documented at each core health visit in accordance with guidelines A care plan outlining the needs of the child is evident and has been evaluated at each core visit with the family
CHILD AND FAMILY NEEDS ASSESSMENT	There is evidence that a comprehensive assessment of the child and family's needs was completed, examining the physical, psychological, social and environmental factors impacting well-being There is evidence that the family's care needs are reassessed and evaluated at each health visit and documented appropriately
CHILD PROTECTION	If the PHN identifies a child protection issue or it is reported to them, there is documented evidence of the concern and the referral made in accordance with Local Policy The information provided to the parents about the referral or the rationale for not informing the parents has been documented If there is an immediate risk to the child's safety, there is documented evidence that the PHN has contacted the appropriate services and has made an urgent referral in accordance with Guidelines and Local Policy
SAFEGUARDING VULNERABLE ADULT AND OLDER PERSON	If an individual has been identified as a vulnerable adult, concerns regarding neglect and abuse have been documented If an individual has been identified as a vulnerable adult, there is evidence that a referral has been sent to the appropriate services according to Local Policy
Total Quality Care Process Metrics: 15	**Total Quality Care Process Indicators: 70**

Nine PHN 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 3 Rating*
03	**Pressure Ulcer Prevention and Management**	Recorded repositioning regimes, documenting the frequency and position adopted	62.38%
	Medication Safety	Documented evidence that the patient's medication is under review to ensure each therapy is safe and that the patient is obtaining the best outcomes from their medications	69.00%
	Health Care Associated Infection Prevention and Control	Documented the use of aseptic procedures and techniques prior to and following patient interactions	68.32%
		The information provided to patients, families and carers regarding the patient's risk of infection has been documented	68.32%
		Evidence that the patient's infection risk and status has been documented and frequently evaluated with the patient, family and carer	69.61%
		Recorded the medical device technology in use, the rationale for the device, the care provided and the patient's response to treatment	66.67%
	Continence Assessment and Management	Evidence that the impact of urinary symptoms on the patient's quality of life has been assessed at baseline and regularly reassessed to examine treatment outcomes	69.00%
	Patient/Family/ Carer Experience	Documented the referral of the family to a team specialising in bereavement support if appropriate	66.99%
	Health Promotion	There is evidence that the PHN has assessed the patient/ family's educational needs and has documented a plan to achieve these aims	65.00%
		Total Quality Care Process Indicators Excluded: 9	

*** 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. Six new additional indicators 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 the PHN 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 78 individual participant responses were collected in Delphi Round 4. However, 12 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 55.4%. Following the quantitative and qualitative analysis of participant responses, three indicators were removed (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 9th 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 86 indicators were made (Table 12) and 93 indicators were presented for inclusion at the Consensus Meeting.

Figure 5: PHN 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: Participants received a copy of their individual response following Delphi Round 3 to help inform their decision for Delphi Round 4
- September 28th 2017: Findings from Delphi 3 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 9th 2017: Findings from Delphi 4 presented at a face-to-face meeting with the Work-stream Working Group: The proposed indicators presented in Delphi 4 were refined prior to the consensus meeting

Table 10 PHN 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
Pressure Ulcer Prevention and Management	**A pressure ulcer risk assessment was conducted and recorded using a validated tool**	"Pressure ulcer risk assessment should be done within 8hrs of referral.....National Pressure ulcer Advisory Panel, p14" "It is unclear whether you wish to have a pressure ulcer assessment on every patient referred or only those of a certain age or deemed to be at risk e.g. chair bound, bed bound, physical disability hence my response to the 1st point" "I put not critical for the first answer because it is patient dependant"
	If there were any significant changes in the patient's condition, there is evidence that the patient's pressure ulcer risk was reassessed and recorded	No additional open-ended responses
	If a pressure ulcer is present, the grade has been recorded on the relevant documentation	No additional open-ended responses
	There is evidence that ongoing evaluations of the pressure ulcer have been recorded including the response to treatment documented	"Documentation and reassessment of pressure ulcers very important on each visit. Evaluation of interventions also essential."
	Documented the use of pressure distributing devices and alternative pressure therapies based on skin assessment	No additional open-ended responses
	Documented the verbal and written guidance provided to the patient to reduce the risk of developing or worsening pressure ulcers, ensuring that they understand the information given **Documented the verbal and written guidance provided to the family/carer to reduce the risk of developing or worsening pressure ulcers, ensuring that they understand the information given ***	"Standardised national documentation should be provided for distribution to clients and families on pressure management" "The…last 2 indicators could be incorporated into one i.e. Patient/family / carer" "While ideal the reality may mitigate against achieving all the indicators. Patients and families may not grasp the importance or impact of pressure relief appliances and advice. Monitoring by PHN is vital."

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 would greatly appreciate if you would provide clarity around comprehensive patient assessment. I would hope every patient would have a comprehensive assessment prior to wound assessment which includes a full list of medications and not just those that affect wound healing. Should a comprehensive assessment be carried out only on those over 65 years or on all patients? Many nurses in the community are…using only a wound care assessment form"
	Identified risk factors effecting wound healing and completed the associated documentation e.g. nutritional assessment	No additional open-ended responses
	Recorded the wound care strategy developed in collaboration with the patient (family and carer)	"Suggest change 'Wound Care Strategy' to 'Care Plan/Management Plan"
	Identified and recorded factors associated with wound infection, and developed a new wound care strategy with the 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)	"Include… pertinent to wound healing"

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	**Recorded 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**	"in the home, PHN is depending on patient and/or family to monitor medication administration as PHN is only in the home for a short time" "Community nurses administer medications infrequently - self management and the use of blister packs are widespread. The issue of HCA's from private providers administering medication and the governance of this needs to be indicated." "Ensuring the 10 rights of Medication administration could be difficult and time consuming to document." "PHNS don't routinely administer medication other than syringe pumps in palliative care" "As a PHN, I have very little involvement with medication administration. it is the responsibility of the GP to review medications prescribed" "In PHN role Home setting is the norm. Patients often have blister packs. Only meds PHN actually administer are Fentanyl or other TD patches or SC injections. Much of these steps are Hospital focused." "It is not within the PHN Role to monitor and document daily medications or palliative care drugs." "Allergy status is clearly identifiable on medication chart and in nursing notes. ABA Guidance to nurses on medication management" "Add another right of medication administration - the right to refuse. Some patients refuse medication from time to time presenting the nurse with a dilemma that has to be recorded"
	Completed and recorded an assessment of the patient's medication management needs as part of their comprehensive assessment	"in community the PHN service has no 'direct' role in medication management" "Almost all medication outside of palliative care services are managed by medical personal in partnership with clients and family also the pharmacist has a role to play." "Medication management in the community lies with the client, the family or their carer. Our role is more in supporting these individuals."

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)*	**Monitored and recorded the patient's response to medication administration, documenting if the desired effect has been achieved**	"When community nurses do administer medication it may be difficult to monitor if the desired effect has been achieved or adverse findings unless it happens immediately as the nurse will have left the house or the patient will have left the dispensary" "This is different in the community for monitoring patient's response to medication" "Cannot monitor drugs as client not under clinical supervision at all times, also medication is managed by GP in community and is changed as required." "It can be difficult to assess patient response to medication in the community as this needs to be reported to the GP/Prescribing consultant by the patient /carer." "Not sure what some of the indicators would be tested to community delivered medication e.g. cytamen, not sure how to monitor response, how is this tested. Very specialised medications yes there is a need for the intensity of… indicators but to test quality in GP or consultant prescribed medication delivered in the community, the indicator should be that the nurse delivers this safely" "While all of the indicators… are extremely important they are rated as not important for the purpose of metric collection as the PHN generally does not remain in the house so therefore does not have a chance to note / record adverse drug reactions and subsequent management of same"
	Identified, managed, recorded and reported any potential adverse drug event (near miss) according to medication management policies, procedures, protocols and guidelines (PPPG)	"In case of adverse drug event or near miss completion of NIMs form"
	Monitored, prioritised, managed, and recorded patient's health status during an adverse drug event to limit or prevent further harm to the patient	"Palliative care nurses have a key role with controlled drugs in the community. No.5 is highlighted for this reason mainly, while I understand and know how critical drug monitoring is, the community setting is different to the acute setting."
	Identified, prioritised, intervened, and recorded the patient's health status during an adverse drug reaction	"Suspected ADR would be reported to the GP"

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**	"As a PHN the admin of controlled medications is not a routine part of care This is normally admin by Palliative team or orally by family" "Not giving DDAS" "Examples of medication I give are Clexane, Vit B12, eye drops. Clients are usually on these for some time. We do not give Controlled Drugs in my CHO area." "Also controlled drugs are generally not administered by PHNs in the X regions" "palliative care nurses have a key role with controlled drugs in the community" "Change to ' Recorded the administration of ..... in 'Medication Administration Chart / Register as per the Health Service Provider's PPPG.(there is no agreed national standard on this process, only some areas maintain a Register'"
	To optimise medication safety, there is evidence that a general practitioner (GP) or other care professionals have been consulted with regards safe treatment medication options for the breastfeeding mother	"Last metric doesn't fit in with previous metrics as they relate to PHN/RGN giving medication"
Health Care Associated Infection Prevention and Control	**Assessed the cardinal vital signs associated with infection, documenting the findings using the relevant resources**	"Thermometer and BP monitors not used in the community" "Community nurses are not routinely issued with thermometers so unless they have one of their own or the patient can provide one, body temperature is rarely taken." "Vital signs not recorded in community" "Vital signs associated with infection only required to be taken when the nurse is suspecting infection" "Signs of infection recorded in my CHO area are in relation to wound care"

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)*	**Assessed the cardinal vital signs associated with infection, documenting the findings using the relevant resources** *(continued)*	"Completed and recorded an assessment of the patient's known healthcare associated infection and antimicrobial resistance status, where known, by discussing with the patient, family, patient's GP and other relevant healthcare professional where necessary (Community Infection Prevention & Control Nurse, or Consultant Microbiologist etc.). I would suggest that it is necessary to know past or current HCAI/ AMR status, inclusive of assessing for cardinal signs of infection and allergies to medications (antimicrobial therapies). If additional (supplemental) transmission based precautions are required in conjunction with standard precautions during the delivery of the patients' care, then this are specified within the care plan and are known by all health and social care providers that need to know this information" "Where applicable Maybe Highlighting infection Status on file if applicable" "PHNs have hand hygiene training certification and are often audited by infection control. Carry and use pocket sanitiser gels… Advise patients accordingly" "Documentation has to be developed to support the ease at which information can be documented. Otherwise nurses will spend a lot of their clinical time trying to develop ways to incorporate the quality indicators into their work."
Continence Assessment and Management	**If appropriate a continence assessment has been recorded, which includes a detailed medical and surgical history, and identifies the possible causative factors to bladder dysfunction (caffeine, weight, fluid intake)**	"This may not be appropriate for process indicators Delphi but how do you ensure that the (continence) assessment used is evidence based and current?" "not all clients are able to give full medical or surgical history and community staff have not access to GP or hospital records"
	Documented the education given to the patient regarding therapeutic options to improve bladder control (pelvic floor muscle training, bladder training, pharmacological therapy)	"Nurse does not made diagnosis nor prescribe pharmacological therapies"
	If an individual uses an intermittent or indwelling urinary catheter, the care provided and the education given to the patient (family/ carer) to prevent infection has been documented	"Again this area is very important /critical for comfort and quality of the client we would assess and document the type of catheter ,the date of insertion and empower the client/ family on care of same, to prevent infection" "Every patient with an indwelling medical device (e.g. enteral feeding tube, tracheostomy tube, urinary catheter (either supra- pubic or per urethra)) has a care plan which documents their specialised care needs, inclusive of the prevention of device related infections"

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	**Documented the patient's needs and their preferences regarding the level and type of information they want to receive about their care, clarifying how they would like their family or carer to be involved**	No additional open-ended responses
	Documented the support and information given to the client and their family regarding procedures, goals of care, potential risks and benefits of interventions	No additional open-ended responses
	There is a record that informed consent was obtained prior to delivering all health interventions to the patient (e.g. physical examinations, blood tests, blood glucose monitoring)	"Informed consent very important and needs to be recorded and not at present." "How is it proposed to do this? Consent is gained at each visit, how to differentiate between each encounter. Is implied consent (cooperation of client following explanation of procedure) enough" "Record of informed consent every time you do an intervention will be very difficult. E.g. coming in to clinic for dressing???" "It is understood that verbal consent for all patient contact is required and therefore should not need to be documented" "Patient consents for treatment on admission to service with ongoing consent verified at each meeting." "For repeated interventions, once full details of the intervention has been discussed and agreed by the patient and same recorded, record of brief verbal consent including any questions that the patient may have, is sufficient." "Consent also required for referral to other disciplines" "Add to indicator…Verbal or written informed consent"
	Recorded the holistic care provided to the patient and the family receiving end of life care, documenting the information and support given following the patient's death	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	**Clinically indicated assessments have been completed to identify the holistic needs of the patient (cognitive, social, cultural, emotional, spiritual, environmental, and behavioural)**	"Need to include physical under 2nd indicator of care plan Care Plan could be divided under headings Assessment , Intervention , Evaluation More Structured" "Various functional areas need only to be assessed, using validated tools and interventions monitored, if a problem has been identified." "A comprehensive assessment is made of past, current and annual vaccines required/ received by the patients"
	The nursing care plan is evident and reflects the individual's current condition, the goals and plan for care which has been developed with the client and family	No additional open-ended responses
	The patients baseline self-management behaviours have been assessed, documented and regularly evaluated	No additional open-ended responses
	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 adjusted in accordance to the patient's changing needs	"Evaluation of care planning very important." "PHNs do not get to clients to regularly evaluate care plans due to workload. What is appropriate interval to evaluate?"
	There is evidence in the care plan that discharge planning has begun in collaboration with the patient, family and other members of the primary care team	"Patients own treatment preferences often do not reflect best practice, and can cause huge conflict with care management. The decision then not to offer a service is often not supported in the service" "Not all are available in all areas - discharge planning is often aspirational and not always involving PHN."
	If an individual requires additional primary care services (e.g. Home Care Package), the relevant PHN documentation to support the individual's application have been completed (e.g. CSAR) and any communication with the care agencies documented *	"Many patients have a Home Care Package (which might be as little as 2 hours per week) and their chart stays as 'active' for as long as the HCP is in place. If they have an acute episode e.g. a leg ulcer which heals in 6 weeks is your discharge indicator based on this - discharging them back to continuing social care in the community? Great if we could have clarity around this…" "We do not use CSARs in Y area when applying for Home Care Package. CSAR only used for Fair Deal"

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)*	**On discharge, all health promotion education given to the patient has been documented including the contact details for the PHN service if further support is required in the future**	No additional open-ended responses
	All written entries into patient records are comprehensive, accurate, contemporaneous and documented in accordance with NMBI guidance (dated and times, legible, signed, in chronological order)*	"Too much detail included here, question needs to be split"
	10) While supervising a student PHN, the PHN preceptor/supervisor has reviewed and countersigned all documentation that has been completed by the student*	"Student PHN are registered RGNs is it really necessary to countersign their documentation??" "While supervising a student PHN, the PHN preceptor/supervisor has reviewed and countersigned all documentation that has been completed by the student *(New Indicator - AS PER LOCAL PPPG" "Many of these indicators are only relevant to some clients and so it is difficult to mark without context. Student PHN manage own caseload in training so sign off on own service at this time. RGN work by qualified staff can be signed off in their right"
	There is evidence that the patient's nutritional status has been assessed using a validated screening tool	"Who is this care plan for? Is it for a 30 year old following minor surgery - should they have a nutritional, falls and bowel assessment? Continence assessment is only undertaken 'if appropriate' so why are all the other focused assessments universal?" "In the current area I work in, nutritional assessment and falls risks assessment are not carried out as ordered by management as there is no dietetic referral pathway and falls risks are to be referred to physiotherapy"
	If appropriate, there is evidence that the patient's weight has been recorded regularly, the risk factors impacting nutritional status have been evaluated, education has been provided to the patient/family and the appropriate referrals have been made	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)*	**A comprehensive falls risk assessment has been recorded, evaluating all potential risk factors (mobility, mental status, medications, dependency level) and that the patient is aware of their risk and the measures to prevent falls**	No additional open-ended responses
	There is evidence that a bowel assessment has been completed, evaluating factors that may influence bowel function (medication, activity, diet, fluid intake) and a bowel management plan has been developed with the patient, their family and other members of the primary care team as appropriate	No additional open-ended responses
	Completed a holistic assessment of pain, recording the patient's pain using a validated tool, acknowledging the type and possible source of pain	"There is limited scope within the PHN role to take such an active part in pain management as described…"
	Recorded the pharmacological and non-pharmacological therapies administered to the patient following the patient's pain assessment	"Depends who is administering meds"
	Documented the patient's response to the administered therapy, evaluating changes in the patient's pain at rest and on movement	"Pain management is primarily carried out by the GP/Medical team in the community" "PHN may not monitor patients response to administered therapy as may not be in the house at this time to review same"
Professional and Ethical Approach to Care	**There is evidence that while interacting with patients and their families, dignity and respect was maintained**	"Dignity and respect should always be maintained - I am not sure about how this can be documented."
	There is evidence that a professional demeanour was presented while interacting with patients, families and other healthcare professionals	"I am not sure how to provide written evidence that a professional demeanour was presented?" "There is evidence that a professional demeanour was presented while interacting with patients, families and other healthcare professionals - MIGHT BE DIFFICULT TO MONITOR /MEASURE" "I don't think you can prove in writing that a certain demeanour was presented during interaction"

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 Promotion	**There is evidence that the patient/ family/ carer has received the appropriate education pertinent to their individual circumstance to make an informed decision regarding treatment options**	"How will you collect this? Will the patient be interviewed?" "Again how do measure this?" "needs rewording" "Team based and Medical Model...." "Again some of this care would be documented? by oncology team." "patient information leaflets need to be developed nationally a for each procedure and treatment options" "Health promotion is at the core of all interventions and interactions with patients and families"
Maternal Surveillance	**There is evidence that an individualised care plan has been developed with the woman, documenting relevant information from the antenatal, intrapartum and postnatal periods**	"There is evidence that an individualised care plan has been developed with the woman, documenting relevant information from the antenatal, intrapartum and postnatal periods - WHERE INDICATED. CHANGE MATERNAL SURVEILLANCE TO MATERNAL HEALTH SURVEILLANCE." "Ante natal and intra partum care is not provided by PHN services. Besides many phn are not now midwives ,so maternal health not a priority by many" "We only deliver postnatal care to mothers."
	Any specific physical, social, mental or environmental problems have been identified and documented	"Postnatal check conducted and recorded important and the evaluation of mother's health and mental wellbeing is important"
	There is evidence that all PHN interventions have been regularly evaluated	No additional open-ended responses
	At each postnatal visit, the woman's emotional well-being and level of social support has been assessed and documented	"Each post-natal visit? standard practice on the first and follow up examinations if any concerns or areas that a care plan was opened for."
	If a woman is identified as at risk of developing a mental health problem, there is evidence of the support provided and the referrals made	"No direct referral pathways to mental health services only via GP referral"

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
Maternal Surveillance *(continued)*	**There is evidence that a physical examination of the mother was conducted at each post-natal visit; inspecting the breasts for engorgement and nipple trauma, palpating the uterus, documenting its position and firmness, assessing bowel and bladder function, documenting lochia, and examining the perineum***	"PHN's who are not midwives do not have clinical skills to palpate uterus and should not work outside their scope of practice so all non-midwife PHN's will fail this metric if its included." "a physical examination of the mother will be a change in practice for some PHNs" "Palpating the uterus may not be indicated at each postnatal visit, neither would inspecting the Perineum" "physical exam carried out as appropriate based on presenting problems identified not just routine" "The new…indicator may fall outside the scope of a PHN without a midwifery Qualification, in particular assessing the uterus height and firmness. Is this necessary if there is a clear red flag Checklist for postnatal record of presenting signs and symptoms. Is palpating the essential to the overall examination/ assessment in practice?" "The evidence for post-natal exam is critical at the first post-natal visit but not all post-natal visits. Also advice may be given to mother to go to GP but there may be no evidence of same only written note to say advised but no copy of a letter of referral" "WHERE INDICATED ONLY AS PER NICE GUIDELINES" "A physical examination of the mother is not always necessary or welcome. At the first visit this is necessary. at subsequent weight check clinics I don't see the need for it unless clinically indicated" "The physical examination should be offered but not a mandatory element of the care. A post-natal mother may be visited a long time after her delivery so conducting a physical examination at EACH visit may be inappropriate." "Not the practice everywhere, i.e. at each post - natal visit. This should be led by clinical judgement i.e. if indicated" "Communication is the key to accurate assessments.... Physical examination is not conducted at every post-natal visit...unless a problem is identified....." "Palpating uterus, documenting its position and firmness... only when clinically indicated... PHN without midwifery training often do not feel competent to do this. Despite maternal health module." "Perineal exam is obviously contingent on patient consent and not all wish it. Same for breast exam." This may not always be warranted at each post-natal visit. It should be offered at all times at the birth notification visit but may not be warranted at subsequent visits."

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
Maternal Surveillance *(continued)*	**The information and education provided to the mother/family about maternal health and infant health has been documented**	No additional open-ended responses
Infant Nutrition	**There is documented evidence of the information given to the family to encourage and support breastfeeding**	"critical…to support ,evaluate and quality management of breastfeeding in the future" "Information to support breastfeeding - to those mothers who choose to breastfeed, not to those who have made a clear decision to bottle-feed." "Antenatal information very important. A bit late when mother comes home from hospital to start supporting her with education that is new and also trying to feed her baby. Important to establish a baseline. Did the mother perceive she received sufficient antenatal and intranatal information on feeding her baby to prepare her."
	There is documented evidence that a breastfeed was observed, with any concerns/issues addressed and the outcomes documented in the care plan developed with the mother	"Not all mothers will want a PHN to observe a breastfeed during a primary visit" "An observed breastfeed may not be required / possible in every case / every visit to a breastfeeding mother." "Some of the language in the…metric is very paternalistic. We should be educating mothers and empowering them to identify problems. There should not be pressure on the mother to be observed breastfeeding by the PHN if she is happy with her technique." "It is not always possible to observe a breast feed at each visit as the infant may have finished feeding prior to the visit."
	There is evidence that the mother's breastfeeding progress has been evaluated with any problems assessed (mastitis, engorgement, sore nipples, blocked ducts) and the relevant education provided	No additional open-ended responses
	There is evidence that tailored education has been given to families who have chosen to give their infants formula feed	"Support for breastfeeding but also support for formula feeding is essential. Mothers often come home having had little support in Hospital and conversely formula feeding is often dismissed making mothers feel bad about their choice. PHN must validate all mothers' choices."

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
Child Development Surveillance	**The child's health and developmental progress has been assessed and documented at each core health visit in accordance with guidelines**	No additional open-ended responses
	A care plan outlining the needs of the child is evident and has been evaluated at each core visit with the family	"Care plan will be required only if there is a concern. Otherwise PHN follows guidelines outlined in Chart"
Child and Family Needs Assessment	**There is evidence that a comprehensive assessment of the child and family's needs was completed, examining the physical, psychological, social and environmental factors impacting well-being**	"A CFHNA is only indicated when a deficit is noted from the trigger questions asked. maybe include if necessary in the first question" "There is evidence that a comprehensive assessment of the child and family's needs was completed, examining the physical, psychological, social and environmental factors impacting well- - WHERE INDICATED AS PER PPPG."
	There is evidence that the family's care needs are reassessed and evaluated at each health visit and documented appropriately	No additional open-ended responses
	There is evidence that a comprehensive social history has been documented in both the adult and child's record, in the context of a change in the family dynamic and the contribution of a social worker*	"It is not easy to get the contribution from a social worker but there should be evidence of the request for same if a social worker is involved with the family" "Information would need to be shared post discharge from Social worker...if available... we have no Team Social worker…" "Social history is documented in the 'family record'." "Social history can only be included if informed." "A little unclear on last point"

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
Child Protection	**If the PHN identifies a child protection issue or it is reported to them, there is documented evidence of the concern and the referral made in accordance with local policy**	"… indicator to include 'national guidelines' - If a PHN identifies a child protection issue ..... referrals are made in accordance with national guidelines and local policy"
	The information provided to the parents about the referral or the rationale for not informing the parents has been documented	"parents should be informed by PHN when referring on to other service e.g. SOCIAL WORK"
	If there is an immediate risk to the child's safety, there is documented evidence that the PHN has contacted the appropriate services and has made an urgent referral in accordance with guidelines and local policy	No additional open-ended responses
Safeguarding Vulnerable Adult and Older Person	**If an individual has been identified as a vulnerable adult or vulnerable older person, concerns regarding neglect and abuse have been documented**	No additional open-ended responses
	If an individual has been identified as a vulnerable adult or vulnerable older person, there is evidence that a referral has been sent to the appropriate services according to local policy	"A vulnerable adult has the right to refuse referrals to appropriate services once they have capacity"
Total Quality Care Process Metrics: 15	**Total Quality Care Process Indicators: 69**	

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

DELPHI ROUND	QUALITY CARE PROCESS METRIC	EXCLUDED QUALITY CARE PROCESS INDICATOR	Delphi Rating Round 4*
04	**Medication Safety**	Monitored and recorded the patient's response to medication administration, documenting if the desired effect has been achieved	63.64%
	Care Plan Development and Evaluation	If appropriate, there is evidence that the patient's weight has been recorded regularly, the risk factors impacting nutritional status have been evaluated, education has been provided to the patient/family and the appropriate referrals have been made	62.12%
	Professional and Ethical Approach to Care	There is evidence that a professional demeanour was presented while interacting with patients, families and other healthcare professionals	68.25%
		Total Quality Care Process Indicators Excluded: 9	

*** 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 PHN 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
Pressure Ulcer Prevention and Management	**A pressure ulcer risk assessment was recorded using a validated tool**	No refinements
	If there were any changes in the patient's condition, the patient's pressure ulcer risk was reassessed	There is evidence that the client's pressure ulcer risk was reassessed and documented using a validated tool
	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 a pressure ulcer is present, the grade has been recorded on the relevant documentation	No refinements
	There is evidence that evaluations of the pressure ulcer have been recorded with the patient's response to interventions documented	There is evidence that evaluations of the pressure ulcer have been recorded with the client's response to interventions documented
	Documented the use of pressure distributing devices and alternative pressure therapies based on skin assessment	No refinements
	Documented the guidance provided to the patient to reduce the risk of developing a pressure ulcer	Documented the guidance provided to the client/family/carer to reduce the risk of developing a pressure ulcer
	Documented the guidance provided to the family/carer to reduce the risk of developing a pressure ulcer	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
Wound Care Management	**Completed an assessment of the wound (documenting the type of wound, location, exudate description, size and the condition of the surrounding skin)**	Completed an assessment of the wound using a validated tool
	Identified the risk factors impacting effective wound healing as per the National Wound Management Guidelines	Identified and documented the risk factors impacting effective wound healing as per the National Wound Management Guidelines
	Recorded the wound care plan	No refinements
	Documented the evaluation of the wound care plan	There is documented evidence that the wound care plan has been reassessed There is documented evidence that the wound care plan has been evaluated and a new wound care plan developed if necessary
	Identified and recorded the 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 the development of a new wound care plan if necessary with the patient (family and carers)	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
Health Care Associated Infection Prevention and Control	**Assessed the cardinal vital signs associated with infection**	There is documented evidence that the client's infection risk and status has been recoded and discussed with the client, family and carer

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	**Recorded 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**	Completed and documented the client's medication history, current medication treatment plan and adherence to treatment plan All prescribed medications are administered in accordance with NMBI Medication Management Guidelines Prescribed medications not administered have an omission code entered and appropriate action taken
	Completed and recorded an assessment of the patient's medication management needs as part of their comprehensive assessment	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 administration, documenting if the desired effect has been achieved	Voted as "important but not critical" in Delphi 4-Work-stream Working Group consensus to refine indicator-revisited at the consensus meeting; Monitored and documented the patient's response to the medication administered
	Identified, managed, recorded and reported any potential adverse drug event (near miss) according to medication management policies, procedures, protocols and guidelines (PPPG)	Monitored, managed, and documented in accordance with medication management policies, procedures, protocols and guidelines (PPPG) if an adverse drug event has occurred
	Monitored, prioritised, managed, and recorded 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
	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	The administration, management and disposal of Controlled Drugs and recording of same is in accordance with the organisation's PPPGs.
	To optimise medication safety, there is evidence that a general practitioner (GP) or other care professionals have been consulted with regards safe treatment medication options for the breastfeeding mother	Documented evidence of patient education on prescribed medications

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	**If appropriate a continence assessment has been recorded**	If appropriate, a continence assessment has been recorded There is documented evidence that a continence reassessment within 1 year has been completed at a minimum
	Documented the education given to the patient regarding therapeutic options to improve bladder control	Documented the education given to the client regarding therapeutic options to improve continence control There is documented evidence of the containment products provided by the public health nurse/ community registered nurse and the education given to the client on the correct use and management of containment products
	If an individual has a urinary catheter the type of catheter, the date of insertion and the date of removal have been documented	If a client has a urinary catheter the rationale for insertion, type of catheter, size of catheter, the date of insertion and the date of removal have been documented
	If an individual has an urinary catheter the care provided to prevent infection has been documented	If a client has a urinary catheter the care provided to prevent infection has been documented as per National Guidelines
	If an individual has an urinary catheter, the education given to the patient (family/carer) to prevent infection has been documented	The education given on catheter management has been documented as per National guidelines
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).**	An assessment has been completed to identify the holistic needs of the client
	The nursing care plan is evident and reflects the individuals current condition, the goals and plan for care which has been developed with the client and family	No refinements
	The patient's baseline self-care activities have been assessed and documented	The client's baseline self-care activities have been assessed and documented
	Nursing interventions are individualised and holistic and reflect the patient's treatment preferences	Nursing interventions are individualised and holistic and reflect the client's treatment preferences

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 *(continued)*	**Evaluation of the care plan is evident and has been adjusted in accordance to the patient's changing needs**	Evaluation of the care plan is evident and has been adjusted in accordance to the client's changing needs
	There is evidence in the care plan that discharge planning has begun in collaboration with the patient, family and other members of the primary care team	There is documented evidence in the care plan that discharge planning has begun in collaboration with the client, family and other members of the primary care team
	If an individual requires additional primary care services, the relevant PHN documentation to support the individuals application have been completed and any communication with the care agencies documented	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	On discharge, all health promotion education given to the patient has been documented including the contact details for the PHN service if further support is required in the future	On discharge, all health promotion education given to the client has been documented including the contact details for the PHN service if further support is required in the future
	All entries into patient records documented in accordance with NMBI guidance (dated and times, legible, signed, in chronological order)	All entries into client records are documented in accordance with NMBI guidance (dated and times, legible, signed, in chronological order)
	While supervising a student PHN, the PHN preceptor/ supervisor has reviewed and countersigned all documentation that has been completed by the student	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	If appropriate, there is evidence that the patient's nutritional status has been assessed using a validated screening tool	There is documented evidence that the client's nutritional status has been assessed using a validated screening tool
	If appropriate, there is evidence that the patient's weight has been recorded regularly, the risk factors impacting nutritional status have been evaluated, education has been provided to the patient/family and the appropriate referrals have been made	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting-voted as "important but not critical" in Delphi 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
Care Plan Development and Evaluation *(continued)*	**There is evidence that the patient is made aware of their falls risk and provided with information relating to interventions to prevent falls**	There is documented evidence that the client is made aware of their falls risk and provided with information relating to interventions to prevent falls
	There is evidence that a bowel assessment has been completed using the Bristol Stool chart if appropriate	There is documented evidence that a bowel assessment has been completed using the Bristol Stool chart if appropriate
	A bowel management plan has been developed with the client, their family and other members of the primary care team if appropriate	No refinements
	There is evidence that the bowel management plan has been revaluated	There is documented evidence that the bowel management plan has been revaluated
	Completed a holistic assessment of pain, recording the patient's pain using a validated tool, acknowledging the type and possible source of pain	Completed a comprehensive pain assessment using a validated tool that is consistent with the client's age, condition and ability to understand when indicated
	Recorded the pharmacological and non-pharmacological therapies administered to the patient following the patient's pain assessment	There is documented evidence that the client's pain is reassessed using a validated tool during the pain treatment period if relevant
	Documented the patient's response to the administered therapy, evaluating changes in the patient's pain at rest and on movement	Recorded and communicated with the medical team when there is a need for the initiation of pain management, report of severe pain or modification of pain treatment plan

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/Carer Experience **Work-stream Working Group consensus to change title of metric to Client/Family/Carer Experience- revisited at the consensus meeting*	**Documented the patient's needs and their preferences regarding the information they want to receive about their care, clarifying how they would like their family or carer to be involved**	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Documented the support and information given to the patient and their family regarding procedures, goals of care, potential risks and benefits of interventions	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 verbal/written informed consent was obtained prior to delivering health interventions to the patient	There is a record that verbal/written informed consent was obtained prior to delivering health interventions to the client There is documented evidence that written consent has been obtained prior to referring the client to other members of the interdisciplinary team
	Recorded the holistic care provided to the patient receiving end of life care	Recorded the holistic care provided to the client receiving end of life care
	Documented documenting the information and support given to the family following the patient's death	Documented the information and support given to the family following the client's death
Professional and Ethical Approach to Care	**There is evidence that while interacting with the patient 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-voted as "important but not critical" in Delphi 4
Health Promotion	**There is evidence that the client/ family/ carer has received the appropriate education pertinent to their individual circumstance**	No refinements

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
Maternal Surveillance* **Work-stream Working Group consensus to change title of metric to Maternal Health- revisited at the consensus meeting*	**There is evidence that an individualised care plan has been developed with the mother**	There is documented evidence that an assessment has been completed with the mother
	There is documented evidence of the support the mother has received from the antenatal, intrapartum and postnatal periods	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	Any specific physical, social, mental or environmental problems have been identified and 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 all PHN interventions have been regularly evaluated	There is documented evidence that all PHN interventions have been evaluated as appropriate
	At the first postnatal visit and subsequent follow up visits, the woman's emotional well-being and level of social support has been assessed with a plan of care developed if necessary	At the first postnatal visit and subsequent follow up visits, the mother's emotional well-being and level of social support has been assessed with a plan of care developed if necessary
	If a woman is identified as at risk of developing a mental health problem, there is evidence of the support provided and the referrals made	The mother's risk of developing a mental health issue in the postnatal period has been assessed using a validated tool If a mother is identified as at risk of developing a mental health problem in the postnatal period, there is documented evidence of the support provided and the referrals made
	There is evidence that a physical examination of the mother was conducted at the first postnatal visit and subsequent follow up visits, if clinically indicated	No refinements
	The information and education provided to the mother/family about maternal health has been documented	No refinements

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
Infant Nutrition	**There is documented evidence of the information given to mothers who choose to breastfeed**	No refinements
	There is documented evidence that any concerns/issues related to breastfeeding are addressed and the outcomes documented in the care plan developed with the mother	There is documented evidence that any concerns relating to breastfeeding have been assessed using a validated tool and that the outcomes have been documented in the care plan developed with the mother
	There is evidence that the mother's breastfeeding progress has been evaluated	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	There is evidence that any problems related to breastfeeding (mastitis, engorgement, sore nipples, blocked ducts) have been assessed	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	There is evidence of the education given to the mother to support her breastfeeding progress	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
Child Development Surveillance* **Work-stream Working Group consensus to change title of metric to Maternal Health- revisited at the consensus meeting*	**The child's health and developmental progress has been assessed at each core health visit in accordance with Guidelines**	The child's health and developmental progress has been assessed and documented at each core health visit in accordance with National Guidelines
	The child's health and developmental progress has been documented at each core health visit in accordance with Guidelines	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	A care plan outlining the needs of the child has been developed at the initial core health visit with the family	A care plan outlining the needs of the child has been developed at the initial core health visit with the family if indicated
	The care plan has been evaluated at each core visit with the family	No refinements

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
Child and Family Needs Assessment **Work-stream Working Group consensus to change title of metric to Child and Family Health Needs Assessment- revisited at the consensus meeting*	**There is evidence that a comprehensive assessment of the child and family's needs was completed, examining the physical, psychological, social and environmental factors impacting well-being where indicated as per PPPG**	Where specific concerns are identified, there is documented evidence that a comprehensive assessment of the child and family's needs was completed where indicated as per PPPG
	There is evidence that the family's care needs are evaluated at each health visit	No refinements
	There is evidence that the family's care needs are documented appropriately following each health visit	No refinements
	There is evidence that a comprehensive social history has been documented if appropriate in the family record	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	If appropriate there is evidence that a social work referral has been sent	Work-stream Working Group agreement to remove indicator - revisited at the consensus meeting as voted "critical" in Delphi Round 4
	There is documented evidence of the social worker contribution and any communication the PHN has with this service	There is documented evidence that the appropriate referral has been made in accordance with local and National Guidelines
Child Protection* **Work-stream Working Group consensus to change title of metric to Child Welfare and Protection- revisited at the consensus meeting*	**If the PHN identifies a child protection issue or it is reported to them, there is documented evidence of the concern and the referral made in accordance with National Guidelines and Local Policy**	If the PHN identifies a child welfare/ protection issue or it is reported to them, there is documented evidence of the concern and the referral made in accordance with National Guidelines and Local Policy
	The information provided to the parents about the referral or the rationale for not informing the parents has been documented	No refinements
	If there is an immediate risk to the child's safety, there is documented evidence that the PHN has contacted the appropriate services and has made an urgent referral in accordance with guidelines and local policy	No refinements

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
Safeguarding Vulnerable Adult and Older Person **Work-stream Working Group consensus to remove "Older Person" from the title of the metric-revisited at the consensus meeting*	**If an individual has been identified as a vulnerable adult or vulnerable older person, concerns regarding neglect and abuse have been documented**	If a client has been identified as a vulnerable adult, concerns regarding neglect and abuse have been documented
	If an individual has been identified as a vulnerable adult or vulnerable older person, there is evidence that a referral has been sent to the appropriate services according to local policy	If a client has been identified as a vulnerable adult, there is documented evidence that a referral has been sent to the appropriate services according to national policy
	If an individual has been identified as a vulnerable adult or vulnerable older person, there is evidence that an immediate plan of care has been developed	If a client has been identified as a vulnerable adult there is documented evidence that an immediate plan of care has been developed if necessary
Total Quality Care Process Metrics: 15	**Total Quality Care Process Indicators: 86**	

Total Quality Care Process Metrics presented at the Consensus Meeting following the Work-Stream Working Group face-to-face meeting post Delphi Round 4: 15

Total Quality Care Process Indicators presented at the Consensus Meeting Following Work-Stream Working Group Feedback face-to-face meeting post Delphi Round 4: 93

Public Health Nursing Consensus Findings

A face-to-face consensus meeting between the research team, the NMPD director, NMPD Project Officers and the PHN Work-stream Working Group members was held on November 30th 2017. The purpose of this 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 PHN Work-stream key stakeholders with regards to grade and geographical representation. In addition to the PHN Work-stream Working Group members and the NMPD team, additional specialist experts from the field of community nursing 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 G). Five core guidelines were derived from the literature and are presented in Appendix H. 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 I). 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 Feasibile. 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. One quality care process metric (Table 13) and 29 indicators (Table 14) were removed following the Consensus Meeting . Six metric titles were refined and some quality care process indicators were subsumed following the Consensus Meeting. The metric titles of Client/Family/Carer Experience, Maternal Health, Child Development Assessment, Child and Family Health Needs Assessment, Child Welfare and Protection and Safeguarding Vulnerable Adult were amended following guidance from the PHN Work-stream Working Group. Subsequently 14 nursing quality care process metrics and 67 associated indicators were developed for the public health nursing services (Table 15).

Figure 6: Electronic Voting: Quality Care Process Metrics

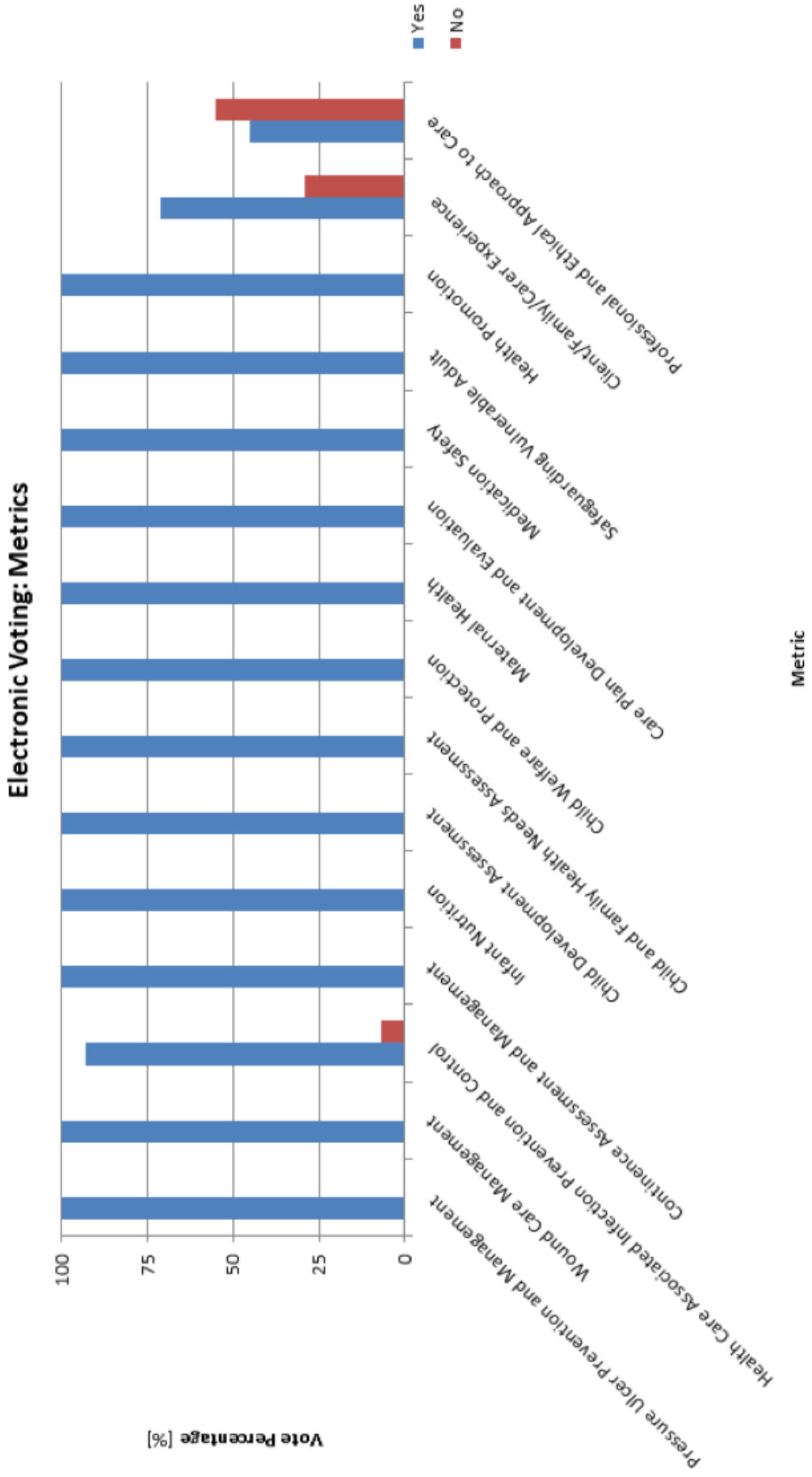

Table 13 List of Excluded Quality Care Process Metric Following the Consensus Meeting

QUALITY CARE PROCESS METRICS EXCLUDED FOLLOWING THE CONSENSUS MEETING	Rational for Exclusion Following the Consensus Meeting
Professional and Ethical Approach to Care	Although important, not feasible to measure currently
Total Metrics Excluded: 1	

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	Rational for Care Plan Development and Evaluation
Pressure Ulcer Prevention and Management	**Documented the guidance provided to the client/family/carer to reduce the risk of developing a pressure ulcer**	Following expert advice, the indicator is subsumed into an indicator included in the final suite pertinent to the metric
Wound Care Management	**Recorded the wound care plan** **Identified and documented the factors associated with wound infection** **Documented the development of a new wound care plan if necessary with the client (family and carers)** **There is documented 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)**	Following expert advice, the four indicators are subsumed into indicators included in the final suite pertinent to the metric
Continence Assessment and Management	**If a client has a urinary catheter the care provided to prevent infection has been documented as per National Guidelines**	Following expert advice, the indicator is subsumed into an indicator included in the final suite pertinent to the metric

QUALITY CARE PROCESS METRIC	Quality Care Process Indicators Excluded Following the Consensus Meeting	Rational for Care Plan Development and Evaluation
Infant Nutrition	**There is documented evidence that any problems related to breastfeeding(mastitis, engorgement, sore nipples, blocked ducts) have been assessed** **There is documented evidence of the education given to the mother to support her breastfeeding progress**	Following expert advice, the two indicators are subsumed into indicators included in the final suite pertinent to the metric
Child Development Assessment	**The child's health and developmental progress has been documented at each core health visit in accordance with guidelines**	Indicator is subsumed into an indicator included in the final suite pertinent to the metric
Child and Family Health Needs Assessment	**There is evidence that a comprehensive social history has been documented if appropriate in the family record** **If appropriate there is evidence that a social work referral has been sent**	Both indicators are subsumed into indicators included in the final suite pertinent to the metric
Maternal Health	**There is documented evidence of the support the mother has received from the antenatal, intrapartum and postnatal periods**	There is consensus among the group that primarily care is provided to the mother in the post-natal period. Elements of this indicator are incorporated in an indicator included in the final suite pertinent to the metric
	Any specific physical, social, mental or environmental problems have been identified and documented **The mother's risk of developing a mental health issue in the post-natal period has been assessed using a validated tool** **There is evidence that a physical examination of the mother was conducted at the first post-natal visit and subsequent follow up visits, if clinically indicated**	Three indicators are subsumed into indicators included in the final suite pertinent to the metric

QUALITY CARE PROCESS METRIC	Quality Care Process Indicators Excluded Following the Consensus Meeting	Rational for Care Plan Development and Evaluation
Care Plan Development and Evaluation	**The client's baseline self-care activities have been assessed and documented** **Nursing Interventions are individualised and holistic and reflect the client's treatment preferences** **If a client requires additional primary care services the relevant documentation to support the individuals application has been completed and any communication with the care agencies documented** **While supervising a student PHN, the PHN preceptor/supervisor has reviewed and countersigned all documentation that has been completed by the student**	Four indicators are subsumed into indicators included in the final suite pertinent to the metric
Medication Safety	**Completed and recorded an assessment of the patient's medication management needs as part of their comprehensive assessment** **Monitored, prioritised, managed, and recorded patient's health status during an adverse drug event to limit or prevent further harm to the patient** **Identified, prioritised, intervened, and recorded the patient's health status during an adverse drug reaction**	Following expert advice, three indicators are subsumed into indicators included in the final suite pertinent to the metric
Safeguarding Vulnerable Adult	**If a client has been identified as a vulnerable adult, concerns regarding neglect and abuse have been documented**	Indicator is subsumed into an indicator included in the final suite pertinent to the metric

QUALITY CARE PROCESS METRIC	Quality Care Process Indicators Excluded Following the Consensus Meeting	Rational for Care Plan Development and Evaluation
Client/ Family/Carer Experience	**Documented the patient's needs and their preferences regarding the level and type of information they want to receive about their care, clarifying how they would like their family or carer to be involved** **Documented the support and information given to the client and their family regarding procedures, goals of care, potential risks and benefits of interventions** **Recorded the holistic care provided to the client receiving end of life care** **Documented the information and support given to the family following the client's death**	Group consensus that the four indicators are incorporated in the Care Plan Development and Evaluation metric already
Professional and Ethical Approach to Care *(Metric removed Table 13)*	**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**	Although important, consensus that this aspect of care is not feasible to measure currently
	Total Quality Care Process Indicators Excluded: 29	

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

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Pressure Ulcer Prevention and Management	A pressure ulcer risk assessment was recorded using a validated tool There is evidence that the client's pressure ulcer risk was reassessed and documented using a validated tool If a pressure ulcer is present, the grade/stage/category has been recorded on the relevant documentation There is evidence that evaluation of the pressure ulcer has been recorded and the client's response to interventions are documented Documented the use of pressure distributing devices and alternative pressure therapies based on skin assessment Documented the verbal and written guidance provided to the client/family/carer to reduce the risk of developing or worsening pressure ulcers, ensuring that they understand the information given
Wound Care Management	Completed an assessment of the wound using a validated tool Identified and documented the risk factors impacting effective wound healing as per the National Wound Management Guidelines There is documented evidence that a wound care plan has been developed There is documented evidence that a wound care plan has been evaluated and updated if clinically indicated
Health Care Associated Infection Prevention and Control	There is documented evidence that the client's infection risk has been assessed and recorded There is documented evidence of the education given if the client has been identified as at risk of infection
Continence Assessment and Management	A continence assessment has been completed There is documented evidence that a continence reassessment has been completed within 1 year at a minimum Documented the education given to the client regarding therapeutic options to improve continence control There is documented evidence of the appropriate containment products prescribed and the education given to the client on the correct use and management of containment products If a client has a urinary catheter the rationale for insertion, type of catheter, size of catheter, the date of insertion and the date of removal have been documented as per National Guidelines The education given to the client/family/carer on catheter management has been documented as per National Guidelines There is documented evidence that the client's bowel pattern has been assessed and documented using a validated tool A bowel management plan has been developed with the client/family/carer There is documented evidence that the bowel management plan has been evaluated
Client/Family/Carer Experience	There is a record that verbal/written informed consent was obtained prior to delivering healthcare and interventions to the client There is documented evidence that verbal/written informed consent has been obtained prior to referring the client to other service providers

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Health Promotion	There is evidence that the client/ family/ carer has received the appropriate health promotion pertinent to their individual circumstance
Care Plan Development and Evaluation	An assessment has been completed to identify the holistic needs of the client The care plan is evident and reflects the individuals current condition, the goals and plan for care which has been developed with the client/ family/ carer Evaluation of the care plan is evident and has been adjusted in accordance to the client's changing needs There is documented evidence in the care plan that discharge planning has been initiated in collaboration with the client/ family/ carer and other service providers where indicated On discharge, all education given to the client/ family/carer has been documented including the contact details for the public health nursing service if further support is required in the future All entries into client records are documented in accordance with NMBI Guidelines There is documented evidence that the client's risk of malnutrition has been screened using a validated tool There is documented evidence that a plan of care has been developed based on the client's risk of malnutrition There is documented evidence that the client's risk of malnutrition has been screened again as appropriate A falls risk assessment has been recorded where indicated There is documented evidence that the client/family/carer are made aware of the client's falls risk and provided with information relating to interventions to prevent falls Completed a comprehensive pain assessment using a validated tool that is consistent with the client's age, condition and ability to understand when indicated There is documented evidence that the client's pain is reassessed using a validated tool during the pain treatment period if indicated Interventions are recorded and communicated with the relevant healthcare provider when there is a need for the initiation of pain management, report of severe pain or modification of pain treatment plan
Medication Safety	Completed and documented the client's relevant medication history, current medication treatment plan and adherence to treatment plan All prescribed medications are administered in accordance with NMBI Medication Management Guidelines Prescribed medications not administered have been documented in the care plan and appropriate action taken Monitored and documented the patient's response to the medication administered Monitored, managed and documented in accordance with medication management policies, procedures, protocols and guidelines (PPPG) if an adverse drug event has occurred The administration, management and disposal of Controlled Drugs and recording of same is in accordance with NMBI Guidelines and Local PPPGs. There is documented evidence of the client education on prescribed medications administered

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Maternal Health	There is documented evidence that a comprehensive assessment has been completed There is documented evidence that all interventions have been evaluated as appropriate At the first postnatal visit and subsequent follow up visits, a holistic plan of care has been developed if necessary If a mother is identified as at risk of developing a mental health problem using a validated tool in the postnatal period, there is documented evidence of the support provided and the referrals made The information and education provided to the mother/family about maternal health has been documented
Infant Nutrition	There is documented evidence of the information given to mothers who choose to breastfeed There is documented evidence that any challenges relating to breastfeeding have been assessed using a validated tool There is documented evidence that breastfeeding progress has been evaluated There is evidence that tailored education has been given to those who have chosen to formula feed their infant
Child Development Assessment	The child's health and developmental progress has been assessed and documented at the core health visit in accordance with National Guidelines A care plan outlining the needs of the child has been developed with the family if indicated There is documented evidence that the care plan has been evaluated and updated as required
Child and Family Health Needs Assessment	There is documented evidence that a comprehensive assessment of the child and family's health needs was completed where specific concerns are identified There is documented evidence that the child and family's health needs interventions are recorded There is documented evidence that the child and family's health needs interventions are evaluated There is documented evidence that an appropriate referral has been made in accordance with Local and National Guidelines
Child Welfare and Protection	If a child welfare/protection issue is identified or it is reported, there is documented evidence of the issue and the referral made in accordance with Local Policy and National Guidelines The information provided to the parents about the referral or the rationale for not informing the parents has been documented If there is an immediate risk to the child's safety, there is documented evidence that the appropriate services have been contacted and an urgent referral made in accordance with Local Policy and National Guidelines
Safeguarding Vulnerable Adult	If a client has been identified as a vulnerable adult where there are safeguarding concerns, there is documented evidence that an immediate plan of care has been developed There is documented evidence that the appropriate interventions are recorded If a client has been identified as at risk of abuse or has suffered abuse/harm, there is documented evidence that a referral has been sent to the appropriate services according to National Policy
Total Quality Care Process Metrics: 14	**Total Quality Care Process Indicators: 67**

Following the consensus meeting further refinements were made to the suite of quality care process metrics and respective indicators (Table 16). These refinements included the separation of one multifaceted indicator into 2 indicators in the Pressure Ulcer Prevention and Management metric and following the guidance of the expert external reviewer, a previously excluded indicator from the consensus meeting was added to the Maternal Health metric. 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 14 metrics and 69 indicators in the PHN setting.

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

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Pressure Ulcer Prevention and Management	A pressure ulcer risk assessment was recorded using a validated tool There is evidence that the client`s pressure ulcer risk was reassessed and documented using a validated tool If a pressure ulcer is present, the grade has been recorded on the relevant documentation There is evidence that evaluations of the pressure ulcer have been recorded There is evidence that the client`s response to interventions is documented There is documented evidence of the use of pressure distributing devices and alternative pressure therapies based on skin assessment There is documented evidence of verbal and written guidance provided to the client/family/carer to reduce the risk of developing a pressure ulcer
Wound Care Management	There is documented evidence of assessment of the wound using a validated tool Completed and documented a comprehensive pain assessment using a validated tool that is consistent with the client`s age, condition and ability to understand when indicated There is documented evidence that the wound care plan has been developed There is documented evidence that the wound care plan has been evaluated and updated if clinically indicated
Health Care Associated Infection Prevention and Control	There is documented evidence that the client`s infection risk has been assessed and recorded There is documented evidence of the education given if the client has been identifed as at risk of infection
Continence Assessment and Management	There is documented evidence of a continence assessment has been completed There is documented evidence that a continence reassessment within 1 year has been completed at a minimum There is documented evidence of education given to the client regarding therapeutic options to improve continence control There is documented evidence of the appropriate containment products prescribed and the education given to the client on the correct use and management of containment products If a client has a urinary catheter the rationale for insertion, type of catheter, size of catheter, the date of insertion and the date of removal have been documented as per National Guidelines The education given to the client/family/carer on catheter management has been documented as per National Guidelines There is documented evidence that the client's bowel pattern has been assessed and documented using a validated tool A bowel management plan has been developed with the client/family/carer There is documented evidence that the bowel management plan has been reassessed and evaluated
Client/Family/Carer Experience	There is documented evidence that verbal/written informed consent was obtained prior to delivering healthcare interventions to the client There is documented evidence that verbal/written informed consent has been obtained prior to referring the client to other service providers

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Health Promotion	There is documented evidence that the client/family/carer has received the appropriate education pertinent to their individual circumstances
Care Plan Development and Evaluation	An assessment has been completed and documented to identify the holistic needs of the client The documented care plan reflects the individuals current condition, the goals and plan which has been developed with the client/family/carer Evaluation of the care plan is documented and has been adjusted in accordance to the client`s changing needs There is documented evidence in the care plan that discharge planning has been initiated in collaboration with the client/family/carer and other service providers where indicated On discharge, all education given to the client/family/carer has been documented including the contact details for the Public Health Nursing service if further support is required in the future All entries into client records are documented in accordance with NMBI Guidelines There is documented evidence that the client`s risk of malnutrition has been screened using a validated tool There is documented evidence that a plan of care has been developed based on the client's risk of malnutrition There is documented evidence that the client's risk of malnutrition has been screened again as appropriate A falls risk assessment has been recorded where indicated There is documented evidence that the client/family/carer are made aware of the client's falls risk and provided with information relating to interventions to prevent falls Completed and documented a comprehensive pain assessment using a validated tool that is consistent with the client`s age, condition and ability to understand when indicated There is documented evidence that the client`s plan of care for pain is reassessed using a validated tool during the treatment period Interventions are documented and communicated with the relevant healthcare provider when there is a need for the initiation of pain management or report of severe pain using a validated tool
Medication Safety	There is documented evidence of the client`s medication history, current medication treatment plan and adherence to treatment plan All prescribed medications are administered in accordance with local and national policies, procedures, protocols and guidelines (PPPGs) NMBI Medication Management Guidelines Prescribed medications not administered have an omission code entered and appropriate action taken Monitored and recorded the patient`s response to the medications administered If an adverse drug event (harm which may be preventable or not) and/or error has occurred there is documented/recorded evidence of appropriate monitoring and intervention in accordance with medication PPPGs The administration, management and disposal of Controlled Drugs and recording of same is in accordance with NMBI Guidelines and local PPPGs There is documented evidence of the education provided to the client on prescribed medication administered

QUALITY CARE PROCESS METRIC	Quality Care Process Indicator
Maternal Health	There is documented evidence that a comprehensive assessment has been completed Any specific physical, social, mental, or environmental problems have been identified and documented as appropriate There is documented evidence that nursing and midwifery interventions have been evaluated At the first postnatal visit and subsequent follow up visits, a holistic plan of care has been developed Using a validated tool in the postnatal period to assess if a mother is at risk at developing a mental health problem, there is documented evidence of the support provided and the referrals made The information and education provided to the mother/family about maternal health has been documented
Infant Nutrition	There is documented evidence of the information given to mothers who choose to breastfeed There is documented evidence that any challenges relating to breastfeeding have been assessed using a validated tool There is documented evidence that breastfeeding progress has been evaluated There is documented evidence that tailored education has been given to those who have chosen to formula feed their infant
Child Development Assessment	The child's health and development progress has been assessed and documented at each core health visit in accordance with National Guidelines A care plan outlining the needs of the child has been developed with the family There is documented evidence that the care plan has been evaluated and updated
Child and Family Health Needs Assessment	There is documented evidence that a comprehensive assessment of the child and family's health needs was completed where specific concerns are identified There is documented evidence that the child and family's health needs interventions are recorded There is documented evidence that the child and family's health needs interventions are evaluated There is documented evidence that an appropriate referral has been made in accordance with the Local and National Guidelines
Child Welfare and Protection	If a child welfare/protection issue is identified or it is reported, there is documented evidence of the issue and the referral made in accordance with local policy and national guidelines The information provided to the parents about the referral or the rationale for not informing the parents has been documented If there is an immediate risk to the child's safety, there is documented evidence that the appropriate services have been contacted and an urgent referral in accordance with Local Policy and National Guidelines
Safeguarding Vulnerable Adult	There is documented evidence that an immediate plan of care has been developed if a client has been identified as a vulnerable adult or where there are safeguarding concerns There is documented evidence that the required interventions are recorded If a client has been identified as at risk of abuse or has suffered abuse/harm, there is documented evidence that a referral has been sent to the appropriate services according to Local and National Policy
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 care settings 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 public health nursing 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 community care setting and heightens 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 14 quality care process metrics and 69 associated indicators were developed for the public health nursing setting.

Recommendations

The implementation of the 14 quality care process metrics and 69 associated indicators is due to begin in the community 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 public health nursing 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-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 quality care process metrics and indicators on nursing and midwifery care processes in the setting of public health nursing.

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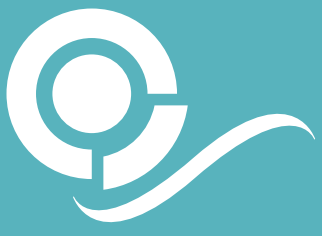
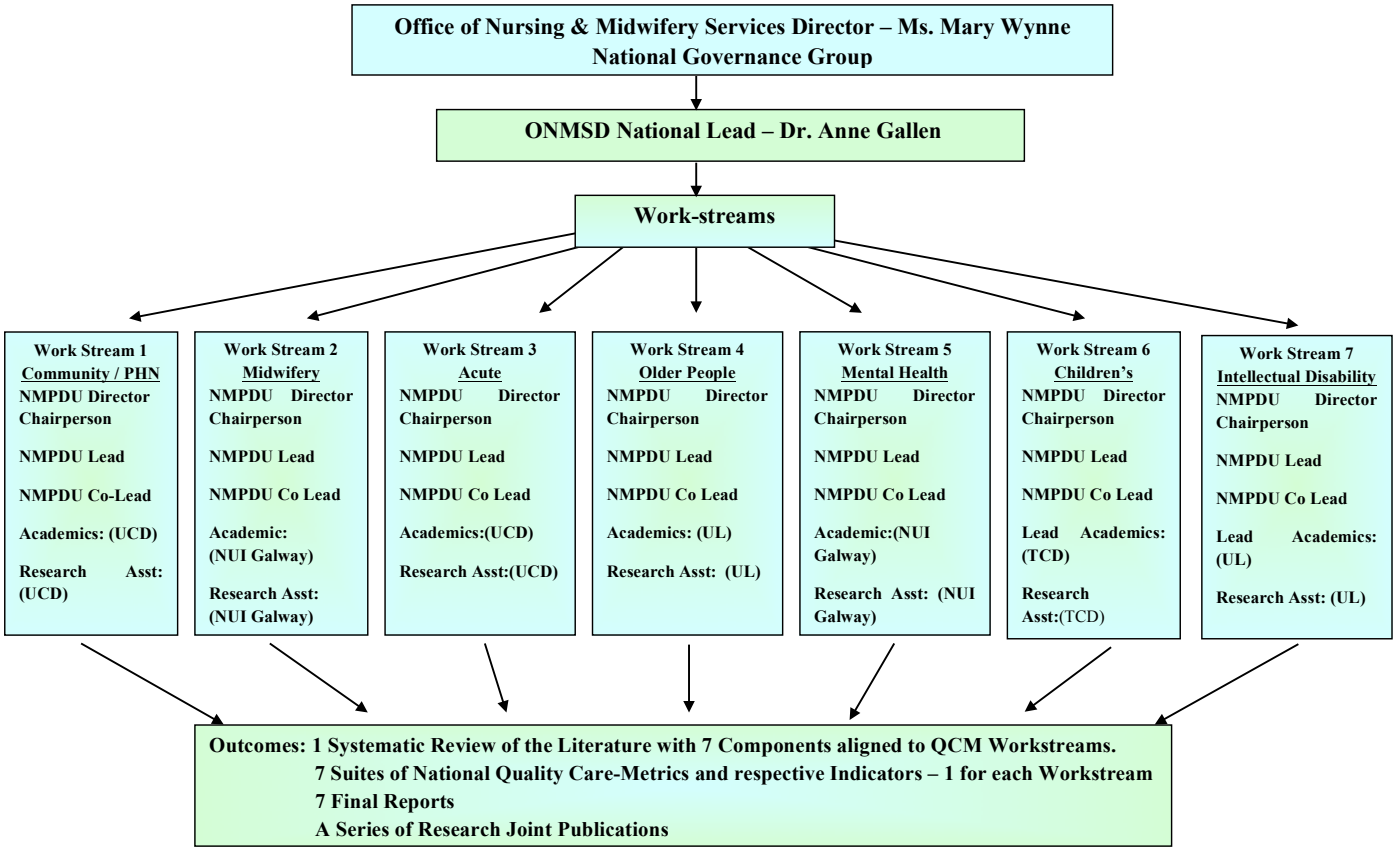
Appendices



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
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. Laserina O`Connor,** University College Dublin **Prof. Eilish McAuliffe,** University College Dublin
RESEARCH ASSISTANT	**Ms. Lisa Rogers,** University College Dublin **Ms. Bianca vanBavel,** 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
LEAD ACADEMIC (S)	**Prof. Declan Devane,** National University of Ireland Galway **Prof. Valerie Smith,** Trinity College Dublin
RESEARCH ASSISTANT	**Ms. Nora Barrett,** National University of Ireland, Galway

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

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
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

MENTAL HEALTH WORKSTREAM:	
NMPD DIRECTOR – CHAIRPERSON – CURRENT: NMPD DIRECTOR – CHAIRPERSON – PREVIOUS:	**Ms. Anne Brennan,** Director, NMPDU, HSE Dublin North **Mr. James Lynch,** Interim Director, NMPDU, HSE Dublin North
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
RESEARCH ASSISTANT	**Ms. Nora Barrett,** National University of Ireland, Galway

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

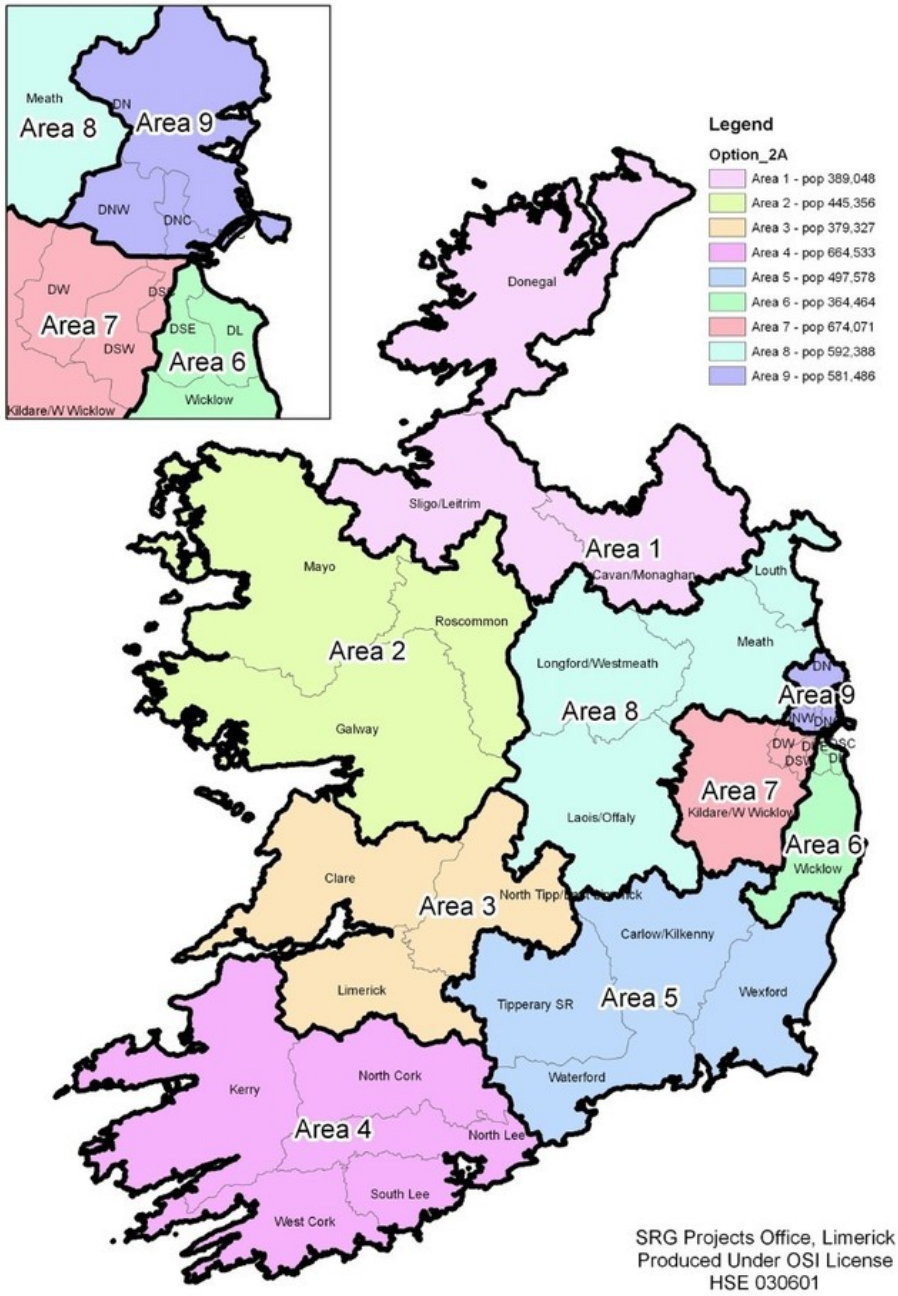
Chairperson	**Ms. Mary Wynne,** HSE, Interim Nursing and Midwifery Services Director & Assistant National Director, Office of the Nursing & Midwifery Services Director
Area Director NMPD	**Ms. Catherine Killilea,** Area Director, HSE, NMPDU South
ONMSD National Lead QCM	**Dr. Anne Gallen,** Director, 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 - Public Health Nursing 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
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. Laserina O`Connor,** University College Dublin **Prof. Eilish McAuliffe,** University College Dublin
RESEARCH ASSISTANT- CURRENT - PREVIOUS	**Ms. Lisa Rogers,** University College Dublin **Ms. Bianca vanBavel,** University College Dublin

WORKSTREAM WORKING GROUP MEMBERS	**Margaret Costello,** Director of Public Health Nursing, Community Healthcare Organisation 3 **Mary B. Finn-Gilbride,** Director of Public Health Nursing, Community Healthcare Organisation 5 **Ms. Ger McGoldrick,** Director of Public Health Nursing, Community Healthcare Organisation 7 **Ms. Cathryn Ryan,** Assistant Director of Public Health Nursing, CIT, Community Healthcare Organisation 3 **Ms. Martina Duffy,** Assistant Director of Public Health Nursing, Community Healthcare Organisation 3 **Ms. Sile Boles,** Assistant Director of Public Health Nursing, Community Healthcare Organisation 1 **Ms. Sharon Boyle,** Registered Public Health Nurse, Community Healthcare Organisation 7 **Ms. Niamh Lavin,** Assistant Director of Public Health Nursing, Community Healthcare Organisation 9 **Ms. Catherine Hanley,** Community Healthcare Organisation 7 **Ms. Ann Marie McDermott,** Assistant Director of Public Health Nursing, Community Healthcare Organisation 2 **Ms. Anne Nixon,** Assistant Director of Public Health Nursing, Community Healthcare Organisation 2 **Ms. Helen Sweeney,** Assistant Director of Public Health Nursing, Community Healthcare Organisation 4 **Ms. Kathleen Griffin,** Practice Development Co Ordinator, Community Healthcare Organisation 8 **Ms. Emer Shanley,** Clinical Nurse Specialist, Tissue Viability, Community Healthcare Organisation 4 **Ms. Paulinea Collins,** Registered Public Health Nurse, Community Healthcare Organisation 4 **Ms. Aisling Kehoe,** Practice Development Coordinator, Community Healthcare Organisation 9 **Ms. Paula Trainor,** Registered Public Health Nurse, Community Healthcare Organisation 8 **Ms. Emer Wallace,** Registered Public Health Nurse, Community Healthcare Organisation 7 **Ms. Kathy Walsh,** Assistant Director of Public Health Nursing, Community Healthcare Organisation 6 **Ms. Connie O'Connell,** Registered Public Health Nurse, Community Healthcare Organisation 2 **Ms. Caitriona Sheridan,** Registered Public Health Nurse, Community Healthcare Organisation 9 **Ms. Martina O'Shea,** Registered Public Health Nurse, Community Healthcare Organisation 4 **Ms. Patricia Ryan,** Patient Representative

Appendix E:
Community Healthcare Organisations (CHOs)



CHOs are community healthcare services outside of acute hospitals, such as primary care, social care, mental health, and other health and well-being services. These services are delivered through the HSE and its funded agencies to people in local communities, as close as possible to their homes.

There are nine CHO areas established across the country;

- AREA 1 represents Donegal Local Health Office (LHO); Sligo/Leitrim/West Cavan LHO; and Cavan/Monaghan LHO. This area has a population of 389,048.

- AREA 2 represents Galway LHO, Roscommon LHO and Mayo LHO. This area has a population of 445,356.

- AREA 3 represents Clare LHO, Limerick LHO and North Tipperary/East Limerick LHO. This area has a population of 379, 327.

- AREA 4 represents Kerry LHO, North Cork LHO, North Lee LHO, South Lee LHO and West Cork LHO. This area has a population of 664,533.

- AREA 5 represents South Tipperary LHO, Carlow/Kilkenny LHO, Waterford LHO and Wexford LHO. This area has a population of 497,578.

- AREA 6 represents Wicklow LHO, Dún Laoghaire LHO and Dublin South East LHO. This area has a population of 364,464.

- AREA 7 represents Kildare/West Wicklow LHO, Dublin West LHO, Dublin South City LHO and Dublin South West LHO. This area has a population of 674,071.

- AREA 8 represents Laois/Offaly LHO, Longford/Westmeath LHO, Louth LHO and Meath LHO. This area has a population of 592,388.

- AREA 9 represents Dublin North LHO, Dublin North Central LHO and Dublin North West LHO. This area has a population of 581,486.

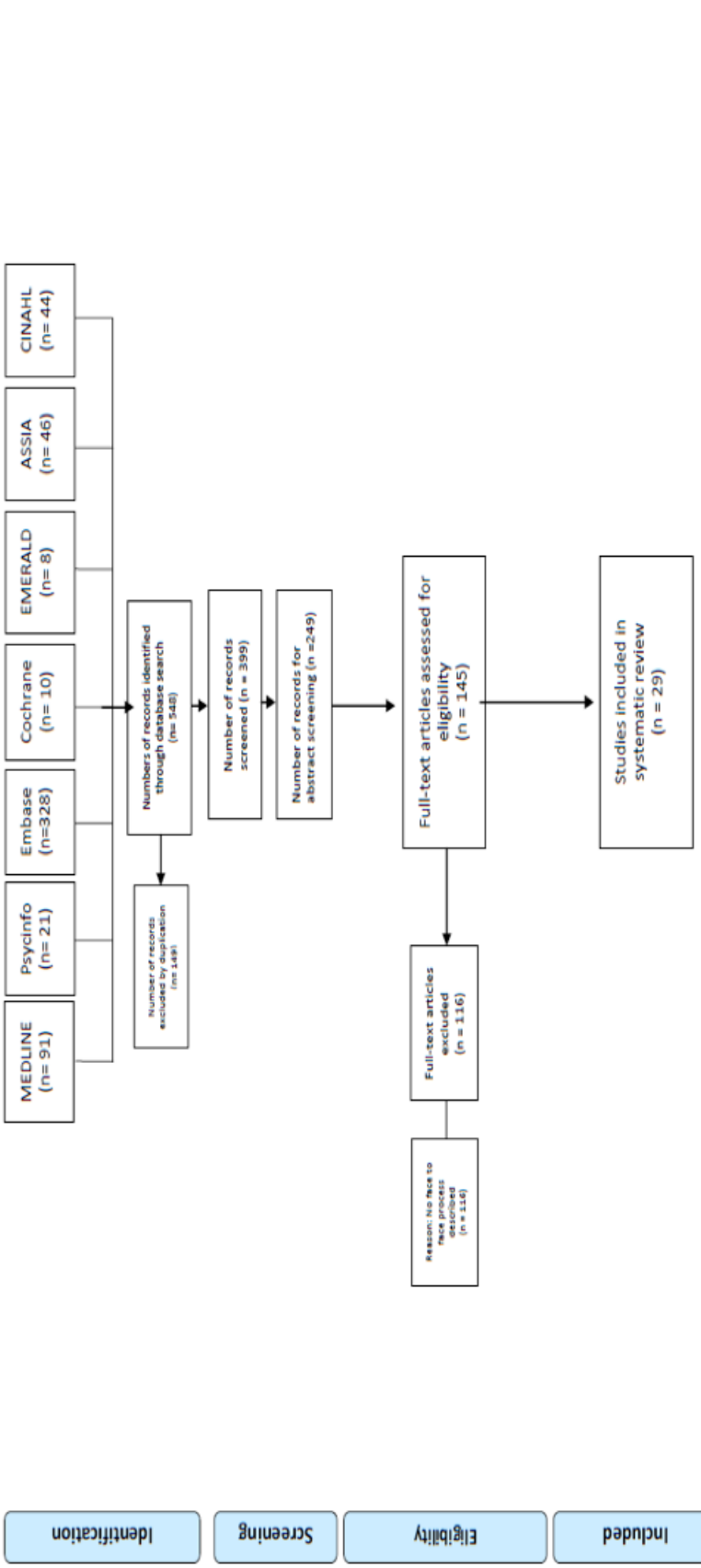
Appendix F:
Description of Nursing & Midwifery Grades

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 G:
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 H:
Guidelines on Managing Face to Face Consensus Meetings

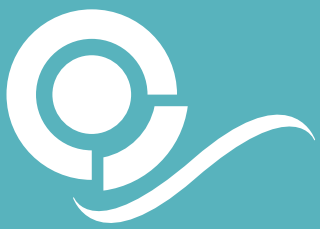
	GUIDELINE	RATIONALE
1	**Have a moderator.**	To control and manage the group process to ensure that all participants have their say.
2	**Clearly present the issue to be discussed and allow enough time for discussion.**	Some issues (metrics) may be contentious and so sufficient time must be allowed for 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 I:
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

Office of the Nursing and Midwifery Services Director
Clinical Strategy and Programmes Directorate

Health Service Executive
Dr. Steevens' Hospital
Dublin 8
Ireland

www.hse.ie/go/onmsd