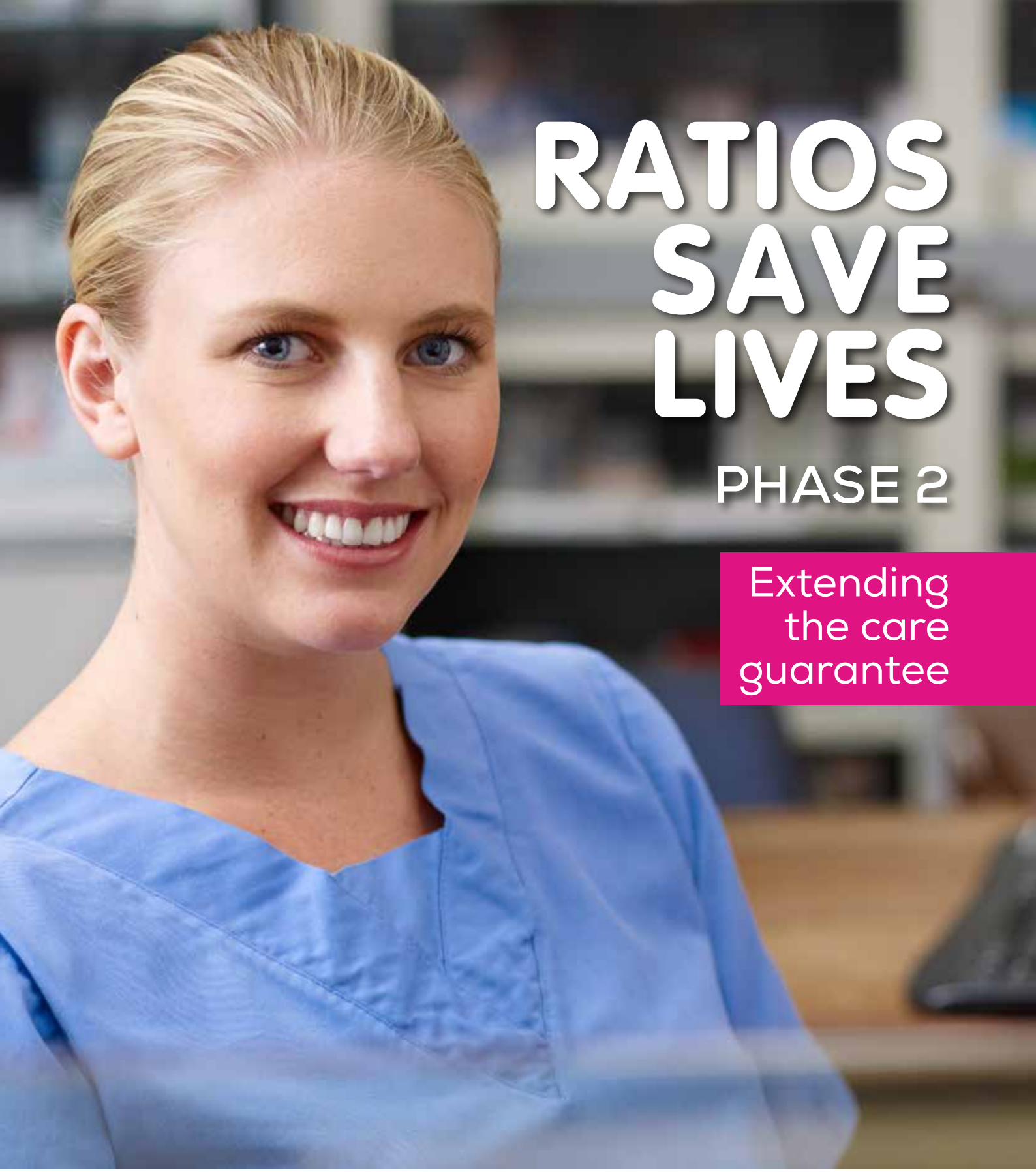


RATIOS SAVE LIVES

PHASE 2

Extending the care guarantee

RATIOS SAVE LIVES

qnmu Queensland Nurses & Midwives' Union

Introduction

In January 2015, the Queensland Nurses and Midwives' Union (QNMU) launched the *Ratios Save Lives* campaign with the primary objective to legislate minimum nurse/midwife-to-patient ratios as an evidence-based, cost effective way to improve the safety and quality of healthcare in Queensland.

The campaign was well supported by nurses, midwives and the wider community so much so the Palaszczuk Government committed to legislating minimum ratios in acute medical and surgical wards and two mental health wards in Queensland Health.

Legislated minimum ratios came into effect on 1 July 2016. This was a landmark event for nursing and midwifery in Queensland as the new laws confirmed the valuable contribution nurses and midwives make in the delivery of safe, high quality healthcare.

With the first year of ratios implementation now complete, it is time to progress the legislation of minimum ratios into other nursing and midwifery services beyond the already regulated medical and surgical wards.

The *Ratios Save Lives Phase 2* campaign is based on the same evidence-based framework as the original *Ratios Save Lives* campaign. However, key implementation learnings, achievements and non-achievements from the first campaign have been considered.

Nurses, midwives and MPs celebrating on the steps of Parliament House after the ratios bill was passed.

Contents

Ratios Save Lives Phase 2 campaign

The purpose of the campaign is to guarantee the delivery of safe, high quality nursing and midwifery across Queensland.

The key elements of the campaign include establishing safe workloads and skill mix levels for nurses and midwives through the implementation of ratios in conjunction with the Business Planning Framework: a tool for nursing and midwifery workload management (BPF) and public reporting.

The motivation to pursue this claim is based on the evidence that increasing investment in nursing and midwifery services will lead to better health outcomes for patients and a more productive and efficient healthcare system. ■

Reviewing the evidence

Nurses and midwives are a vital part of the healthcare system.

As the largest clinical workforce, nurses and midwives have a density and geographical presence that is unparalleled by other clinical professions.

National and international studies have irrefutably proven that the number, skill mix and work environment of nurses and midwives directly affects the safety and quality performance of health services [1-11].

The evidence tells us:

- Patients receiving a higher proportion of registered nurse hours per day will be more satisfied with their health service and experience lower patient mortality, reduced length of stay and less adverse events such as failures to rescue, pressure injuries and infections.
- Nurses and midwives who work in an environment with enough staffing numbers and skill mix to adequately meet service demand will be more satisfied and less inclined to leave their job.
- Health services that use safe ratios of nursing/midwifery staffing and skill mix will experience economic benefits from reductions in unwarranted healthcare variation and adverse events.

Since the publication of the original *Ratios Save Lives* document in 2015, more evidence confirming the relationship between safe levels of nurse and midwife staffing and significant improvements in patient/resident, staff and organisational outcomes has been published [12-23].

Highlights from the new evidence include:

- Each additional patient per nurse on medical-surgical units is associated with a 5% lower likelihood of surviving an in-hospital cardiac arrest [18]

As the largest clinical workforce, nurses and midwives have a density and geographical presence that is unparalleled by other clinical professions.

- Each 10-percentage point reduction in the proportion of professional nurses is associated with an 11% increase in the odds of death [17]
- Patients with more nursing hours allocated to them per day are associated with greater improvements in the detection of secondary depression and anxiety [22]
- Nursing and midwifery understaffing exposes patients to an increase in the odds of acquiring selected nurse sensitive outcomes (NSO) - 3% for physiological/ metabolic derangement to 8% for deep vein thrombosis and any NSO in surgical patients) [24]
- Each additional patient per nurse was associated with an additional 5% of nurses reporting dissatisfaction in their job; 8% of nurses reporting high emotional exhaustion and 4% of nurses reporting needle stick/ sharp injuries [23]
- Hospitals with higher numbers of nursing hours per patient have lower prevalence of nursing care left undone [13]

Reviewing the evidence

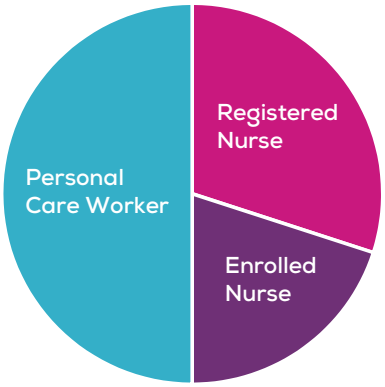
Ratios in aged care

The Australian Nursing and Midwifery Federation's (ANMF) National and Aged Care Staffing and Skill Mix Project Report 2016 have delivered significant findings in relation to the workforce and workload requirements in aged care.

A key outcome of this project has been the evidence-based determination of minimum care requirements and skill mix needed to ensure safe residential and restorative care.

According to ANMF research findings, the minimum care requirements in residential aged care facilities is 4.30 resident care hours per day with a skill mix requirement of:

- 30% registered nurse
- 20% enrolled nurse
- 50% personal care worker [25].



Ratios in midwifery

The QNMU has been active in developing the minimum requirements for safe staffing in midwifery services. The Safe Workloads in Midwifery (SWiM) standard is evidence-based and was developed in conjunction with frontline midwives, midwifery leaders, academics and consumers.

The SWiM standard has seven principles, one of which refers to the need for:

- 1:1 ratio in active labour
- 1:30-1:40 ratio for caseloads
- 1:4 – 1:6 ratio for inpatient units
- 1:5 ratio for postnatal home visits/day
- newborns must count in staffing calculations in postnatal wards [26].

Evaluating ratios phase 1

Research projects are being initiated all over the world to investigate the benefits better staffing and skill mix levels can have in our health system. As such, evidence will continue to be one of the primary drivers in the refinement and enhancement of nurse/midwife staffing ratios in Queensland.

Queensland Health has engaged independent researchers from the University of Pennsylvania and Queensland University of Technology to undertake an evaluative study on the impact ratios implementation is having on patient and nurse outcomes in Queensland's public health facilities.

The outcomes of this study will be used to inform the future roll out of ratios in Queensland, particularly in mental health services where a trial of ratios implementation has been conducted in two units. ■

Refining and extending the care guarantees

While the *Ratios Save Lives* campaign was successful in legislating minimum ratios in a number of wards in Queensland Health, there is still much work to be done to ensure the delivery of safe, high quality nursing and midwifery in all health services across the state.

The original care guarantee called for the legislation of:

- minimum ratios and skill mix levels in conjunction with the proper application of the BPF across Queensland Health
- minimum ratios and skill mix levels across the private sector
- mandatory participation of the public, private and aged care sectors in the public reporting of minimum data sets relating to nurse/midwife ratios, skill mix levels and quality outcomes
- at least one registered nurse to be present at all times, on all shifts, in Queensland residential aged care facilities.

Additionally, the care guarantee called for the urgent review of nurse numbers, skill mix and quality indicators in Queensland residential aged care facilities to help determine the parameters for safe staffing.

This *Ratios Save Lives Phase 2* campaign has been devised based upon the achievements/non-achievements of the original claims as well as evidence gathered from local evaluations of workload management practices, interstate ratios frameworks and research findings [27-30].

> ...there is still much work to be done to ensure the delivery of safe, high quality nursing and midwifery in every health services across the state.

The new *Ratios Save Lives* document is seeking to:

- refine and expand the legislated minimum ratios in the public sector
- legislate minimum ratios in the private and aged care sectors
- legislate for at least one registered nurse to be present at all times, on all shifts, in all Queensland residential aged care facilities
- improve application and compliance with the BPF in the public sector
- legislate public reporting of safety and quality performance indictors in public, private and aged care sectors, inclusive of indicators specific to nursing and midwifery.

Refine and expand legislated minimum ratios

The intent of the original *Ratios Save Lives* campaign was to legislate ratios across a range of different nursing and midwifery services to ensure minimum safe staffing requirements were known. While this occurred for the majority of medical and surgical wards in Queensland Health, there are still numerous nursing and midwifery services operating without a legislated minimum staffing requirement.

Therefore, the QNMU is seeking the legislation of all minimum ratios outlined in the *Ratios Save Lives Phase 2* claims, including the SWiM Standard for maternity services and the ANMF Aged Care Report minimum staffing and skill mix requirements.

We have learned many lessons about the application of minimum ratios during the first year of implementation. Based on feedback from frontline staff, there is a definite need to improve the practical day-to-day application of ratios as well as compliance monitoring practices to ensure the operational value of ratios is fully realised and accurately reported.

Refining and extending the care guarantees

The recommendations for refinement of the current ratios legislation include:

	RECOMMENDATION	EXPLANATION
1	All minimum ratios must be applied in an absolute manner	Ratios must indicate to a nurse/midwife the maximum patient load, that is a ratio of 1:4 means one nurse must have no more than four patients – ratios are not an average. Patient acuity and staff skill mix is to be considered when allocating patients to a nurse/midwife.
2	Staffing requirements must be 'rounded up' not 'rounded down'	When a minimum ratio calculation delivers a 0.5 or above staffing requirement, then a whole nurse/midwife will be required. When a minimum ratio calculation delivers a 0.49 or below staffing requirement, no extra staff nurse/midwife will be required.
3	Team leaders must always be excluded from direct ratios	Team leaders, regardless of circumstance, are not to be included in the direct care ratios. Team leaders are always additional to the direct care ratios e.g. 1:4 + team leader.
4	Parameters for determining prescribed wards must be defined	Parameters to determine when a ward is eligible to become a prescribed ward must be defined in the legislation. Parameters must be objective and based on readily available information, not left to the subjective assessment of individuals.
5	Minimum requirements for public reporting of ratios compliance and quality outcomes must be contemporary and represent the interest of patient, staff and health service	A framework for publicly reporting ratios compliance and quality outcomes must be defined in the legislation. The framework must be based on contemporary and real-time evidence and reflect meaningful information relevant to patients, staff and health services.

Refining and extending the care guarantees

Legislate minimum ratios for private and aged care sectors

To minimise unwarranted variation in service safety and quality, the adoption of ratios legislation, including the *Nursing and Midwifery Workload Management Standard*, must be pursued across all private healthcare and residential services in Queensland.

Improve BPF application and compliance

The implementation of ratios in Queensland public health facilities is distinct from anywhere else in the world. This is because Queensland's ratios methodology is implemented in conjunction with the industrially mandated BPF, which has been translated for legislative purposes into the *Nursing and Midwifery Workload Management Standard*.

The BPF allows the number of patients allocated to a nurse/midwife to be improved beyond the legislated ratios in accordance with variables such as patient activity and acuity. It is crucial that the BPF is correctly applied in all nursing and midwifery services to ensure safe workloads for nurses and midwives. This is particularly relevant to prescribed wards where the legislated ratio has been inappropriately set as the maximum staffing level instead of the minimum.

A recent statewide review of the BPF confirmed varying levels of compliance with the workload methodology across nursing and midwifery services in Queensland Health. Key nursing and midwifery stakeholders believe these inconsistencies have resulted from a lack of system-wide standardised processes in the areas of application, governance and training.

To improve statewide compliance with the BPF, investment in an information technology solution is required to streamline and

Refining and extending the care guarantees

standardise the processes associated with the application of the BPF.

In addition, clinical and health system governance processes also need to be improved to ensure the health service nursing and midwifery leads can stipulate the capacity of nursing and midwifery services in formal Service Line Agreements.

Legislate a contemporary public reporting framework

Research informs us that healthcare services with well-structured public reporting processes achieve better outcomes in the clinical quality and overall organisational efficiency than those services using a penalty-based system alone [31].

The original *Ratios Save Lives* document asked for mandatory participation in public reporting over a penalty based system to encourage rather than discourage health services to comply with ratios legislation. While public reporting of ratios compliance has been included in the legislation, there is a lack of detail about what, where and when the data should be reported. The only directive regarding public reporting is that it occurs at the discretion of the Director-General of Health.

The lack of a well-designed public reporting framework has led to substandard reporting practices being implemented that do not support the fundamentals of contemporary evidence-based public reporting, which include dimensions for:

- quality of healthcare outcomes and processes
- patient and staff experience
- finance and governance frameworks [31].

Therefore, it is recommended that the public, private and aged care sectors are required by legislation to participate in the public reporting of contemporary patient/resident safety and quality indicators including but not limited to:

> ... it is recommended that the public, private and aged care sectors are required by legislation to participate in the public reporting...

- nurse/midwife staffing numbers[1]
- nurse/midwife skill mix levels
- nursing/midwifery process
- nursing/midwifery workload concerns
- patient/resident health outcomes
- patient/resident/staff satisfaction [32-34].

To be fully aligned with the public reporting of quality processes, further investment is required to develop linked minimum nursing/midwifery data sets to collect information about the specific structure, process and quality outcomes of individual nursing and midwifery services.

Consideration must also be given to the causal relationship professional judgement has with the structure, process and quality outcomes within health services and how linked minimum nursing/midwifery data sets can be used to highlight this connection. ■

1 Pubic reporting of staffing numbers is to be inclusive of employment conditions such as permanent, temporary, casual, agency and full-time or part-time status as well as nursing/midwifery classification percentages.

Operational guidelines for the application of minimum ratios

The following guidelines must be incorporated when applying the minimum ratios:

- the actual patient numbers admitted in the ward/service determines the number of nurses/midwives required
- unused bed stock is only made available when additional nurses/midwives with the appropriate skills can be sourced
- when a minimum ratio calculation delivers a 0.50 or above staffing requirement, then a whole nurse/midwife will be required to comply with the legislated ratio
- when a minimum ratio calculation delivers a 0.49 or below staffing requirement, no extra staff nurse/midwife will be required to comply with the legislated ratio
- frontline staff are guaranteed that in times of short-term, unplanned absences within the workplace, nurses/midwives are replaced with nurses/midwives with 'like' qualifications, education and competencies

- Nurse Unit Managers, Midwifery Unit Managers, Clinical Nurse/Midwife Facilitators, Nurse/Midwife Educators and Clinical Nurse /Midwife Consultants are not included in the direct care ratios.

MINIMUM NURSE/MIDWIFE STAFFING RATIOS AND SKILL MIX LEVELS

Critical Care (adult and paediatric)

Service type	AM	PM	Night
Intensive Care Unit	1:1 + team leader + access nurse	1:1 + team leader + access nurse	1:1 + team leader + access nurse
High Dependency Unit	1:2 + team leader	1:2 + team leader	1:2 + team leader
Coronary Care Unit	1:2 + team leader	1:2 + team leader	1:2 + team leader

Skill mix requirements

- Skill mix requirements for Intensive Care Units will be in accordance with the latest Australian College of Critical Care Nurses (ACCCN) Workforce Standards for Intensive Care Nursing in conjunction with a locally agreed training/education program.
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.

Operational guidelines for the application of minimum ratios

MINIMUM NURSE/MIDWIFE STAFFING RATIOS AND SKILL MIX LEVELS

Neonatal Intensive Care

Service type	AM	PM	Night
Intensive Care Unit	1:1 + team leader	1:1 + team leader	1:1 + team leader
High Dependency Unit	1:2 + team leader	1:2 + team leader	1:2 + team leader
Special Care Nurseries	1:3 + team leader	1:3 + team leader	1:3 + team leader

Skill mix requirements

- There will be minimum 90% Registered Nurses /Midwives rostered on every shift.
- There will be 'like for like' replacement of nursing/midwifery staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.

Emergency Department (adult and paediatric)

Service level/type	AM	PM	Night
Resuscitation Beds	1:1	1:1	1:1
Emergency Departments: level 4-6	1:3 + team leader + triage nurse	1:3 + team leader + 2 triage nurses	1:3 + team leader + triage nurse
Emergency Departments: level 3	1:3 + team leader + triage nurse	1:3 + team leader + triage nurse	1:3 + team leader + triage nurse
Emergency Department: level 2	1:3	1:3	1:3
Emergency Medical Units or Equivalent	1:3 + team leader	1:3 + team leader	1:4 + team leader
Medical Assessment Units or Equivalent	1:4 + team leader	1:4 + team leader	1:4 + team leader

Skill mix requirements

- There will be minimum 90% Registered Nurses rostered on every shift.
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.

Note: This staffing ratio applies to beds, treatment spaces, rooms and chairs where patients are receiving health services.

Operational guidelines for the application of minimum ratios

MINIMUM NURSE/MIDWIFE STAFFING RATIOS AND SKILL MIX LEVELS

Perioperative Services

Service type

Staffing requirements for perioperative services will be in accordance with the latest Australian College of Operating Room Nurses Standards.

Skill mix requirements

- Skill mix requirements for perioperative services will be in accordance with the latest Australian College of Operating Room Nurses Standards.
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.

General Adult Inpatient Wards

Service/Ward	AM	PM	Night
Acute public hospitals: Principal referral hospitals Public acute hospitals subgroups A-D Acute private hospitals: Private acute hospitals subgroups A-D* (Refer to AIHW Peer Groups 2015) **Excludes Multi-purpose services – refer to Multi-purpose services section for minimum ratios*	1:4 + team leader	1:4 + team leader	1:7

Skill mix requirements

- There will be a minimum of 80% Registered Nurses rostered on every shift.
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.

Short Stay Wards

Service/Ward	AM	PM	Night
High Volume Short Stay	1:4 + team leader	1:4 + team leader	1:7
Day Only Units	3.5 nursing hours per patient		

Skill mix requirements

- There will be a minimum of 80% Registered Nurses rostered on every shift.
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.

Operational guidelines for the application of minimum ratios

MINIMUM NURSE/MIDWIFE STAFFING RATIOS AND SKILL MIX LEVELS

Multi-Purpose/Integrated Health Services

Service/Ward	AM	PM	Night
Multi-purpose services – designated acute beds	1:4 + team leader	1:4 + team leader	1:7
Multipurpose services – designated aged care beds	1:6 + team leader	1:6 + team leader	1:7

Skill mix requirements

- There will be a minimum of two (headcount) Registered Nurses rostered on every shift.
- There will be 'like for like' replacement of nursing staff.
- No more than one (headcount) Assistant in Nursing (however described) performing direct care associated with aged care beds on any shift.
- Assistants in Nursing (however described) are included in direct care ratios at the discretion of the Nurse Unit Manager's professional judgement.

Paediatrics

Service/Ward	AM	PM	Night
General inpatient wards	1:3 + team leader	1:3 + team leader	1:3 + team leader

Skill mix requirements

- Minimum of 80% Registered Nurses rostered on every shift.
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.

Maternity Services

Service/Ward

Staffing requirements for maternity services including caseload, birth suite, inpatient unit and community services will be in accordance with the Safe Workloads in Midwifery (SWiM) Standard (refer to appendix A).

Skill mix requirements

- Skill mix requirements for maternity services will be in accordance with the SWiM Standard (refer to appendix A).
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.

Operational guidelines for the application of minimum ratios

MINIMUM NURSE/MIDWIFE STAFFING RATIOS AND SKILL MIX LEVELS

Inpatient Mental Health

Service/Ward	AM	PM	Night
Acute Adult Mental Health in general hospitals that are not specialised	1:4 + team leader	1:4 + team leader	1:7
Adult in specialised mental health facilities	1:4 + team leader	1:4 + team leader	1:7
Acute Mental Health Rehabilitation	1:4 + team leader	1:4 + team leader	1:7
Child and Adolescent	1:2 + team leader	1:2 + team leader	1:4
Long Term Mental Health Rehabilitation[2]	1:6 + team leader	1:6 + team leader	1:10
Older Adult Mental Health	1:3 + team leader	1.3 + team leader	1:5

Skill mix requirements

- There will be a minimum of 80% Registered Nurses rostered on every shift.
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.
- A 1:1 Registered Nurse to patient ratio will be provided when an adolescent is admitted into an acute adult ward.
- A minimum of 1:2 Registered Nurses to patient ratio will be provided for all patients admitted into high dependency beds, however named.
- A minimum of 1:1 Registered Nurse must be provided whenever an individual requires a high-level of observation/supervision to address a particular risk and/or in the context of providing the least restrictive option.

Rehabilitation and Geriatric Evaluation Management

Service/Ward	AM	PM	Night
Public rehabilitation hospitals Private rehabilitation hospitals	1:4 + team leader	1:4 + team leader	1:7

Skill mix requirements

- There will be a minimum of 80% Registered Nurses rostered on every shift.
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.

2 Including slow stream rehabilitation, however named.

Operational guidelines for the application of minimum ratios

MINIMUM NURSE/MIDWIFE STAFFING RATIOS AND SKILL MIX LEVELS

Aged Care

Service/Ward

Staffing requirements for Residential Aged Care Facilities will be in accordance with the ANMF minimum aged care staffing and skill mix requirements

- 4.30 Resident Care Hours per Day (minimum)
- 30% Registered Nurse
- 20% Enrolled Nurse
- 50% Assistant in Nursing

Skill mix requirements

- There will be 'like for like' replacement of nursing staff.
- The senior Registered Nurse on duty will use their professional judgement to determine staffing numbers and skill mix requirements beyond the ANMF's minimum aged care staffing and skill mix requirements.
- Assistants in Nursing (however described) are included in the direct care hours.

Community Health and Community Mental Health Services Caseloads

Service type	Caseload hours
Community Health	No more than 4 hours of direct client contact[3] time per 8-hour shift, averaged over a week.
Community Mental Health	No more than 4 hours of direct client contact time per 8-hour shift, averaged over a week.
Community Mental Health Acute Assessment Teams	No more than 3.5 hours of direct client contact time per 8-hour shift, averaged over a week.

Skill mix requirements

- There will be a minimum of 80% Registered Nurses rostered on every shift.
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.
- The professional judgement of staff providing care must be considered in regards to the impact of travel on direct client contact time.

Note: Ratios are not suitable for application in Community Health and Community Mental Health Services. Face-to-face client contact time offers a simple methodology for the basic management of caseloads within community settings. Face-to-face hours may also be known as direct care and as such do not include travel time and administration tasks otherwise considered indirect care. [27]

3 Direct client contact relates to the direct care provided to a client and includes face-to face, telephone, telehealth and/or any other means by which direct care is delivered.

Operational guidelines for the application of minimum ratios

MINIMUM NURSE/MIDWIFE STAFFING RATIOS AND SKILL MIX LEVELS

Drug and Alcohol Units

Service/Ward	AM	PM	Night
Drug and Alcohol Inpatient Unit	1:4 + team leader	1:4 + team leader	1:7
Drug and Alcohol Outpatients	Intake assessment: 45 minutes (minimum) Initial assessment: 120 minutes (minimum) Subsequent visits: 45 minutes (minimum) Nurse-led psycho-therapy: 60 minutes (minimum) Dosing visits: 5 minute (minimum)		

Skill mix requirements

- There will be a minimum of 80% Registered Nurses rostered on every shift.
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.

Operational guidelines for the application of minimum ratios

MINIMUM NURSE/MIDWIFE STAFFING RATIOS AND SKILL MIX LEVELS

Outpatient Clinics – Hospital Setting

Service type	Minimum time allocation
General outpatients	
New Referrals	1.5 nursing hours/patient
Follow up appointments:	
Minor consultation and clinical review	0.25 nursing hour/patient
Medium consultation	0.5 nursing hour/patient
Complex treatment within a multidisciplinary team	1.0 nursing hour/patient
Oncology Clinics	
Complex patients	1:1 + team leader
Non-complex patients	1:3 + team leader
Renal Dialysis	
Highly complex	1:1 + team leader[4]
Complex patients	1:2 + team leader
Non-complex patients	1:3 + team leader
Infusion/Treatment Centres	
Complex patients	1:1 + team leader
Non-complex patients	1:3 + team leader

Indicative complexity guidelines examples

General outpatients

Minor consultation: Anti-coagulant screening, orthopaedic review, phone triage, screening tests, screening results, minor wound dressing, BCG vaccination.

Medium consultation: Excision of minor lesions, rheumatology, cardiology, respiratory function, immunology, co-morbidities/drug resistant/CALD patients, counselling.

Complex consultation: Administration of infusions <60 minutes, complex wound assessment and treatment, complex burn dressings, biopsies, lumbar puncture, multiple co-morbidities.

Oncology complexity criteria	Score
Two or more anti-neoplastic drugs	2
Vesicant drugs – requires continual observation of infusion site during administration	2
Potential for hypersensitivity reaction	2
Multiple vital sign measurement during infusion/transfusion	2
ECG recording prior to, or during infusion	2
Pre-treatment checking of bloods	1
Pre-treatment assessment of toxicities from previous anti-neoplastic drug administration	1

4 Note: in some instances, a mobile renal dialysis service will be used to deliver services in another clinical unit separate to the renal dialysis unit – in these cases, a team leader must be present in the clinical unit where the renal dialysis is being delivered.

Operational guidelines for the application of minimum ratios

MINIMUM NURSE/MIDWIFE STAFFING RATIOS AND SKILL MIX LEVELS

Baseline vital signs prior to administration of anti-neoplastic drug administration/ infusion/procedure	1
Observation/measuring of vital signs post completion of ant-neoplastic drug administration/infusion/procedure	1
Other assessments prior to treatment e.g. urinalysis, weight	1
Total score (≥5 categorises as a complex patients)	

Renal Dialysis

Highly complex: patients requiring cardiac monitoring and/or other invasive/complex treatments in addition to renal dialysis that necessitate a 1:1 ratio

Complex: patients requiring acute and/or complex treatments/interventions and/or patients requiring extensive assistance with mobility in combination with renal dialysis

Non-complex: patients requiring routine renal dialysis without complication or additional treatments

Infusion/Treatment Criteria	Ratio
Phototherapy and dermal clinics, portacath access, blood transfusions, iron infusions, biological agents etc.	1:1
All other infusion types	1:3

Skill mix requirements

- There will be a minimum of 80% Registered Nurses rostered on every shift in general outpatients, renal dialysis and infusion/treatment services.
- There will be 100% Registered Nurses rostered on every shift in Oncology outpatient services.
- There will be 'like for like' replacement of nursing staff.
- Assistants in Nursing (however described) will not be included in the direct care hours.

Clinical Nurse/Clinical Midwife Facilitators

Service type	Facilitator to staff ratio
All service types regardless of sector	1.4:30

Skill mix requirements

- There will be a minimum of 1.4 FTE of Clinical Nurse/Clinical Midwife Facilitators for 30 headcount of staff.
- For wards/units with fewer than 30 head count of staff a proportional arrangement will be made.

Glossary

Business Planning Framework (BPF):

The Business Planning Framework is a tool for nursing and midwifery workload management. The BPF provides nurses and midwives with a process to assist in determining appropriate nursing and midwifery staff and skill mix level to meet service requirements. It focuses on achieving a balance between service demand and the supply of nursing or midwifery resources necessary to meet identified demand, to achieve the delivery of safe, high quality services. The BPF applies to all Queensland Health workplaces including where legislated nurse-to-patient ratios are in place.

Direct nursing/midwifery hours:

The nursing/midwifery hours used to provide and support direct care to patients/clients. This includes but is not limited to patient/client assessments, medication management, clinical documentation, clinically-focussed supervision of enrolled nurses and assistants in nursing, evaluation of delegated care, home visits, discharge planning, clinical handover and case conferencing/management [35].

Indirect nursing/midwifery hours:

Activities undertaken by nurses and midwives that benefit patients/clients while not in direct contact with them. This includes but is not limited to the professional supervision of enrolled nurses and assistants in nursing, education and training on the clinical unit, mandatory competence attainment, quality improvement activities, portfolio activities, performance appraisals and unit orientation time [35].

Team Leader (however titled):

A registered nurse/registered midwife who is designated the role of leader of the clinical team within a unit [28, 30]. The Team Leader is primarily a clinical and professional resource for team members and is responsible for the oversight, leadership, communication and coordination of nursing/midwifery team activities for the shift to ensure the delivery of safe, high quality patient/resident care [36]. The team leader does not have an allocated patient load due to these unit-wide responsibilities.

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Safe workloads in midwifery standard

qnmu making a difference

Safety, encompassing all aspects of the woman and her baby, is essential in birth. Midwives are fundamental to the safety of women, throughout the childbirth continuum. The World Health Organisation states midwives who are educated and regulated to international standards can provide 87% of the essential care needs for women and their babies [1].

There is a growing body of evidence demonstrating the impact of midwifery workloads on the outcomes for women and their babies [2] [3] [4] [5] [6]. Queensland has now commenced implementation of nurse/midwife-to-patient ratios in response to evidence demonstrating improved outcomes related to staffing and work environments in nursing and midwifery [7] [8] [9] [10] [11]. Evidence within the nursing sector clearly demonstrates an increase in a nurse's workload by one patient increases the likelihood of an inpatient dying by 7% [12]. Within Queensland, midwives and nurses have repeatedly expressed concerns around unsafe workloads and patient safety [13] [14] [15].

For midwives, various contexts of practice and models of care exist. Evidence demonstrates that midwifery continuity of care (referred to as "caseload") is safe for mother and baby [2] [3] [6] [16] [17] [18]. The caseload model is based on a named midwife providing antenatal, intrapartum and postnatal care to a select group of women, with back-up for care coming from one or two back-up midwives, also known to the woman. The aim is to have a known midwife available for birth.

Currently, the most prevalent model of maternity care in Queensland is a shift work model where midwives staff maternity units across the 24 hour cycle. Acuity in maternity care is increasing with women trending toward being older, having pre-existing medical conditions and being obese [19] [20]. The increase in acuity, combined with increased screening and treatment for conditions such as gestational diabetes and infection, are creating additional workloads in the care of both woman and baby [18].

It is also important to consider workload management in the context of workforce planning and staff satisfaction. A recent survey conducted by the Queensland Nurses and Midwives' Union (QNMU) indicated only 10.8% of midwives thought they provided adequate care nearly all the time. Furthermore, 35% thought there were seldom or never enough midwives to provide safe quality care, and 20% were considering leaving midwifery within the next 12 months, with excess workloads being cited as the major contributing factor for this decision [15].

With the safety of Queensland women and their babies paramount, the principles for minimum safe staffing in midwifery services outlined in this statement are drawn from best available evidence. Ongoing benchmarking and linked data collection are essential to ensure transparent and evidence-based alignment between staffing and outcomes [21].

Safe staffing principles in midwifery

PRINCIPLE 1:

Care must be safe for mother and baby

The most obvious principle is that care must be safe for both mother and baby. Evidence demonstrates the safety and efficacy of midwifery continuity of care for women. Meta analysis by Sandall et. al. (2016) includes 15 trials involving 17,674 women, which demonstrate women who had midwifery continuity of care were less likely to experience most interventions in birth [2]. Additionally, no differences were noted in negative outcomes for mother or baby [2]. Women and their babies had decreased morbidity and mortality and were therefore arguably as safe, or safer, than in other maternity models of care. Regardless of the model of care, the principle of safety for mother and baby is paramount. The high acuity of women experiencing surgical birth must be considered to provide safe staffing levels. Postnatal inpatient stay is generally very short for well women, meaning there is often high acuity for those who remain [22] [23].

PRINCIPLE 2:

Care must be safe for midwives

A good work environment that will attract and retain midwives is one that is professionally safe [24] [25] [26] [27] [17]. Essential elements of the safe practice environment include having enough midwives with an appropriate skill mix to provide quality care [28]. It is essential to have the necessary supports to allow personal practice development as well as time for midwives to

engage in clinical governance. Other measures that are critical to retaining midwives include reflective practice, clinical autonomy, control over decision making, and good multidisciplinary relationships. Good workload management, including indirect care, is the basis to building a safe work environment.

PRINCIPLE 3:

Safe workloads in midwifery are professionally determined in accordance with evidence-based minimum standards

Ratios in midwifery must reflect the minimum staffing level for direct care. This translates to how many women (and babies) an individual midwife can be expected to take responsibility for within an acceptable level of safety. The following ratios are described in the literature as the appropriate minimum safe staffing levels:

Caseload	**1:30 – 1:40** [3] [16] [29] [30] [26] [6]
Birth suite	**1:1 in active labour** [3] [6] [24] [31]
Inpatient unit	**1:4 -1:6** [22] [24] [31]
Community services	**1:5 postnatal home visits/day** (EDMS)

The safe workload per Full Time Equivalent (FTE) midwife in caseload models is 30 to 40 women per annum, with 40 being the upper limit [6] [16] [17] [29] [23]. Lower caseload numbers are required where women and their babies are more likely to experience risk factors in pregnancy, in contexts of practice that require significant travel such as in rural and remote areas, and potentially for less experienced midwives such as graduates during a transition year [16] [17].

The well woman and baby, particularly where the woman is multiparous and requires little education in newborn care, require significantly less attention than women who are post surgical birth with infants that require intervention such as blood glucose monitoring, regular observations, or significant assistance with breast feeding. Increasingly, women who are low acuity leave hospital fairly rapidly [6] and inpatients are more likely to require greater levels of staffing input. Approximately one third of all women have a caesarean and 18% of vaginal births are via surgical methods (i.e. ventouse or forceps) [19] This range 1:4-1:6 (counting both mother and baby) reflects the need for flexibility in rostering dependent upon the type of birth and the acuity of both mother and baby.

Staffing maternity wards to a set roster of shifts does not allow responsiveness to peaks and troughs of activity levels. While there is an ability to plan some elements of care to occur during day time shifts (caesarean section and induction of labour), spontaneous labour and birth has unpredictable onset and patterns that create activity spikes, regular "after hours" admissions, and increased workload [21]. Additionally, where surgical births have occurred in large numbers during the day, the result is a large workload overnight in the postnatal area [22]

Another area requiring focus is postnatal home visits within the community. There is a significant variation between models of care and services as to how postnatal visiting is conducted [32]. This is an areas often cited as lacking [33] [16] or unsatisfactory for women [22] [34]. Postnatal visiting is conducted for approximately 40 minutes to one hour, with 20% of time allocated to the visit added as travel time (i.e. a minimum of 48 minutes per visit) [35]. Having an hour available is important to ensure appropriate assessment of elements such as perinatal mental health. Indirect patient care requirements (documentation, communication of care co-ordination) make it impossible to conduct more than 5 home visits per day.

PRINCIPLE 4:

Women need one-to-one care from a Registered Midwife during established labour

When considering midwifery workloads it is important to note that high acuity occurs during the period of labour and birth [21]. Women require 1:1 care from a Registered Midwife during this period [23]. Evidence also indicates that woman-centred principles of care and policies that support normal birth are essential to improve outcomes [3]. Women who experience 1:1 care during labour are more likely to have a spontaneous vaginal birth and less likely to have intrapartum analgesia or to report dissatisfaction [3]. Other significant benefits for both mother and baby include shorter labours, reduction in caesarean section and instrumental vaginal births, regional analgesia, or a baby with a low five-minute Apgar score [3]. Appropriate staffing of the birthing suite is also associated with an increased likelihood that the woman births with bodily integrity, a reduced level of maternal readmission, and reduced 'decision to delivery' timeframe during emergency caesarean section [36]. Where care is provided in labour by midwives who have other responsibilities, outcomes are less favorable [3] [23]. Policy should therefore enable midwives to have sole responsibility for providing the labouring woman with 1:1 care.

PRINCIPLE 5:

The newborn must count in staffing calculations in postnatal wards

The newborn is considered by law separately from the mother. Coronial reports make recommendations about the appropriateness of staffing levels in cases where newborn infants have died in postnatal units as a potential result of inadequate staffing [37] [38]. The acuity of women and their babies is increasing, with rising rates of obesity and pre-existing medical conditions for

women [19]. Alterations in policy direction, including changes to gestational diabetes screening and management, are also increasing the acuity of newborns [39] [40]. Typically, the "unqualified" baby (i.e. where the Hospital and Health Service (HHS) receives no funding for the baby) has been ignored in the planning for midwifery resource management. This funding issue has created an additional "invisible" workload for midwives. The newborn must be considered a "patient" in workload calculation [21] [6] [22] [23], as it is potentially the lack of funding for newborns that is creating increases in workloads.

PRINCIPLE 6:

Skill mix is an important consideration to achieve a safe practice environment

Workload concerns are strongly influenced by the skill mix of the maternity staff available to provide care [36]. Beginning and early stage midwives, as well as students, require particular support to develop clinical skills without compromising safety of mother or baby in their care [28] [25]. The Registered Midwife requires another registered health practitioner - one who is appropriately skilled in maternity emergency care and newborn resuscitation - to assist during birth [41]. Queensland midwives often feel the skill mix is insufficient to provide a satisfactory level of care [15] and there is increasing evidence of role substitution in maternity care [6] [42].

PRINCIPLE 7:

Workload management includes all elements of the practice environment

Sufficient workload management requires midwives to have capacity to work to their full scope of practice. Clinical autonomy and empowerment in the work environment impact midwives' abilities to provide safe care [43]. Staffing must be sufficient to allow midwives time for all elements of the safe practice environment, including indirect care requirements, professional development, education of self and others, and time to provide and receive mentoring, support and/or supervision [23]. Engagement in organisational clinical governance, policy development and quality improvement cycles must also be incorporated within the work day [12] [6]. Rostering and forward planning includes provision for leave and cover for leave.

PRINCIPLE 8:

Work load management must be transparent, consistently applied, and requires accountability

Safe workload management relies on matching the required midwifery staffing resources with the service being offered. Midwives, as well as the mothers and babies they care for, are compromised when there is a mismatch between that demand and supply. There is a need to demonstrate appropriate planning and resourcing with identified requirements for delivery of service. For Queensland public sector employees, data demonstrating compliance with the Business Planning Framework (BPF) and legislation surrounding workload management must be available for review at Nursing and Midwifery Consultative Forums (NaMCFs) and must be openly reported.

Midwives contribute to ensuring safe workload management by reviewing and reporting concerns at three critical points. By contributing to the development of the service profile of the work unit, they reveal the actual workload to be managed, thus identifying shortfalls in staff numbers or skill mix at the time the roster is published. This will help prevent unsafe workloads ahead of time. In all sectors midwives must identify and escalate concerns around numbers or skill mix of staff or any other element of the practice environment that impedes safe delivery of midwifery.

At a system level, the organisation must be accountable for safe workloads, cost efficiency and clinical outcomes. Linked data providing a comparison of clinical outcomes, model of care or staffing model and consumer satisfaction must be available to ensure services are planned and delivered by considering evidence around safety of midwives, women and babies, along with costs.

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Australian College of Midwives

The Australian College of Midwives supports the QNMU *Safe workloads in midwifery standard* in principle.

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