
Guiding principles to optimise intensive care capacity

A whole of hospital approach
to improving patient flow

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Intensive Care NSW

Agency for Clinical Innovation

67 Albert Avenue
Chatswood NSW 2067

PO Box 699 Chatswood NSW 2057
T +61 2 9464 4666 | F +61 2 9464 4728
E aci-info@health.nsw.gov.au | www.aci.health.nsw.gov.au

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Executive summary

Ensuring the right care, for the right patient, in the right place

Intensive care services are a precious resource that should be provided in a safe and efficient way. Intensive care unit (ICU) exit block is a significant problem affecting many units across NSW, impacting the care of critically ill patients.^{1,2} Delays in transfers from intensive care reduce ICU capacity and prevent patients accessing the next stage of their healthcare journey, impacting whole of hospital patient flow.

Evidence shows that ICU exit block is associated with poorer patient outcomes and suboptimal patient and staff experience.³⁻⁶ Exit block results in increased after hours discharge from ICU and prolongs both intensive care and overall hospital length of stay.⁵ Reduced intensive care capacity leads to reduced ability to admit critically ill patients from the emergency department, operating theatres, wards and other hospitals within the local health district (LHD) network. It adversely affects overall hospital performance, including emergency treatment performance (ETP) and elective surgery access performance (ESAP), and patient outcomes.⁶

In 2017, 40% of intensive care patients in NSW experienced exit block of over six hours, delaying their ability to continue to the next phase of their recovery to optimise outcomes and minimise unnecessary risks.⁵⁻⁹ Delayed patient transfers over six hours from ICUs in NSW were associated with 33 fewer available ICU beds at an annual cost of \$77.42 million.²

The *Guiding principles to optimise intensive care capacity* aim to assist in the reduction of ICU exit block and improve facility patient flow. They are based on findings from a NSW ICU exit block research redesign project and align with current best practice and an evidence review. As Intensive Care NSW continues to partner with facilities across the state to reduce ICU exit block, this document may be amended in response to lessons arising through wider testing and implementation of solutions and include additional successful strategies identified.

The guiding principles align with the Whole of Health Program and with the Ministry of Health *Patient Flow Systems Framework*.¹⁰ The principles include nine key elements, including both whole of hospital and ICU specific principles, to ensure patients have access to the right care in the right place.

"Many factors impact on patient flow, and reducing ICU discharge delays requires a collaborative, multifactorial approach which adapts to changing organisational policy on patient flow through ICU and the hospital, not just the discharge process in ICU."⁶

Figure 1. Guiding principles for optimising intensive care capacity

Whole of hospital principles	ICU specific principles
1. Streamlining facility patient flow processes	6. Adequate planning for ICU discharge
2. Optimising access to intensive care capacity	7. Timely medical clearance for discharge from ICU
3. Resourcing to achieve effective patient flow	8. Standardising ICU rounding to inform discharge processes
4. Agreed prioritisation for patient discharge from intensive care	9. Efficient preparation of patient for ICU discharge
5. Ensuring the right care, for the right patient, in the right place	

It is recommended that staff work towards achieving the nine guiding principles to reduce ICU exit block and improve patient flow across the facility, improving the experience for staff, patients and their families.

This document will provide guidance for staff to identify opportunities for improvement across the nine principles. It further provides considerations and practical examples to implement, both internal to ICU and across the whole facility. This document is intended for use by ICU and patient flow teams, managers and change agents within facilities and LHDs, to support improvements in this area and undertake sustainable changes to optimise hospital and intensive care capacity.

"Optimal patient flow is associated with the provision of safe, high quality care, patient satisfaction, improved access and reduced costs."¹¹

Audience

The guiding principles have been developed to guide those staff with an interest in reducing ICU exit block, optimising intensive care capacity and improving facility patient flow, and who are undertaking quality improvement practices in these areas.

Staff may include those within intensive care units and those across the wider facility, including hospital patient flow, emergency departments, perioperative services, wards, environmental and supporting services and hospital administration.

How to use this guide

The *Guiding principles to optimise intensive care capacity* are intended to guide the implementation of strategies that will support safe and efficient use of valuable intensive care resources, whilst increasing compliance with NSW Ministry of Health policies and guidelines related to patient flow. Implementation of these principles has the potential to improve the delivery and experience of care to patients, their carers and families across NSW, in addition to improving the experience for staff.

The guiding principles are inclusive of a description, considerations for effective implementation and examples. They also include mapping to relevant elements of the Ministry of Health *Patient Flow System Framework* that will assist guiding prioritisation of improvement areas.

When used in conjunction with the *Guiding principles to optimise intensive care capacity* alignment survey and implementation guide, the principles will assist staff to:

- undertake a thorough diagnostic process to understand current practices and identify potential opportunities for improvement, specifically related to local processes both within the ICU and across the facility (including patient flow). This may include patient and staff surveys, and a review of local service activity data
- identify prioritised improvement areas for local context, its patients, staff and executive
- identify and develop solutions for the prioritised opportunities for improvement, including clarity of and defined scope, resource requirements, timeframes and any potential risks and challenges to implementation and how they may be managed
- develop an implementation plan for each solution
- implement sustainable change through:
 - use of ongoing monitoring measures and consistent feedback mechanisms to key stakeholders
 - evaluation
 - sharing achievements and outcomes.

Background

Current situation

There is extraordinary demand on acute and intensive care beds in NSW hospitals. ICU exit block has been identified as a significant problem impacting the care of critically ill patients in NSW. Using an ICU bed for a patient who no longer requires it represents an inefficient use of resources and risks creating delays in admitting other critically unwell patients.

There are 39 adult intensive care services (ICS) located in NSW, comprising 594 funded adult intensive care beds. Of these, 11 ICS are categorised as level six, 14 are level five and there are 14 level four ICUs. In 2017, a total of 58,179 patients were admitted to ICU with 40% of these patients experiencing exit block.⁷ There is an increasing demand for ICS, with NSW ICUs operating at an average occupancy of over 85% in 2017 and many operating well over 90% occupancy in peak winter periods.⁷

While variability exists in patient flow and ICU processes across NSW, there are a number of common themes contributing to ICU exit block. An evidence review and outcomes of a redesign research project conducted in NSW, demonstrated contributing factors both internal to ICU and across whole of hospital processes. Inefficiencies exist in areas such as ICU discharge planning and patient preparation, whilst across the entire facility variability exists in facility patient flow processes and their ability to meet the demand and optimise capacity.

Common themes contributing to ICU exit block

- Suboptimal planning for ICU discharge
- Complex ICU discharge processes
- Inconsistent ICU medical clearance for discharge
- Inefficient ICU discharge preparation
- Inefficient patient flow processes
- Lack of predictive management for ICU demand and capacity
- Inadequate resources to support efficient hospital patient flow
- Low priority allocated for ICU patient discharges
- Unavailability of ward specialty and close observation unit (COU) beds
- Inefficient hospital discharge processes.

The effects of ICU exit block

Patients should be discharged from ICU when specialty care is no longer needed.¹¹ They need to be able to move to the next stage of their recovery to optimise outcomes and minimise unnecessary risks.^{4-6, 12}

Keeping patients who no longer need to be in ICU blocks access for critically ill patients who require access to intensive care services.⁶ The inability to access intensive care beds can affect the timely transfer of patients from the emergency department, operating theatres and the ward, as well as those from referral hospitals seeking specialty or higher level care. In addition, diminished ICU capacity due to ICU exit block can hinder the requirements of LHDs to meet their obligations to receive critically ill patients.¹³

Intensive care services are a precious and expensive resource and need to be used effectively. Unnecessary use of intensive care resources can waste health dollars and consume scarce resources particularly at peak demand periods.^{11, 12} A health economics analysis conducted in 2018 determined the cost of care for a critically ill patient in the ICU in NSW has risen significantly.² The annual cost of an ICU bed has increased from a previous estimate of \$1.4 million in 2005¹⁴ to \$2.3 million in 2017². In 2017 the average duration of a patient experiencing ICU exit block in NSW was estimated at 10.4 hours, with an associated average cost valued at \$2,764.²

ICU Exit Block Pilot Research Project – Staff interviews 2018

“Our resus ... those five beds are currently full. Three of those patients are requiring ICU because they don’t currently have the capacity to take them. These patients have come in overnight and they’ve sat in our department for up to eight hours, nine hours.”

Informing patients about theatre cancellations

“By the time you get to four or five o’clock and you haven’t had anything to eat all day and you’ve organised your life, only to find out your surgery’s cancelled ... you might not be booked again for another three weeks.”

Methods used to develop the guiding principles

A number of diagnostic processes were used to identify themes contributing to ICU exit block, and informed the development of the guiding principles. These included a review of current literature and relevant healthcare standards, in partnership with a comprehensive diagnostic process that was undertaken in the Reducing Exit Block Pilot Research Project. In addition a health economic analysis was conducted to determine the costs and cost benefits of the pilot research project.

Evidence review

An [evidence review](#) was undertaken to provide a summary of recent and relevant evidence to identify themes contributing to ICU exit block and key findings to support determination of strategies that may be effective at reducing ICU exit block and improving patient flow as part of the Reducing ICU Exit Block Pilot Research Project.¹⁵

The initial search was undertaken using MESH headings followed by a review of relevant grey and associated literature to ensure broad coverage. The Ministry of Health also commissioned a literature review regarding patient flow and this has also been reviewed to inform the evidence review summary. Papers included a mix of experimental, observational mixed method designs and discussion papers. The available literature has been considered together and key findings grouped into themes to inform the Reducing ICU Exit Block Pilot Research Project.

The evidence review provides a summary of the key articles relevant to the study regarding ICU exit block, and aligning with the theory that patient flow requires a whole of hospital approach. Additional searches have been conducted during the project as required.

Healthcare standards review

A review of relevant intensive care service and patient flow healthcare standards was conducted and used to inform and support these guiding principles, and provide examples of practice to achieve these in the hospital setting.

Reducing Exit Block Pilot Research Project

The ACI partnered with four ICUs across NSW in 2018 to participate in a pilot research project to identify and test strategies to reduce ICU exit block and improve patient flow. The diagnostic phase of the pilot research project involved structured staff and patient interviews, staff surveys, process mapping of the ICU discharge process, and an analysis of hospital and ICU data/outcomes. The themes identified from the diagnostic phase were paired with a review of available evidence which showed a number of common themes contributing to exit block.

The diagnostic findings of the pilot research project, together with a literature review informed the development of these principles. Formal evaluation of the ICU exit block pilot research project is scheduled for 2019/20.

Health economics analysis

A health economic analysis of the costs and cost benefits of the project was undertaken by health economists at the Hunter Medical Research Institute in conjunction with ACI staff in 2018.

Patient flow systems framework

"Patients are the main focus, and we must ensure they have access to the right care, at the right time, and in the right place, with minimum waiting times."¹⁰

Figure 2. Key elements

	Demand and capacity planning	Organising your service to build capacity
	Variation management	Smoothing the peaks and troughs to distribute the load
	Demand escalation	Act early to preserve capacity
	Standardised practice	Promote best practice to lock in expected outcomes
	Care coordination	Navigating patients through the health system to prevent delays
	Governance	Transparent accountable leadership
	Quality	Structuring systems around an expected outcome

The guiding principles also incorporate best practice according to relevant quality and professional standards which are outlined in Table 1.

Table 1. Relevant professional standards

Quality/professional standard	Entity
National Safety and Quality Health Service Standards Second Edition 2017 (Standards 1, 3, 5, 6)¹⁶	Australian Commission on Safety and Quality in Healthcare
Patient Flow Systems Framework¹⁰	Ministry of Health
Minimum Standards For Intensive Care Units¹⁷	College of Intensive Care Medicine of Australia and New Zealand
In Safe Hands: A Guide To The 10 Functions¹⁸	Clinical Excellence Commission
Clinical handover –standard key principles (PD2009_060)¹⁹	Clinical Excellence Commission
Care coordination: planning from admission to transfer of care in NSW public hospitals (PD2011_015)²⁰	Ministry of Health
NSW Health Guide to the Role Delineation of Health Services. NSW Ministry of Health, 2018²¹	Ministry of Health
Intensive Care Version 5 Clinical Indicator Manual²²	The Australian Council on Healthcare Standards

Why do we want to reduce ICU exit block?

Patients' perspectives

ICU exit block is prevalent in many units across NSW and has been shown to result in suboptimal patient outcomes. Delayed discharges impact the effective utilisation of intensive care services, and can prevent critically ill patients accessing the ICU. Patients ready for discharge from ICU require timely progression to the next stage of their healthcare journey to optimise their recovery. Evidence shows that ICU exit block, is associated with:

- poorer patient outcomes^{5, 6, 8, 9, 23}
- reduced ICU capacity to admit critically ill patients, with an impact on whole of hospital patient flow⁶
- poorer patient journey and experience³
- poorer staff experience^{3, 12}
- increased costs.^{2, 24}

Delaying discharge and keeping patients in the ICU unnecessarily can subject them to risks such as exposure to multi-resistant organisms and delay recovery.^{6, 12} Patients remaining in the intensive care environment can experience negative effects such as sleep deprivation and psychological disturbances, which may impact their recovery.^{5, 6}

The Reducing ICU Exit Block Pilot Research Project found that many patients wanted to leave the ICU once they were considered well enough to start the next stage of their recovery and leave the noisy and busy ICU environment²⁵. Evidence supports this finding with reports of poor patient experience associated with lack of sleep, difficulty with mobility and visitor access³.

ICU exit block can lead to an increase in after-hours discharges from ICU to the wards.⁵ In 2017 28%⁷ patients in NSW ICUs were discharged after hours, placing patients at greater risk of adverse outcomes⁸. The impact of ICU exit block on patient outcomes includes the increased risk of mortality^{6, 8}, and impacts the quality of transfer of care and communication with patients and their families^{3, 23, 26, 27}. This was confirmed through patient interviews in the Reducing ICU Exit Block Pilot Research Project.

Delays in admitting critically ill patients due to ICU exit block can necessitate the transfer of patients to another facility for management. This can have negative impacts on patients, carers and their families who are often faced with increased travel, accommodation costs and stress.^{28, 29}

ICU Exit Block Pilot Research Project – Patient interviews 2018

"The only thing that bothers me is that I'm taking up someone else's space... I just don't like thinking that someone is out there waiting to be brought in and I could be somewhere else."

"It's just the level of noise given the work they're carrying out. People running and clapping things all night and day."

"I could be moving on, [resources are] wasted."

"I feel like I'm in a fishbowl... because the nurses are out there and it's not as private as the ward is."

"They still treat me as if I need the full 24-hour care type thing."

"I feel I'm taking space for someone else to use [who's] sicker."

Clinicians' perspectives

Intensive care clinicians are highly skilled in caring for critically ill patients. When patients are over the critical stage of their illness, there is an expectation that they are transferred to the appropriate area to continue their recovery under the care of their inpatient teams. When this does not occur in a timely manner, patients may receive suboptimal care.

This can lead to an inability to admit patients who are in need of intensive care which is frustrating for the clinicians.^{12, 30} Overall, this can lead to job dissatisfaction, and increase burden on staff needing to focus on patient flow rather than clinical aspects of care and ultimately result in burnout.³¹

ICU Exit Block Pilot Research Project – Staff interview 2018

"I find our patients stay a lot longer in our unit when they're cleared... they're cleared for days, and they're here a long time which is quite frustrating because when you're on a night shift and you try and accept patients, you're limited because you've got all these cleared patients in the unit."

The system perspective

In 2017 delayed patient transfers (over six hours) from NSW ICUs equated to lost availability of 33 ICU beds across the state.² In 2017, 40% ICU patients experienced exit block across NSW contributing to a loss of approximately \$77.42 million.²

Exit block contributes to a reduction in intensive care capacity preventing access to ICU beds for patients requiring critical care and can adversely affect overall hospital performance, including Emergency Treatment Performance and Elective Surgery Access Performance.^{4, 12} This results in a delay in optimal intensive care management for critically ill patients outside of the ICU with adverse effects on hospital length of stay and patient outcomes.^{5, 24}

ICU exit block is a system-wide problem and requires a whole of hospital approach to remedy.^{12, 32} Improvement in facility patient flow and discharge processes are key components in reducing ICU exit block. Ensuring more timely ICU discharge reduces costs, improves intensive care capacity and improves the experience and outcomes for patients and their families and the staff who care for them.

Guiding principles to optimise intensive care capacity

The following guiding principles incorporate best practice and align with the Ministry of Health *Patient Flow Systems Framework*.

Whole of hospital principles

1. Streamlining facility patient flow processes

2. Optimising access to intensive care capacity

3. Resourcing to achieve effective patient flow

4. Agreed prioritisation for patient discharge from intensive care

5. Ensuring the right care, for the right patient, in the right place

ICU specific principles

6. Adequate planning for ICU discharge

7. Timely medical clearance for discharge from ICU

8. Standardising ICU rounding to inform discharge processes

9. Efficient preparation of patient for ICU discharge

Whole of hospital principles

PRINCIPLE 1

Facility

Streamlining facility patient flow processes

Patient flow systems framework elements



Care coordination



Standardised practice



Quality

Description

An efficient process is used to coordinate and communicate patient flow processes across the hospital (including bed requests, allocation and readiness).^{32, 33}

Considerations

A streamlined, real-time electronic system is used by all staff to effectively communicate bed demand and capacity across the facility with all relevant parties.^{12, 30, 32, 34, 35}

Examples

The Patient Flow Portal (PFP) and electronic Patient Journey Board (ePJB) are used to identify, book, allocate and communicate patient and bed readiness to all hospital staff involved in patient flow.^{10, 12, 30, 32, 35-37}

Recommended key roles to involve in this change

Executive team, patient flow managers, department nursing managers (NMs)/nursing unit managers (NUMs), nursing staff, medical staff, ward clerks.

PRINCIPLE 2

Optimising access to intensive care capacity

ICU &
facility

Patient flow systems framework elements



Variation management



**Demand and
capacity planning**



Demand escalation

Description

Intensive care maintains capacity to admit patients at all times in response to demand, without the requirement to discharge patients after hours.^{13, 38}

Considerations

- Real time accurate data on patient flow, capacity and demand is available and used by hospital staff to manage demand and capacity in ICU and across the hospital.^{10, 12, 30, 32}
- Escalation processes are utilised to respond to circumstances when demand is predicted to, or exceeds capacity to admit to ICU.^{30, 32, 39}
- Equity of access for both surgical and emergency patients requiring admission to intensive care services is considered.

Examples

- Facility policies/procedures/guidelines are utilised to incorporate the effective optimisation of ICU capacity.
- A data driven predictive tool is used routinely to schedule elective surgery around forecast emergency demand for ICU services.^{10, 12, 40}
- The Short Term Escalation Plan (STEP) contained in the PFP is used to demonstrate ICU capacity.¹⁰
- The ICU has a surge plan to manage high occupancy and over capacity to meet demand.^{17, 30}
- The Waiting for What (WFW) tool in the PFP is utilised to record delays in discharge from ICU so that they can be analysed to improve patient care.^{10, 41}

Recommended key roles involved in this change

Executive team, patient flow managers, department nursing managers (NMs)/nursing unit managers (NUMs), nursing staff, medical staff, ward clerks.

PRINCIPLE 3

Facility

Resourcing to achieve effective patient flow**Patient flow systems framework elements****Care coordination****Standardised practice****Description**

The allocation and prioritisation of facility (or organisation) resources (such as wardspersons, medical imaging, cleaning services, etc.) ensures effective patient flow and discharge processes.^{3, 30}

Considerations

Adequate resources such as medical imaging, pathology, wardspersons, cleaners, ward clerks, skilled nursing, medical and allied health staff to be readily available to support efficient discharge processes throughout the hospital.^{3, 30}

Examples

- Adequate cleaners to be available using an effective prioritisation system to perform bed/room cleans.^{3, 30}
- Adequate wardspersons to be available using an effective prioritisation system to perform patient transfers.^{3, 30}
- Rostering adequate number of nurses and medical staff on wards/facility at times of peak patient flow (matching capacity with demand).^{3, 12, 30, 32, 42}
- Processes support availability of medical imaging and pathology results in a timely manner to facilitate efficient medical decision making and patient hospital admission, transfer or discharge.^{12, 30}

Recommended key roles to involve in this change

Executive team, divisional managers, environmental services manager

PRINCIPLE 4**Agreed prioritisation for patient discharge from intensive care****ICU &
facility****Patient flow systems
framework elements****Demand escalation****Description**

Prioritisation of bed allocation in the hospital is structured to meet the needs of patient requirements consistently.³

Considerations

- ICU occupancy is maintained between 75–85% to enable timely and safe admission/discharge of patients.^{43, 44}
- ICU patients ready for discharge are prioritised appropriately to support ICU capacity to admit critically ill patients.^{4, 20, 45, 46}
- A whole of hospital approach is used to ensure patients waiting to be discharged from ICU are given priority for ward beds to optimise patient recovery and ensure efficient hospital discharge.

Examples

- A policy governing bed allocation processes and priority to meet ICU patient requirements is in place.²⁰
- A data driven predictive tool is used routinely to forecast demand for ICU services and inform timely prioritisation of ICU discharges.^{10, 12, 30}
- When ICU occupancy exceeds 75–85%⁴³, ICU is given first priority for available ward beds.
- An ICU liaison nurse or an outreach service is used to support timely discharge from ICU and support patients and ward staff.^{35, 38, 47}

Recommended key roles to involve in this change

Executive team, patient flow manager, ICU staff

PRINCIPLE 5**Ensuring the right care, for the right patient, in the right place**

Facility

Patient flow systems framework elements**Care coordination****Standardised practice****Demand and capacity planning****Demand escalation****Description**

Effective utilisation of ward specialty and close observation unit (COU) beds occurs to ensure service demands met.

Considerations

A process exists for senior medical review of all patients before midday in ward specialty and COU beds to make management and discharge decisions.^{12, 40}

Examples

- Clear admission and discharge criteria, documented in policies/procedures, are followed for specialty clinical areas and/ or COU bed utilisation.^{30, 35, 38, 48}
- Nursing, medical and allied health staff with appropriate skills and experience are available to manage patients in specialty clinical areas and/or COUs.^{30, 32, 48}
- Criteria-led discharge (by nurses or registrars) using clinical pathways is employed in specialty clinical areas and/or COU beds to achieve efficient utilisation of services (e.g. criteria led removal of telemetry as per recommended practice described in the *Cardiac Monitoring of Adult Cardiac Patients in NSW Public Hospitals Guideline (GL2016_019)*⁴⁹; LHD or site discharge protocols/guidelines).^{32, 35, 50}

Recommended key roles involved in this change

Executive team, inpatient medical teams, ICU medical team, ward/COU NUMs, patient flow manager

ICU specific principles

PRINCIPLE 6

ICU

Adequate planning for ICU discharge

Patient flow systems framework elements



Demand and capacity planning



Care coordination



Standardised practice



Governance

Description

Medical, nursing and allied health teams engage in early planning to coordinate efficient ICU discharge to other wards.^{3, 20, 32, 35, 51, 52}

Considerations

- The ICU medical and inpatient medical teams use an agreed and documented process to coordinate and plan for discharge.^{3, 12, 27}
- The ICU medical/nursing team, including multidisciplinary (MDT) members, review patients daily to determine and communicate the patient's planned estimated date of discharge (EDD) from ICU and clinical criteria for discharge.^{3, 12, 20, 32, 40, 51, 52}

Examples

- ICU policies/procedures are utilised to incorporate ICU discharge processes that assist effective patient flow.^{27, 35}
- The medical nursing and allied health team engage in early planning for discharge, regularly documenting and/or revising an EDD for each patient, using the PFP/ePJB.^{20, 27, 32, 53}
- The patient and family are involved and informed of the ICU EDD and updated on progress of discharge planning at each round.^{3, 20, 27}
- ICU discharge huddles involving key staff are held to plan and coordinate efficient discharge preparation.^{27, 32, 54–56}

Recommended key roles involved in this change

ICU medical team, ICU NM/NUM, ICU nursing staff, ICU liaison registered nurse (RN), inpatient medical team, relevant MDT members, patient and family

PRINCIPLE 7

ICU

Timely medical clearance for discharge from ICU**Patient flow systems
framework elements****Care coordination****Standardised practice****Governance****Description**

A standardised medical clearance process for ICU discharge is used, documented and communicated to all relevant staff both within and external to the ICU as required, in a timely way to enable efficient discharge preparation.^{30, 35, 57}

Considerations

- The ICU medical team use an agreed definition and documentation of medical clearance and a standardised approach to medically clear patients for discharge from the ICU.²⁷
- Criteria led clearance for ICU discharge (registrar/nursing) is used for identified appropriate patient groups.^{12, 32, 35, 58}

Examples

- ICU policies/procedures/guidelines are utilised to incorporate ICU medical clearance processes that assist effective patient flow.^{3, 30, 35}
- The PFP/ePJB is used to capture patients ready for ICU discharge using the Inter Ward Transfer (IWT) function.⁵³
- An efficient platform such as the ePJB is used to communicate medical clearance and readiness for discharge to the ICU team and the facility patient flow team.^{30, 41, 53}

Recommended key roles involved in this change

ICU medical team, ICU NM/NUM, ICU nursing staff, relevant MDT members

PRINCIPLE 8

ICU

Standardising ICU rounding to inform discharge processes**Patient flow systems
framework elements****Quality****Care coordination****Standardised practice****Governance****Description**

A standardised process for ICU rounding, with combined medical, nursing and MDT attendance, occurs in time to inform hospital-wide patient flow processes/meetings.

Considerations

- The ICU round includes nursing staff and an intensivist²⁰ to authorise patient discharge from ICU.^{35, 52, 59}
- The ICU medical/nursing round, including MDT members as able, occurs in time to inform the daily hospital patient flow meeting of ICU patients medically cleared for discharge.^{20, 60}

Examples

- ICU policies/procedures/guidelines are utilised to incorporate ICU standardised rounding processes that assist effective patient flow.
- The PFP/ ePJB is used to capture patients ready for ICU discharge using the Inter Ward Transfer (IWT) function.^{32, 53}

Recommended key roles involved in this change

ICU medical team, ICU NM/NUM, ICU nursing staff, relevant MDT members

PRINCIPLE 9**Efficient preparation of patient for ICU discharge**

ICU

Patient flow systems framework elements**Care coordination****Standardised practice****Governance****Quality****Description**

Once a patient is medically cleared for discharge from ICU, the patient should be prepared for transfer without delay, including preparing and educating the patient, carer and family.^{3, 26, 27, 38}

Considerations

- The patient should be prepared for transfer without delay. Preparation to consider appropriate insertion and/or removal of lines, completion of medical, nursing and allied health discharge summaries, medical record requirements, monitoring cessation, family/carers communication/notification.^{3, 61}
- The patient, carer and family should be prepared for transfer from a psychological perspective.^{3, 62}
- A procedure is developed to document the process of medical clearance for discharge from ICU, including medical orders for line insertion/removal documented immediately and actioned without delay.^{61, 63-66}
- Patient preparation should include effective clinical handover processes that are documented and structured, and include the patient/ carer.^{16, 18, 67}

Examples

- ICU policies/procedures/guidelines are utilised to incorporate ICU standardised discharge preparation processes that assist effective patient flow.^{27, 38}
- ICU discharge bundles are utilised to guide standardised discharge processes.⁶⁸
- Registered nurses with extended skills (e.g. clinical nurse consultant (CNC)/nurse practitioner (NP) or dedicated teams have capacity to insert intravenous lines to expedite discharge.³⁵
- An integrated electronic system such as eMR is used between ICU and the hospital medical record system to ensure all relevant information is made available to support the safe transfer of care of the patient.^{16, 18, 30, 35, 57}
- A patient/carers information brochure is utilised to inform the discharge process (e.g. what to expect, referral to ICU liaison/outreach service).³
- Structured handover using ISBAR (identify, situation, background, assessment and recommendation) is utilised to ensure essential information is communicated to relevant team members on discharge of patients to the ward.^{18, 19}

Recommended key roles involved in this change

ICU medical team, ICU NM/NUM, ICU nursing staff, ward clerk, patient/ carer/family, ward staff

Key definitions and glossary of acronyms

Close observation unit

A close observation unit (COU) is a specially staffed and equipped area of a hospital providing a level of care between intensive care and a general adult ward. A close observation unit may be established in a hospital with no intensive care service (i.e. a level 3 COU) or in a hospital with a level 4, 5 or 6 ICS (i.e. a level 4 COU). These units may have historically been referred to as high dependency units or coronary care units, depending on the scope of services delivered.⁴⁸

Many LHDs or hospitals have COU beds to support higher level monitoring and observation of higher acuity patients in specific settings, such as post-surgical units and respiratory failure or non-invasive ventilation units.⁴⁸ These COUs do not ordinarily fall under the governance of the ICS unless negotiated at a local level.⁴⁸

Estimated date of discharge

General definition

The estimated date of discharge (EDD) predicts the likely date that a patient will be transferred from hospital back into the community. It provides everyone involved in the patient's care, including the patient and their family/carer/s, with a projected date to coordinate the patient's requirements. While for some patients, the EDD may change due to clinical issues, review of best practice confirms that an accurate EDD can be set for most patients. Discussions with the patient and their family/carer/s, general practitioner, community health and service providers should occur early, for effective care planning.²⁰

Planning transfer of care and use of EDD from intensive care

Specialised areas such as the ICU should use the EDD to indicate when patients are likely to be clinically ready to be transferred to an inpatient ward. This will assist the ICU team, patient flow managers and other relevant inpatient team members to plan for the transfer of the patient to the appropriate ward area, preventing ICU delays in returning patients to non-critical care beds and reduce the incidence of patients receiving care outside their home ward.²⁰

Intensive care unit

"An ICU is a specially staffed and equipped, separate and self-contained area of a hospital dedicated to the management of patients with life-threatening illnesses, injuries and complications, and monitoring of potentially life-threatening conditions. It provides special expertise and facilities for support of vital functions and uses the skills of medical, nursing and other personnel experienced in the management of these problems."¹⁷

ICU exit block

ICU exit block is defined as a delay greater than six hours in ICU following medical clearance for discharge.⁶⁹

Glossary of acronyms

ACI	Agency for Clinical Innovation
COU	Close observation unit
CNC	Clinical nurse consultant
ePJB	Electronic patient journey board
eMR	Electronic medical record
ESAP	Elective surgery access performance
ETP	Emergency treatment performance
EDD	Estimated date of discharge
ICU	Intensive care unit
ICS	Intensive care service/s
IWT	Inter-ward transfer
LHD	Local health district
MDT	Multidisciplinary team
MO	Medical officer
MoH	Ministry of Health
NUM	Nursing unit manager
NM	Nurse manager
OT	Operating theatre
PD	Policy directive
PFP	Patient flow portal
RN	Registered nurse
WFW	Waiting for What tool

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Principal authors

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