ACI Acute Care Taskforce
NSW Medical Assessment Unit
Model of Care
AGENCY FOR CLINICAL INNOVATION

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- Implementation support – working with ACI Networks, consumers and healthcare providers to assist delivery of healthcare innovations into practice across metropolitan and rural NSW.
- Knowledge sharing – partnering with healthcare providers to support collaboration, learning capability and knowledge sharing on healthcare innovation and improvement.
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ACI Clinical Networks, Taskforces and Institutes provide a unique forum for people to collaborate across clinical specialties and regional and service boundaries to develop successful healthcare innovations.

A priority for the ACI is identifying unwarranted variation in clinical practice and working in partnership with healthcare providers to develop mechanisms to improve clinical practice and patient care.
The Agency for Clinical Innovation (ACI) works with clinicians, consumers and managers to design and promote better healthcare for NSW.

Our Clinical Networks, Taskforces and Institutes provide a unique forum for people to collaborate to develop successful healthcare innovations. We support the case for change using clinical evidence, health economics and evaluation.

The health system is a complicated matrix of service providers, funding bodies and governance structures. Due to population growth, ageing and technology, more people than ever are requiring access to healthcare. With the introduction of the National Emergency Access Target (NEAT) the focus has been on what hospitals and Emergency Departments (EDs) can do to streamline activities and make care more readily accessible to patients.

To tackle this challenge, models aimed at managing the increasing demand for services and improving coordination across the system are needed. The Medical Assessment Unit model aims to provide patients with complex medical problems with faster access to the care of inpatient physicians and interdisciplinary teams who can best plan their management, care and disposition. The MAU strategy has been designed to improve the management of inpatient beds and reduce length of stay in the ED and inpatient units by commencing assessment, diagnostics, treatment and preparation for earlier transfer of care.

I am pleased to introduce the NSW Medical Assessment Unit Model of Care. This model supports a person-centred medical home and patient flow systems approach to improve care in NSW hospitals.

On behalf of the ACI I would like to thank the MAU Model of Care Working Group and the members of the ACI Acute Care Taskforce for lending their expertise, time and commitment to develop this model and guiding principles for implementation across NSW.

Dr Nigel Lyons
Chief Executive, Agency for Clinical Innovation

Learn more at: www.aci.health.nsw.gov.au
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3. GLOSSARY AND DEFINITIONS

3.1 Glossary

WHEN WE SAY....... WE MEAN

AARCS ....................... Acute to Aged-Related Care Services
AAU .......................... Acute Assessment Unit
ACCHO ....................... Aboriginal Community Controlled Health Organisations
ACI ............................ NSW Agency for Clinical Innovation
AH&MRC ..................... The Aboriginal Health & Medical Research Council of New South Wales
AMAU ....................... Acute Medical Assessment Unit
AMS .......................... Aboriginal Medical Service
AMW ......................... Acute Medical Wards
APU .......................... Acute Planning Units
ASET ........................ Aged Care Services in ED Teams
ED ............................. Emergency Department
EMU ......................... Early Assessment Medical Units
GP ............................. General Practitioner
HOPE ........................ Healthcare for Older Persons Earlier
HSPIB ......................... Health Services Performance Improvement Branch
LHD .......................... Local Health Districts
LOS .......................... Length of Stay
MAPU ........................ Medical Assessment And Planning Units
MAU .......................... Medical Assessment Unit
NGO ......................... Non-Government Organisation
NSW ......................... New South Wales
PHN .......................... Primary Health Networks
RAMU ....................... Rapid Assessment Medical Units
SHN .......................... Specialty Health Networks
### 3.2 Definitions

<table>
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<tr>
<td>Aboriginal people / Aboriginal peoples</td>
<td>Aboriginal people is a collective name for the original people of Australia and their descendants, and does not emphasise the diversity of languages, cultural practices and spiritual beliefs. By adding an s to people you are emphasising this diversity. Aboriginal people can also be used to refer to more than one Aboriginal person.</td>
</tr>
<tr>
<td>Best possible medication history</td>
<td>As accurate a list as possible of a patient’s current medications taken prior to admission. The best possible medication history should be compiled from an interview with the patient or the patient’s representative whenever possible and confirmed with at least one other source of information.</td>
</tr>
<tr>
<td>ComPacks</td>
<td>ComPacks is a non-clinical case managed program of community care (e.g. meal service, domestic assistance) available for people being transferred home from a participating NSW Public Hospital. Each package is available for up to 6 weeks from the time of the transfer home.</td>
</tr>
<tr>
<td>Dedicated staffing</td>
<td>That a health professional has been appointed to work for an agreed amount within the MAU. This may be a full time or fractional appointment depending on the size of the unit and number of patients seen within the MAU.</td>
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<td>Direct admission</td>
<td>That a patient can be directly admitted to the MAU. This could occur after assessment by a paramedic, GP or clinician in a residential aged care. The process for this should be locally defined in the MAU business rules. Ideally, it would occur via triage but by pass the emergency department.</td>
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<tr>
<td>Discharge</td>
<td>See transfer of care.</td>
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<tr>
<td>Governance</td>
<td>A process designed to ensure that standards are set, met, maintained and improved. It can involve consistent management, policies and shared guidance.</td>
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<td>GP In-Reach</td>
<td>Hospital patients can be supported by their usual care provider in the community. For example under GP-in reach, a patient’s GP is consulted at admission, during key points throughout the admission and ultimately, having direct involvement in planning for the transfer of care.</td>
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<td>Interdisciplinary</td>
<td>A team process that attempts to integrate separate discipline approaches into a single method. Although this document uses the terms interdisciplinary and multidisciplinary to mean the same thing. This resource recognises that a multidisciplinary team uses the skills and experience of individuals from different disciplines, with each discipline approaching the patient from their own perspective. Where an interdisciplinary approach attempts to blend this into a single cohesive methodology.</td>
</tr>
<tr>
<td>Medicare Local</td>
<td>At the time of writing the Commonwealth Government had announced the establishment of Primary Health Networks (PHNs) across Australia to replace the current Medicare Locals, of which there are 17 in NSW. The change takes effect July 1, 2015. There will be a transition period in the first half of 2015 to ensure no disruption in services or functions currently provided by the Medicare Locals. Therefore in this document these organisations are referred to as Primary Health Networks.</td>
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<td>Person-centred medical home</td>
<td>Patients, their families and carers have a continuing relationship with a particular clinician (usually a General Practitioner). This partnership is supported by other care providers in the 'medical neighborhood'. The person-centred medical home coordinates the care delivered by all members of a person’s care team, which sometimes includes hospital inpatient care(^1). (^2).</td>
</tr>
<tr>
<td>Primary care organisation / Primary Health Networks</td>
<td>See Medicare Local</td>
</tr>
<tr>
<td>Transfer of care</td>
<td>The transfer of professional responsibility and accountability for some or all aspects of care for a patient to another person or professional group on a temporary or permanent basis. Also called: discharge. These terms are used interchangeably within this document to mean the same thing.</td>
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<tr>
<td>Undifferentiated</td>
<td>Undifferentiated conditions refer to uncertain, unexplained and undiagnosed symptoms, problems and illnesses presenting to a clinician. They may be polysymptomatic and not limited by a single organ system.</td>
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4. EXECUTIVE SUMMARY OF MAU MODEL OF CARE

Emergency Department (ED) crowding has been increasingly prevalent\(^3,4\), and acute hospitals have continued to experience a rise in admissions, coupled with a pressure on the available inpatient beds. Growing admission rates are influenced by the increasing numbers of emergency presentations of elderly patients with multiple chronic diseases, young Aboriginal people with multiple chronic diseases, raised expectations of care and lower thresholds for admission\(^5\). When presenting to hospital via an ED, these patients may not be triaged as high urgency; their wait for assessment, diagnosis and treatment can cause delayed care for patients and therefore contribute to ED overcrowding.

In recent years, health authorities and hospitals have responded to these challenges by introducing initiatives aimed at managing the increasing demand for services and reducing the impact of the fragmentation across the system. One such initiative is a model of care designed to provide patients with complex, undifferentiated medical problems access to an interdisciplinary team to conduct rapid assessments and faster diagnoses. Models like this in other countries, under the governance of general medicine, have demonstrated significant reductions in inpatient mortality, length of stay and waiting times for patient transfer from EDs to medical beds. These reductions have been coupled with no increase in 30-day readmission rates and improvements in patient and staff satisfaction.

In NSW, this model is known as a Medical Assessment Unit (MAU) (Figure 1). MAUs in NSW are inpatient short stay units that are usually close to or co-located with an ED with easy access between triage and the MAU. A MAU is specifically designed to improve the coordination and quality of care for patients, increase efficiency in inpatient management and ultimately, assist with improving patient flow across the hospital. The difference between a MAU and an inpatient unit is that the MAUs always feature a dedicated interdisciplinary team led by consultants. Suggested staffing for a MAU includes a (p19):

- **Medical** Director, ideally a General Medical staff specialist for senior decision making
- **Medical** staff, ideally Monday to Sunday, 8-10pm
- **Nursing** Unit Manager; this is dependent on the size of unit
- Supernumerary Care Coordinator
- Nursing staff for direct patient care, ideally 1:4 ratio
- Access to a Clinical Nurse Educator
- Team lead for **allied health** and dedicated pharmacy, physiotherapy, social work and occupational therapy, ideally with a 7 day per week coverage. Plus established access to speech pathology and dietitians.

Ideally, a GP should also form part of the MAU team.

A typical patient suitable for management under the MAU Model of Care is an adult with an acute undifferentiated presentation who may (p18):

- have a history of chronic and/or complex condition(s); and/or
- have an exacerbation caused by an issue in the their social environment, e.g. carer absent, overcrowding within the home; and/or
- be on a pathway for rapid assessment e.g. chronic back pain.

MAUs are also suited to the complex and chronic paediatric patient. While there are specific paediatric models in NSW these are not the subject of this particular model.

MAU patients may be identified after an emergency department (ED) presentation. This model also identifies a process to strengthen direct admissions from the community (p19), including: GPs and other doctors’ rooms, the emergency department, hospital outpatient clinics, Aboriginal Community Controlled Health Services and Aboriginal Medical Services. To support direct admission a set of draft business rules (APPENDIX B) and also a communication to primary care (APPENDIX C) has been included in this model.

Once rapid assessment, early diagnosis and initial treatment has been completed the MAU patient may be able to be transferred back to the community (e.g. self-care or GP) within 48 hours (Figure 5). Some patients will require further inpatient care and will need to be transferred to an appropriate ward.
This document recommends the consideration of three key enablers (pp24-26) to support implementing the MAU Model of Care: the person-centred medical home, patient flow systems approach to delivering care and medication reconciliation.

In addition, the strength of successful MAUs is their link to existing programs of work across the state. A robust understanding of these programs will help to build more coordinated patient care in NSW (pp27-31).

Good governance leads to better decision making therefore any successful MAU requires a governing group (p23). It is recommended that the MAU Governance Committee is responsible for decision making and problem solving with respect to the MAU, local MAU policy making, including approval of MAU business rules and oversight and monitoring of key performance indicators.

Figure 1: A summary of the MAU model of care
In NSW, the health system is complex with multiple services, providers, funding bodies and governance structures which have tended to operate as ‘silos’. At a local level, Local Health Districts and Specialty Health Networks (LHD/SHNs), funded by the State Government, and Primary Health Networks (PHNs)*, funded by the Commonwealth Government, are responsible for planning and delivering health care across primary, community and acute care settings in collaboration with General Practitioners (GPs), Aboriginal Medical Services (AMS), Non-Government Organisations (NGOs), private health care professionals, and private health insurers.

Emergency Department (ED) crowding has been increasingly prevalent for over 20 years1-4, and acute hospitals have continued to experience a rise in the number of emergency admissions coupled with increasing hospital occupancy rates and a resulting pressure on the available inpatient beds. In NSW from 2005 to 2011, there was a 24% increase in ED presentations and a concurrent 10% increase in inpatient admissions. Additionally, hospital admissions for the over 75-year age group grew by 25% from 2005/06 to 2011. Growing admission rates are attributed to the increasing numbers of emergency presentations of elderly patients with multiple chronic diseases, raised expectations of care and lower thresholds for admission5. In addition, the high prevalence of chronic disease in Aboriginal peoples with significant co-morbidities coupled with an increasingly young population impacts considerably on the growing demand for the acute care setting6.

When presenting to hospital via an ED, elderly patients may not be triaged as high urgency; their wait for assessment, diagnosis and treatment can cause delayed care for patients contributing to ED overcrowding. For Aboriginal peoples this is compounded by issues of institutionalised racism and a resulting lack of trust, access and engagement. These issues contribute to Aboriginal patients presenting to ED or seeking care at a more advanced acute phase in the episode of an illness, which in turn adversely impacts on emergency presentations.

In recent years, Australian health authorities and hospitals have responded to these challenges by introducing initiatives aimed at managing the increasing demand for services and reducing both fragmentation and the impact of the fragmentation across the system. One such initiative is a model of care designed to provide patients with complex medical problems faster access to the care of inpatient physicians and interdisciplinary teams who can best plan their management, care and disposition. In NSW, this model is known as a Medical Assessment Unit (MAU).

It is critical that the needs of Aboriginal people are addressed in the development of MAUs, based on respect, trust, access and awareness of cultural factors. Service development should be informed by the holistic model of Aboriginal health, considering physical, social, emotional and spiritual wellbeing. Strategies include working in partnership and recognising the important role that Aboriginal workforce play in creating and supporting service delivery that is culturally appropriate7. This workforce also assists in building stronger ties with both the patient, family, community and Aboriginal Community Controlled Sector that will allow ways to strengthen referral pathways.

A MAU is specifically designed to increase efficiency in patient management while maintaining or improving quality of care8 and ultimately, assist with improving patient flow. The evolution of the MAU in Australia reflects current pressures on the health care system, especially the rise in medical admissions and the increased demand for inpatient beds. The MAU strategy has been designed to improve the management of inpatient beds and reduce length of stay in the ED and inpatient unit, by commencing assessment, diagnostics, treatment and preparation for earlier transfer of care.

As part of the Special Commission of Inquiry: Acute Care Services in NSW Public Hospitals 2008, Commissioner Garling commented on what is required for MAUs to be effective:

* At the time of writing the Commonwealth Government had announced the establishment of Primary Health Networks (PHNs) across Australia to replace the current Medicare Locals (MLs). The change takes effect July 1, 2015. Therefore in this document these organisations are referred to as Primary Health Networks.
Medical Assessment Units need dedicated medical staff, including senior physician cover, nursing, allied health and support staff. They also need effective communication and referral systems, not only with Emergency Department triage, but also with community services, primary care services, GPs and inpatient services. These supporting systems need to be in place to ensure effective and continuous care and efficient patient flow, given the patient groups identified as appropriate for admission to Medical Assessment Units. This is because in most cases, Medical Assessment Units are appropriate for patients who have had a prior assessment by a doctor, be it a GP or at another hospital…

In his recommendations from the Inquiry, Commissioner Garling requested an increase in the number of MAUs in place in NSW for assessment of chronic and complex patients prior to admission. The NSW Government responded to this recommendation under Caring Together: The Action Plan for NSW Health with a significant investment in the MAU Model of Care. MAUs were further developed from the Healthcare for Older Persons Earlier (HOPE) program in conjunction with the Physicians Taskforce and the Acute Care Taskforce.

A total of 29 MAUs have now been established in hospitals across NSW. A total of 359 MAU beds are currently open; 329 of these are funded through dedicated Commonwealth and State initiatives. In 2008 when MAUs were introduced to the NSW system 29,049 patients were assessed and treated in MAUs and by 2012/13 this had grown to 52,221, which is a 79% increase.

The MAU Operational Guide was published in 2007. The guide outlined the intended structure for establishing and operating a MAU in NSW. The intended audience was general managers, service managers, clinical leaders, and clinical managers involved in the establishment of a new MAU in their facility. This Model of Care replaces the MAU Operational Guide.
6. METHODOLOGY

6.1 Initiation

In 2011 the then NSW Department of Health recognised the need to evaluate the effectiveness of the MAUs. The NSW MAU Evaluation drew on five main sources of data to assess the impact and effectiveness of the MAUs in meeting the NSW MAU Operational Guide10.

6.2 Diagnostic (Evaluation)

The diagnostic phase of this model of care was conducted by the then Health Services Performance Improvement Branch (HSPIB) of the NSW Ministry of Health in 2011. A full description of the methodology can be found in the NSW Medical Assessment Unit Evaluation report11. The evaluation methodology (diagnostic) asked11:

a) Is the MAU model of care effective for patients with complex and chronic conditions?

b) Does the MAU model of care have a positive impact on the patient journey, access block, current ED key performance indicators, hospital efficiency, financial resources and quality of care?

The evaluation included data from five sources11:

1. A literature scan that included a review of evidence from national and international peer reviewed journals and grey literature.

2. Quantitative data analysis of data from 28 MAUs across NSW; the recently opened unit at Hornsby Hospital was excluded from the review.

3. An electronic survey of providers at all 28 MAUs over an eight week period (N=270).

4. A survey of patients using patient experience trackers at 15 MAUs over a 6 week period (N=1184).

5. An observational study conducted through a series of site visits by an expert review team at 15 MAUs. The expert review team comprised an Acute Care Taskforce member, a senior staff member from the Health Service Improvement Branch (NSW Health), a Finance manager and a MAU project manager.

The approach taken with respect to data collection for the MAU evaluation is included at APPENDIX A.

6.3 Outputs

The evaluation culminated in a final report and draft MAU Model of Care. The responsibility for this draft was transferred to the NSW Agency for Clinical Innovation on the publication of the NSW Medical Assessment Unit Evaluation report in 2013:

Recommendation 1: ACI will undertake a broader consultation of the Medical Assessment Unit Model of Care 2012 to ensure the components are achievable across existing and future MAUs

The ACI subsequently convened a MAU Model of Care Working Group (APPENDIX D) to further develop the model of care and this document is the output of that group.
In Australia and globally, assessment units for medical patients with acute illnesses have various names including Acute Medical Assessment Units (AMAU), Medical Assessment and Planning Units (MAPU), Acute Assessment Units (AAU), Acute Medical Wards (AMW), Acute Planning Units (APU), Rapid Assessment Medical Units (RAMU) and Early Assessment Medical Units (EMU). The model that operates under these names are broadly defined here as:

- having designated hospital wards specifically staffed and equipped to receive medical inpatients presenting with acute medical illness from EDs and/or the community
- including expedited multidisciplinary and medical specialist assessment, care and treatment for up to a designated period (typically between 24 and 72 hrs) prior to transfer of care (to the community or another medical ward)
- being supervised by consultants with an interest in acute general medicine, featuring interdisciplinary teams that comprehensively assess and manage both medical illness and functional disability
- being geographically co-located with EDs
- having priority access to key diagnostic services such as pathology and radiology

Internationally, MAUs are predominantly managed under the governance of General Medicine Teams. It is recognised that generalists are the best medical clinicians to deal with the complex patient with multiple chronic conditions.
8. CASE FOR CHANGE

The NSW MAU Evaluation Report was published in 2013 and the recommendations provided an opportunity to further develop the MAU Model of Care. The evaluation report found that:\(^\text{11}\):

For MAUs to be successful, provide quality outcomes and produce sustainable change for patients they cannot function in isolation to the hospital as a whole.

No single part of the health system has the capacity to successfully improve the health of the population. Under the ACI approach, which is strongly influenced by the Institute of Healthcare Improvement (IHI) Triple Aim,\(^\text{14}\) designs must be developed to simultaneously pursue three dimensions:

1. Improving the patient experience of care (including quality and satisfaction)
2. Improving the health of populations
3. Reducing the per capita cost of health care

This model of care also proposes that, for MAUs to provide sustainable quality outcomes for patients, they cannot function in isolation to the health system. It advocates that MAUs forge stronger links to out of hospital care providers, particularly the patient’s usual care provider (person-centred medical home – see enabler on p24).

While the model is intended for application throughout NSW, implementation will require flexible, tailored solutions at the local level. Innovative strategies are needed to overcome the challenges posed by remote locations, cultural factors, language, access and engagement of Aboriginal people and communities and other high risk and vulnerable groups who suffer disproportionately high rates of morbidity and mortality from chronic disease, and who account for a substantial proportion of hospital admissions.

\textit{Figure 2: IHI Triple Aim and the ACI innovation cycle}
8.1 Why do we need Medical Assessment Units in NSW?

Few hospitals in NSW have active General Medicine departments. The sub-speciality model in NSW has served patients with defined single diseases well. Patients with undifferentiated health problems, a background of significant comorbidity and/or the presence of social issues are not adequately catered for under this sub-specialty model and require more coordinated, integrated care than this single disease model can offer.

Chronic disease and its associated issues are making an increasingly significant contribution to the burden of morbidity and mortality in Australia\textsuperscript{15}. The prevalence of chronic disease is strongly correlated with age and is a significant factor in older people’s utilisation of hospitals, including ED presentations. Older people are more likely to require admission and have longer lengths of stays than younger people. In 2011-12, people aged 85 years and over only accounted for 7% of all hospital admissions but 13% of days spent by patients in hospital\textsuperscript{15, 16}.

MAUs can therefore play a role in ensuring patients, particularly those with multiple chronic conditions, are supported in the community in order to improve their health, well-being and quality of life, prevent complications, and reduce their need for hospitalisation. When these patients do need hospitalisations, MAUs can ensure that the length of time spent in hospital is reduced.

These documented benefits are plausibly generalisable to the NSW setting. It is also proposed that the NSW MAU Model of Care can deliver additional benefits such as:

- improved \textit{population health outcomes} through a more coordinated management of comorbidities
- an improvement in community capability to care for patients
- an improved \textit{patient experience} through a dedicated interdisciplinary and more integrated approach to providing patient care
- \textit{health system efficiencies and lower costs} through:
  - a reduction in undifferentiated, complex, non-critical medical patients presenting to the ED by providing direct referral to the MAU
  - an improvement in a facility’s ability to manage acute demand and the flow of patients, resulting in an enhanced capability to meet national and state targets
  - a reduced level of intensive investigations prior to decision-making
  - reduced number of patient outliers on inpatient wards
  - a reduction in readmissions due to improved coordination and early activation of community care for those patients discharged home

8.2 Potential benefits of the MAU Model of Care

Demonstrated international evidence exists for a MAU co-located with ED with a model of care under general medicine include:\textsuperscript{5}:

- a significant reduction in inpatient mortality (between 0.6%-5.6%)
- a significant reduction in the length of stay (between 1.5 and 2.5 days)
- a significant reduction in waiting times for patient transfer from EDs to medical beds (up to 30%)
- no increase in 30-day readmission rates following unit commencement
- improvements in patient and staff satisfaction with care.
9. NSW MEDICAL ASSESSMENT UNIT
MODEL OF CARE

9.1 Key principles of Medical Assessment Units

MAUs across NSW vary in size and are either co-located to EDs, co-located to an existing ward or are standalone units. The types of patients assessed and treated in MAUs range from general medical to aged care, paediatric, respiratory and cardiac-specific patients. Given the nature of patients, if space permits, co-location with or close proximity to the ED is ideal.

Regardless of the size of the unit or the funding received, Medical Assessment Units aim to provide a model of care for undifferentiated non-critical medical patients with underlying complex issues. The five key principles of the MAU Model of care are:

1. **People are provided with access to rapid care** (Right Care, Right Time, Right Place, and Right Provider) – measured as average total time for all MAU patients in the ED.

2. **People are provided with access to rapid assessment, faster diagnosis and earlier treatment** within 48 hours – measured as average length of stay in the MAU.

3. **People who require further inpatient care are provided with an ongoing clinical management plan** based on their initial rapid assessment, faster diagnosis and earlier treatment - measured as average length of stay for MAU patients transferred to an inpatient unit.

4. **MAUs ensure that patients are provided with safe and effective care** – measured as readmission rates.

5. **MAUs provide more joined-up, coordinated care** within the hospital and cross the hospital-community interface – initial measure GPs linked to team or PHNs represented on governance group.

9.2 What are NSW Medical Assessment Units?

MAUs in NSW are inpatient short stay units that are usually close to or co-located with an ED with easy access between triage and the MAU. The difference between a MAU and an inpatient unit is that the MAUs always feature a dedicated interdisciplinary team led by consultants. This team should be available on a daily basis (if not twice daily) to conduct rounds with the interdisciplinary team and provide timely access to treatment and management decisions.

MAUs provide both an alternative to treatment in the ED and a pathway from the ED for faster interdisciplinary assessment and treatment for patients with chronic conditions and/or complex needs. MAUs are staffed by an experienced and comprehensive interdisciplinary team, who are able to conduct rapid patient assessments, reach faster diagnosis and provide earlier treatment.

Once a patient is assessed, their condition diagnosed and treatment provided, they will be able to return to home within 48 hours with community services provided as necessary. If further treatment or investigation is required, they will be referred to an inpatient team and transferred to a specialty ward.

Draft business rules are included at APPENDIX B, these include suggested inclusion and exclusion criteria that could be used by individual MAUs.

9.3 The ideal MAU team

**Figure 4** describes the ideal members of a MAU team. The level of appropriate staffing will be informed by the size and service delivery structure of the MAU. Ultimately, it will be subject to the resources available for the service.

For optimal operation, the MAU should employ a dedicated:

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*Paediatric-specific models are not the subject of this document.

+ This document uses the terms interdisciplinary and multidisciplinary to mean the same thing. Although this resource recognises that a multidisciplinary team has a tendency to utilise the skills and experience of individuals from different disciplines, with each discipline approaching the patient from their own perspective. An interdisciplinary team approach attempts to integrate separate discipline approaches into a single method.
• **Medical Director**, ideally a General Medical staff specialist for senior decision making
• **Medical staff**, ideally Monday to Sunday, 8-10pm
• Nursing Unit Manager; this is dependent on the size of unit
• Supernumerary Care Coordinator
• Nursing staff for direct patient care, ideally 1:4 ratio
• Access to a Clinical Nurse Educator
• Team lead for allied health and:
  o dedicated pharmacy, physiotherapy, social work and occupational therapy, ideally with a 7 day per week coverage
  o access to speech pathology and dietitians

Ideally, a GP should also form part of the MAU team. This could occur under an in-reach model. GP in-reach seeks to improve the input of the GP into key points in the patient’s hospital admission. Under a GP in-reach model the patient’s medical home GP can offer advice and assistance to the hospital team. Having the GP’s name over the bed should help remind the hospital team to contact the GP for their input. In complex cases this input should be sought on admission, at times of deviation from the expected in-patient journey, and prior to transfer of care. Any admission where frailty, chronic disease or frequent admissions are factors should be targeted for this approach.

Improved communication with the GP community should in turn facilitate direct admissions from the community. A draft letter for corresponding with PHNs, Aboriginal Community Controlled Health Organisations (ACCHO) or AMS’ to support direct referrals from General Practitioners is included at **APPENDIX C**.

In addition, primary care should be represented on the MAU Governance Committee. This GP would provide a leadership role for bridging the interface between the hospital and community settings.

Information about implementing In Safe Hands, a model to guide and support developing a highly functioning team, can be found at page 30.

### 9.4 What does a typical MAU patient look like?

A typical patient suitable for management in a MAU is an adult with an acute undifferentiated presentation who may:

- have a history of chronic and/or complex condition(s); and/or
- have an exacerbation caused by an issue in the their social environment, e.g. carer absent, overcrowding within the home; and/or
- be on a pathway for rapid assessment e.g. chronic back pain

These patients are not critically ill but have complicated conditions that take time to assess and require a range of...
clinical expertise to diagnose and treat.

MAUs are also suited to the complex and chronic paediatric patient; there are specific paediatric models in NSW. The paediatric-specific models are not the subject of this particular model.

9.5 Where do MAU presentations come from?

Patients may enter the MAU through a direct admission or as a result of an ED presentation (Figure 3).

Direct admission to the MAU following assessment by an experienced clinician

Patients who have already been assessed by an appropriately experienced clinician (e.g. community geriatrician, other specialty consultant physician or their delegate) or other clinician (e.g. Hospital in the Home clinician, GP, residential aged care facility, paramedic) could be directly admitted to a MAU. This decision should occur in consultation with the designated MAU admitting medical officer.

This could also include the transfer of non-critical patients who need to be transferred from peripheral hospitals for further medical assessment and treatment.22

In order to facilitate this type of direct admission the MAU would need to develop a robust communication and clinical decision process that is outlined in its business rules. Sharing the knowledge of this process to clinicians in the community could be facilitated by establishing links with relevant PHNs.

To support direct admission a set of draft business rules (APPENDIX B) and also a communication to primary care (APPENDIX C) has been included in this model.

ED presentation

If a potentially MAU suitable patient presents to an ED, the patient will be assessed and MAU suitability determined within the first two hours of the ED presentation, according to usual ED care processes and clinical governance. The admission decision may be facilitated by mutually negotiated guidelines between the two units. These guidelines should be clearly stated in the MAU business rules.
Chronic disease is a significant health problem for Aboriginal peoples across Australia. Chronic disease contributes substantially to the high rates of mortality and morbidity of Aboriginal peoples, whose life expectancy is 17 years less than other Australians\textsuperscript{5}. Approximately 80\% of the mortality gap for Indigenous Australians aged 35 to 74 years is due to chronic disease\textsuperscript{18}. In addition, Aboriginal people are hospitalised at almost twice the rate of non-Aboriginal people\textsuperscript{19}. In 2011-12, the rate of hospitalisation for diabetes of Aboriginal peoples was 557.3 per 100,000 population while in non-Aboriginal population the rate was 132.4 per 100,000 population\textsuperscript{18}.

Aboriginal people who present to the ED with a history of chronic and/or complex illness will often meet the criteria for admission to the MAU. Sometimes this presentation will be linked to an issue the social environment. It is therefore essential that the MAU staff is appropriately skilled to provide Aboriginal people with the best possible care. A culturally appropriate service supports patient self-management, recognises the valuable contribution from Aboriginal Health Workers and provides a strong link to effective ongoing care. The MAU service should be linked to Aboriginal Health Workers who are able to assist with access, engagement, development and implementation of the care plans, health literacy and support culturally appropriate service delivery. In addition, as Aboriginal peoples access a variety of health services, depending on the choices available and the needs of the person or family at that point in time, a MAU will need to be linked to external services. These services may include: AMS', ACCHO, GPs, Local Health Districts and Specialty Network services and PHNs.

To support the delivery of culturally appropriate services, NSW Health has implemented Respecting the Difference: An Aboriginal Cultural Training Framework for NSW Health\textsuperscript{20}. The Framework has both an e-learning module\textsuperscript{21} and face to face local training. The training for all NSW Health staff addresses the need for organisations to provide more respectful, responsive and culturally safe services. It is designed to give staff the necessary knowledge and skills to interact positively with Aboriginal people and communities to improve healthcare. The eLearning component supports staff by providing an insight into why many Aboriginal people do not comfortably engage with healthcare providers.

### 9.6 MAU ideal patient flow

#### Figure 5: MAU ideal patient flow

<table>
<thead>
<tr>
<th>PRIOR TO MAU ADMISSION</th>
<th>MAU ADMISSION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>0-4 hrs</strong></td>
<td><strong>0-2 hrs</strong></td>
</tr>
<tr>
<td><strong>IDENTIFY MAU APPROPRIATE PATIENTS</strong></td>
<td><strong>PATIENT ASSESSED BY NURSING AND MEDICAL STAFF</strong></td>
</tr>
<tr>
<td>The undifferentiated complex, chronic non-critical medical patient may access the MAU from:</td>
<td></td>
</tr>
<tr>
<td>- Within ED after a very short time</td>
<td></td>
</tr>
<tr>
<td>- ED triage</td>
<td></td>
</tr>
<tr>
<td>- The patient’s medical home (e.g. GP, RACF)</td>
<td></td>
</tr>
<tr>
<td>- The community</td>
<td></td>
</tr>
<tr>
<td><strong>2-4 hrs</strong></td>
<td><strong>&lt;12 hrs</strong></td>
</tr>
<tr>
<td><strong>PATIENT ASSESSED BY ALLIED HEALTH STAFF</strong></td>
<td><strong>PATIENT PLANNING AT INTERDISCIPLINARY ROUND</strong></td>
</tr>
<tr>
<td>MAUs are staffed by an experienced and comprehensive interdisciplinary team dedicated to the ward. At a minimum this includes a dedicated medical director and dedicated senior nursing and allied health staff. The team works together to conduct a rapid patient assessment to reach a faster diagnosis and provide earlier treatment. The initial assessment should include:</td>
<td></td>
</tr>
<tr>
<td>1. Obtaining a best possible medication history</td>
<td></td>
</tr>
<tr>
<td>2. Identifying the patient’s medical home (e.g. GP)</td>
<td></td>
</tr>
<tr>
<td>3. Obtaining consent from the patient to contact their usual GP and share information</td>
<td></td>
</tr>
<tr>
<td>4. A discussion with the patient’s usual GP regarding relevant medical and/or social history</td>
<td></td>
</tr>
<tr>
<td><strong>&lt;48 hrs</strong></td>
<td><strong>PATIENT TRANSITION TO HOME OR INPATIENT UNIT</strong></td>
</tr>
<tr>
<td>MAUs feature a dedicated interdisciplinary team led by consultants who should be available on an at least daily basis to conduct a structured interdisciplinary team round; ideally this round should be at the patient bedside. This round will facilitate timely access to treatment and decisions.</td>
<td></td>
</tr>
<tr>
<td>Once a patient’s presenting condition is diagnosed and any necessary treatment is commenced further decisions can be made. Two are possible:</td>
<td></td>
</tr>
<tr>
<td>1. A patient is able to return home with the appropriate support</td>
<td></td>
</tr>
<tr>
<td>2. Patient admitted for further inpatient care, including Hospital in the Home</td>
<td></td>
</tr>
</tbody>
</table>
9.7 What happens after the MAU?

In NSW, the MAU Model of Care provides two streams of care:

Stream One is for patients who go home directly from the MAU. These patients have previously typically stayed in hospital for 3-5 days and can now be provided with rapid assessments, faster diagnosis and earlier treatments and sent home safely within 48 hours, with community care if needed. This patient group should account for approximately 50% of patients who are admitted to the MAU to ensure there is adequate patient flow in the MAU.

Stream Two is for patients who are transferred to a specialty ward from the MAU. In a MAU, these patients are provided with rapid assessment, faster diagnosis and commencement of treatment within the MAU. They are then referred to an in-patient team and transferred to an in-patient ward after approximately 24-48hrs with a documented plan of care to be followed and sent home safely within 5-7 days. This patient group should account for no more than 50% of patients who are admitted to the MAU to ensure there is adequate patient flow through the MAU.

9.8 Challenges to the MAU Model of Care

For MAUs to be successful, provide quality outcomes and produce sustainable change for patients they cannot function in isolation to the hospital as a whole. As such operating the MAU Model of Care can be constrained by the system in which it operates.

Table 1 outlines challenges faced by many MAUs across NSW and potential solutions.

9.9 Governance requirements for the operation of the MAU

The Hospital Executive Management Team (Figure 6) at the LHD/SHN is accountable for overseeing the implementation and operation of the MAU. However, each MAU should have in place a group of clinicians, managers and possibly consumers who monitor the performance of the MAU and provide advice and management decision-making.

**Table 1: NSW MAUs: challenges and potential solutions**

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of ‘MAU-appropriate patients’ prior to or at entry into the hospital</td>
<td>Clearly established MAU business rules</td>
</tr>
<tr>
<td>Medical home, community and ED staff education about patient suitability for the MAU</td>
<td>Formal links with Primary Health Networks to enable primary care organisations to package up relevant continuing professional development (CPD) for primary care clinicians. Presence of primary care, community health and ED on the governance committee for MAUs</td>
</tr>
<tr>
<td>MAUs are used as an overflow unit when the ED is busy</td>
<td>Clearly established MAU business rules</td>
</tr>
<tr>
<td>MAU used as a holding bay until ward beds become available</td>
<td>Relationships with patient flow staff</td>
</tr>
<tr>
<td>MAU used for acute inpatient admissions when inpatient beds are not available</td>
<td>A facility-wide patient flow systems approach</td>
</tr>
<tr>
<td>Capacity for assessment in MAUs</td>
<td>Clearly established MAU business rules</td>
</tr>
<tr>
<td>Use of criteria led discharge to ensure timely transfer of care across the hospital</td>
<td>Relationships with patient flow manager</td>
</tr>
<tr>
<td>A facility-wide patient flow systems approach</td>
<td></td>
</tr>
</tbody>
</table>
guidance on the operation of the MAU. Such a group is often termed the MAU Governance Committee. Depending on their size MAUs may not choose to form a standalone MAU Governance Committee. This function could be performed by an existing committee. Some organisations have this function operating out of the Whole of Hospital Project Team Committee.

At a minimum this group should consider representation from the:

- Hospital Executive
- MAU allied health, nursing and medical staff
- Patient Flow and Bed Management
- Hospital in the Home / Ambulatory Care
- Emergency Department physician and nurse
- Hospital Aboriginal Health Workforce
- Local Chronic Disease Management Program
- Local Senior General Practitioner(s).

If a GP is not known to the MAU the nearest primary care organisations, including Aboriginal Medical Services, may be able to assist in identifying a GP to be a representative on the MAU Governance Group. The nearest AMS can be located by searching http://www.healthinfonet.ecu.edu.au/ and the Medical Locals\(^5\) can be located by searching http://www.medicarelocals.gov.au/.

The MAU Governance Committee is responsible for:

- Decision making and problem solving with respect to the MAU
- Local MAU policy making, including approval of MAU business rules
- Oversight and monitoring of key performance indicators

The following performance indicators should be reviewed and monitored:

- Average total hours in ED for all MAU patients (target <4 hours)
- Average length of stay in the MAU (target <48 hours)
- Average length of stay of MAU patients transferred to the ward (target <7 days)
- Unplanned readmissions within 28 days of MAU (target <10%)

The following process indicators should be monitored:

- Separations from MAU
- Average length of stay of MAU patients aged 65yrs+ (target <48 hours)
- % patients transferred from the MAU within 48hrs (guide 80% - 90%)
- % patients discharged home from MAU within 48hrs (guide 80% - 90%)
- % patients discharged home from MAU (target 50%)
- % patients transferred to inpatient ward from MAU (target 50%)
- % patient admitted directly to the MAU from the community (local target to be defined)

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\(^5\) At the time of writing the Commonwealth Government had announced the establishment of Primary Health Networks (PHNs) across Australia to replace the current Medicare Locals. The change takes effect July 1, 2015. There will be a transition period in the first half of 2015 to ensure no disruption in services or functions currently provided by the Medicare Locals. More information can be found at: http://www.health.gov.au/internet/main/publishing.nsf/Content/primary_Health_Networks.
**Ideal Patient Experience**

June is a 72 year old woman who has a history of diabetes and heart disease. She has had several presentations to hospital recently with the last admission exceeding 2 weeks. Her daughter lives nearby and visits regularly but is not coping with June’s increasingly complex health situation. June has presented to the ED following a fall at home. June does not have a regular GP or contact with community health but she has some regular home help provide cleaning support. She is currently taking in excess of 5 medications.

On the morning round in the ED the MAU medical clinician identified that June would benefit from some initial fast tracked assessments from the MAU’s interdisciplinary team (IDT). She liaises with the ED staff to have June transferred to the MAU within 1 hour of the ED presentation. The senior medical clinician, nurse, physiotherapist, and pharmacist conduct an initial rapid assessment. This includes a transfer of care risk assessment which highlight who in the IDT should be involved in June’s care. Several consults are ordered, a medication review is conducted and June is linked into the local diabetes team.

The medical clinician also identified that June doesn’t currently have access to a regular GP. The MAU team contacts the local Chronic Disease Management team and they assist to identify a regular GP to continue care for June in the community. June is able to be transferred to the care of her new GP within 40 hours of admission.

**Figure 6: Optimal governance requirements for the operation of the MAU**
10. ENABLERS

Three key enablers to the MAU Model of Care are highlighted below. These include:

1. The person-centred medical home
2. A smooth patient flow approach to managing demand for hospital beds
3. An emphasis on medication reconciliation to prevent avoidable errors and adverse patient outcomes

**ENABLER 1: Person-centred medical home**

People often have more than one chronic disease with complex medical, functional and psychosocial needs that change over time. As a result, people with chronic disease require different levels of care and access to a range of services and providers at different stages as their disease progresses. Kaiser Permanente has described this as the ‘Kaiser Triangle’, and supports reducing hospital usage through integration of organisations and disciplines. This features an escalation approach where patients with increasing care needs (level 2 and 3) may be identified as appropriate for a planned admission to a MAU for rapid assessment and treatment (Figure 7). Under this approach unplanned hospital use is an indicator of system failure.

The principles of the MAU are underpinned by the concept of the person-centred medical home. The patient’s journey through the hospital and post-acute period will be best served by integrating what the GP can offer with what the hospital team can offer. In terms of integrated and coordinated care, the concept

**Figure 7: Level of health care required for potential MAU-appropriate patients**

Adapted from the Kaiser Permanente model.
of a person-centred medical home or having a regular provider within a healthcare team is increasingly recognised to improve population health planning and strengthen integration, coordination and continuity of care for patients26, 27.

The person-centred medical home includes a patient-chosen clinician to be responsible for a patient’s ongoing and comprehensive, whole-person medical care. This is usually a General Practitioner. In a person-centred medical home, patients, their families and carers have a continuing relationship with a particular GP; this partnership is supported by a practice team, and other clinical services in the medical neighbourhood who wrap around the patient and their families to provide care as required (Figure 8). The medical home coordinates the care delivered by all members of a person’s care team, which may sometimes include inpatient (hospital) care. The medical home ensures that each person experiences integrated or joined-up health care28. As a person’s ability to manage their condition in the community deteriorates and the risk of hospitalisation grows (level 2 and 3, Figure 7), the patient’s usual GP may be able to identify a patient as eligible for direct admission into a MAU rather than an ED presentation.

It is the role of the hospital staff to communicate with a patient’s medical home once a hospital admission has commenced. Under this approach a GP Inreach program is facilitated in the hospital setting. Therefore the medical home is always informed and consulted at admission, able to access progress during admission (e.g. virtually) and informed and consulted at discharge. This approach builds on a shared care approach where care isn’t handed over, but shared. Many of the problems inherent in clinical handover fall away. LHDs and SHNs should consider how they work with PHNs to develop a process for identifying a medical home for patients who do not have a coordinating clinician (e.g. GP), particularly for patients with complex needs.

It is recognised that Aboriginal Medical Services (AMS) deliver a model of person-centred medical home with integrated care across the continuum with a service delivery focus on both the individual and the community. In the majority of settings, multiple services across health are provided under the same roof. Here services range from the treatment of acute illnesses, emergency care, management of chronic conditions, crisis intervention and referral to other services. Additionally, AMS’ provide local health promotion and other community activities that are centred on a holistic model across Aboriginal health, addressing physical, social, emotional and spiritual wellbeing.

Meaningful partnerships with Aboriginal Medical Services, whether for direct referral pathways or other partnership options, will be critical to effecting positive change. It is recognised that services need to strengthen partnerships with Aboriginal communities through the AH&MRC and, in particular, Aboriginal Medical Services http://www.ahmrc.org.au/.

**ENABLER 2: Smooth Patient Flow**

A number of initiatives have been implemented across NSW to improve patient flow. The Patient Flow Portal (PFP) supports NSW Health workers to adopt a Patient Flow Systems approach by providing accessible, user friendly tools. Specifically, the PFP includes predictive tools to support MAU staff to:

- view a suite of MAU reports
- plan actions according to expected demand
- identify how patients are being allocated according to an expected date of discharge (EDD)
- view relative length of stay (LOS)
- understand what services patients are waiting for
- have good information on at-risk patients
The Electronic Patient Journey Board (EPJB) is another module within the PFP that provides wards with access to information about every patient on a ward, making the patient journey visible to the whole team on a ward every day. The benefits include:

- Data automatically populates in EPJB when a patient is admitted or transferred into a ward via the Patient Administration System (PAS), therefore reducing the risk of transcribing errors and greatly improving data integrity.
- Eliminating accidental deleting / rubbing out of hand written data from the manual white boards.
- Improved legibility within the EPJB versus handwriting on a manual patient journey board.
- Easy identification of outstanding tasks in the patient’s journey.
- Auto colour coded EDD.
- Documented delays captured in the Waiting for What (W4W) functionality in PFP auto populating and displaying.
- Patients’ Hospital and/or Ward length of stay and/or Time in Ward (displayed in hours for MAU) automatically being calculated and displayed.

The Ministry of Health has developed a [Patient Flow Systems Self-Assessment Tool](#) to assess your current Patient Flow processes.

In addition to the PFP, the NSW Ministry of Health commissioned an evidenced based review on Smooth Patient Flow (SPF). To complement this review, the Health Education and Training Institute (HETI) has developed educational and training resources on patient flow. SPF is a learning program for ward based staff that is divided into three stages.

**Stage 1** - Self-Directed Learning

**Stage 2** - eLearning module.

**Stage 3** - Continuous Improvement Activities. This stage may be done individually or in local teams and involves a number of activities aimed at reinforcing the principles of smooth patient flow using real world examples.

The e-learning component can be completed using either [HETI online](#) or moodle depending on your location.

**ENABLER 3: Medication Reconciliation**

Medication errors are common at transitions of care and can lead to adverse patient outcomes. Medication reconciliation is a systematic process … of obtaining, verifying and documenting an accurate list of a patient’s current medicines on admission and comparing this list to the admission, transfer and discharge orders, to identify and resolve discrepancies.

Ultimately the goal of medication reconciliation is that patients receive better care and avoid harm resulting from unintentional changes in their medicines. The Clinical Excellence Commission recommends that:

1. A ‘Best Possible Medication History’ is obtained for every patient admitted into the hospital by the end of the next calendar day.
2. Patients receive all medicines that they were intended to continue while they are admitted i.e. all medicines are reconciled by the end of the next calendar day after admission.
3. On transfer of care, the discharge summary contains a list of all of the medicines the patient is to continue including what has been changed or ceased.
4. On transfer of care the patient receives a list of all the medicines they are to continue indicating what has been changed or ceased in a format that is easily understood.

Points of transition for MAU patients that require attention for medication reconciliation are:

- Transfer from the ED to the MAU
- Admission to the MAU
- Transfer from the MAU to the ward
- Transfer from the MAU to home, residential aged care facilities or to another hospital
11. OTHER NSW PROGRAMS AND MODELS TO SUPPORT MAU MODEL OF CARE

A well operating MAU will build around and link to other programs across the system, both within the hospital and outside the hospital. Linking to these programs needs to be relevant and useful to individual MAUs. Table 2 summarises the key models across the NSW system that support the MAU Model of Care, it is neither a compulsory nor exhaustive list. A more detailed description of each of the programs is included at pages 31-33.

### Table 2: NSW models that support the ACI MAU Model of Care

<table>
<thead>
<tr>
<th>NSW MODEL</th>
<th>LEAD ORGANISATION FOR DEVELOPING MODEL</th>
<th>SUPPORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.1 HealthOne NSW</td>
<td>NSW Ministry of Health (MOH)</td>
<td><img src="#" alt="Direct Admission" /></td>
</tr>
<tr>
<td>11.2 Formal link to Residential Aged Care Facilities</td>
<td>LHDs / SHNs</td>
<td><img src="#" alt="Early Entry From ED" /></td>
</tr>
<tr>
<td>11.3 Direct Admission Protocol</td>
<td>Ambulance Service of NSW</td>
<td><img src="#" alt="Direct Patient Care in the MAU" /></td>
</tr>
<tr>
<td>11.4 Chronic Disease Management Program</td>
<td>ACI Chronic Care Network</td>
<td>![Transfer of Care (Discharge)]</td>
</tr>
<tr>
<td>11.5 Chronic Care for Aboriginal People</td>
<td>ACI Chronic Care Aboriginal People</td>
<td><img src="#" alt="Direct Patient Care in the MAU" /></td>
</tr>
<tr>
<td>11.6 Pathways</td>
<td>LHDs / SHNs / MLs</td>
<td><img src="#" alt="Early Entry From ED" /></td>
</tr>
<tr>
<td>11.7 Hospital in the Home</td>
<td>MOH</td>
<td><img src="#" alt="Direct Patient Care in the MAU" /></td>
</tr>
<tr>
<td>11.8 ED Snr Assessment &amp; Streaming</td>
<td>ACI Emergency Care Institute</td>
<td><img src="#" alt="Direct Patient Care in the MAU" /></td>
</tr>
<tr>
<td>11.9 Clinical Initiatives Nurse (CIN)</td>
<td>LHDs / SHNs</td>
<td><img src="#" alt="Direct Patient Care in the MAU" /></td>
</tr>
<tr>
<td>11.10 Aged Care Services in ED Teams (ASET)</td>
<td>ACI Emergency Care Institute</td>
<td><img src="#" alt="Direct Patient Care in the MAU" /></td>
</tr>
<tr>
<td>11.11 In Safe Hands</td>
<td>Clinical Excellence Commission</td>
<td><img src="#" alt="Direct Patient Care in the MAU" /></td>
</tr>
<tr>
<td>11.12 48 Hour Follow Up</td>
<td>ACI / LHDs / SHNs</td>
<td><img src="#" alt="Direct Patient Care in the MAU" /></td>
</tr>
<tr>
<td>11.13 Rehabilitation Model of Care</td>
<td>ACI Rehab Network</td>
<td><img src="#" alt="Direct Patient Care in the MAU" /></td>
</tr>
<tr>
<td>11.14 Com Packs</td>
<td>MOH</td>
<td><img src="#" alt="Direct Patient Care in the MAU" /></td>
</tr>
<tr>
<td>11.15 Acute to Aged-Related Care Services</td>
<td>LHDs / SHNs</td>
<td><img src="#" alt="Direct Patient Care in the MAU" /></td>
</tr>
</tbody>
</table>
11.1 Direct admission – HealthOne NSW

HealthOne is a NSW Health initiative that brings together GPs and community health professionals – and other health professionals, to achieve locally integrated and coordinated patient care\(^\text{36}\). HealthOne is a system redesign model in which common objectives and principles are flexibly applied in local environments. HealthOne initiatives generally focus on those people in the local community who are at increased risk, and/or need a greater level of coordinated care.

HealthOne NSW is a sound platform to support early entry to MAUs and well-coordinated transfer of care back into the community. There are currently 17 HealthOne’s located in the following Local Health Districts:

- Hunter New England Local Health District
- Murrumbidgee Local Health District
- Northern NSW Local Health District
- Northern Sydney Local Health District
- Western NSW Local Health District
- Western Sydney Local Health District


11.2 Direct Admission – Formal link to Residential Aged Care Facilities

Having a hospital link to Residential Aged Care Facilities is an important strategy to prevent hospital admissions or hospital readmissions. An example of such a program is the Virtual Aged Care Services (VACS) based at Nepean Hospital. VACS provides medical, nursing and allied health support (Physiotherapy, Occupational Therapy, Dietetics) in the community and residential aged care facilities (RACF) with a 24-48 hour response time in order to prevent hospital admission or readmission.

Patients need to be aged >70 and have been under the care of a Geriatrician. The VACS team aims to provide more joined-up or integrated care for older persons and RACF residents. The team facilitate direct admissions to the Medical Assessment Unit or the hospital, as required. The VACS Team is available Monday to Friday 8.00am to 4.30pm.

11.3 Direct admission – Ambulance Direct Admission Protocol

The Ambulance Service is often the initial point of call for people in the community who require hospital treatment. Medical treatment provided by paramedics is guided by approved protocols, pharmacology and clinical procedures guiding the provision of treatment for various clinical conditions. Using an agreed protocol MAU-appropriate patients could be identified by paramedics for early and direct entry to a MAU via triage by-passing the ED.

11.4 Direct admission – NSW Chronic Disease Management Program

The NSW Chronic Disease Management Program (CDMP) is a free service for people with chronic disease who have difficulty managing their condition and who are at risk of hospitalisation\(^\text{38}\).

The CDMP provides care coordination and self-management support to help people with chronic disease better manage their condition and access appropriate services in order to improve health outcomes, prevent complications and reduce the need for hospitalisation. The target chronic diseases are Diabetes, Congestive Heart Failure, Coronary Heart Disease, Chronic Obstructive Pulmonary Disease and Hypertension, recognising that people with these diseases often have multi-morbidities such as depression, arthritis and dementia.

It is envisaged that Chronic Disease Management Program staff could work with MAUs to identify patients who might be eligible for direct admission to MAUs for early assessment and treatment.
11.5 Direct admission – NSW Chronic Care for Aboriginal People Model of Care

This model provides a practical approach for Medical Assessment Units to support improving health outcomes for Aboriginal people with a chronic disease. It can be used to review and map this model to their existing programs or new strategies that is modelled from best practice across the state. This model also allows for the identification of gaps and opportunities at a local and state wide level to maximise existing resources or build business cases to provide new initiatives to address chronic diseases in Aboriginal communities. There are eight essential elements identified in this model they are: identification, trust, screening and assessment, clinical indicators, education, treatment and referral.

11.6 Direct Admission / Transfer of Care – Pathways

Pathways can be used to support direct admission to MAUs. Pathways are evidence-based but tailored to the local resources and services available. The tailoring of the information means that it will be easier for practitioners to identify locally available services for particular health problems, and to find out their criteria for referrals and accepting new patients. Under this approach, pathways could assist GPs and those working outside the hospital system to identify the most appropriate patients for referral directly to MAUs. One such example is HealthPathways which has web-based pathways that are developed jointly by GPs, hospital specialists and community health providers. As at October 2014, HealthPathways is currently present in Hunter New England LHD, Central Coast LHD, Sydney LHD and Western Sydney LHD.

11.7 Direct Admission/ Transfer of Care – Hospital in the Home

Hospital in the Home (HITH) services provide acute and post-acute care to children and adults residing outside hospital, as a substitution or prevention of in-hospital care. A person may receive their care at home (including Residential Aged Care Facilities) or in a hospital or community clinic setting (this may include at school or in the workplace). HITH care is short-term and preferably interdisciplinary, including doctors, nurses and allied health practitioners. It aims to provide the most appropriate care setting, avoid hospital admissions and reduce patient length of stay.

The most common conditions and treatments delivered by adult HITH services are intravenous antibiotic therapy for cellulitis, genitourinary tract, respiratory tract, postoperative/post-traumatic infections and osteomyelitis, and anticoagulant therapy for deep vein thrombosis or pulmonary embolism. For paediatric services, complex wound dressings for eczema, intravenous antibiotic therapy for cellulitis and cystic fibrosis are most common.

MAU patients may be transferred to HITH with a documented care plan in line with Stream 2 of the MAU Model of Care (as per p.20). Alternatively, Daily HITH (admitted) patients may be transferred directly to MAU, avoiding ED, when medical review or escalation of care is required.

11.8 Early entry – ED Senior Assessment and Streaming

Early ED Senior Assessment and Streaming Model of Care focuses on the assessment and treatment process that determine an early diagnosis, clinical management plan and disposition decision for patients. This model of care improves front line processes such as triage and includes early streaming of patients by a senior decision maker to avoid queuing and delays to care.

It is envisaged that EDs utilising this model of care will stream appropriate patients direct to the MAU.

11.9 Early entry – Clinical Initiatives Nurse (CIN)

The Clinical Initiatives Nurse (CIN) is a senior nursing role that provides nursing care to patients in ED waiting rooms. The three main functions of the CIN nurse are to:

1. Maintenance of an ED nursing presence in
the waiting room to facilitate a safe clinical environment

2. Communication with patients and carers regarding ED processes, waiting times and provision of relevant education on their health issues

3. Assess patients following triage to initiate diagnostics or treatment, escalate care or refer patients to suitable services which may be external to the ED.

It is envisaged that EDs that have CINs will utilise them to identify and refer patients to the MAU.

11.10 Early entry - Aged Care Services in Emergency teams (ASET)

The ASET Model of Care is based on early identification, assessment and care planning for an older person presenting to an ED with identified aged care needs in addition to their acute care condition.

The primary goal of ASET is to improve the health outcomes of older people on presentation to the ED, minimise the requirement to remain in hospital, and prevent readmissions once patients are discharged by providing linkages to community services for support in the home environment.

In EDs that are utilising the ASET Model of Care, length of stay reductions of 60 minutes have been seen in the over 70 years age group. The use of ASET also coincides with a 0.4% reduction in representations rates for the 70-74 year age group.

It is envisaged that EDs with ASET will utilise them to stream appropriate patients direct to the MAU.

11.11 MAU Patient Care – In Safe Hands

The Clinical Excellence Commission’s In Safe Hands program aims to build and sustain effective health care teams. It is designed to give health care teams the structure and tools to redesign their units into strong, interdisciplinary teams that work together to deliver highly reliable, planned care to all patients.

Similarly themed programs launched internationally have demonstrated that effective teams have:

- reduced patient lengths of stay
- reduced unexpected deaths
- improved patient experience
- increased staff satisfaction

An ‘In Safe Hands Unit’ allows clinicians to be co-located in one physical location throughout the day, creating a cohesive team environment. All members of the health care team then share a common understanding of the care of each patient, fostering a culture of collaboration, openness and respect. In Safe Hands enables teams to address daily challenges of patient care by empowering them to make good decisions, with clarity on the full scope of a patient’s care. The result is that all members of a health care team are better placed to solve problems as they arise, transforming clinicians working in isolation into highly functioning health care teams. Four key principles enable the development of highly functioning teams:

1. Unit-based teams
2. Co-leadership model
3. Structured Interdisciplinary Bedside Rounds
4. Continuous evaluation processes

MAUs implementing the MAU Model of Care are well placed to implement this complementary approach at the same time. The ideal staffing (Figure 4) in a MAU operating under the ACI MAU Model of Care is

- already a unit based team with dedicated nursing, medical and allied health staff
- already operating a co-leadership model with both senior medical and nursing leads
- well placed to take the existing multidisciplinary whiteboard round to structured interdisciplinary round at the patient bedside

11.12 Transfer of Care – 48 hour follow up

48 Hour Follow up has been implemented across NSW hospitals since May 2009. It provides a follow-up phone call for Aboriginal people over 15 within 2 working days of being discharged from a public acute facility. It aims to improve health outcomes of Aboriginal people, reduce avoidable readmissions and improve communication and linkages with primary care service.
11.13 Transfer of Care – NSW Rehabilitation Model of Care

Under the NSW Rehabilitation Model of Care\(^46\), rehabilitation is defined as the provision of care that aims to:

- restore functional ability for a person who has experienced an illness or injury
- enable regaining function and self-sufficiency to the level prior to that illness or injury within the constraints of the medical prognosis for improvement
- develop functional ability to compensate for deficits that cannot be medically reversed.

Any patient discharged from the MAU requiring rehabilitation may be referred to a number of ambulatory care options. Patients can access:

- Ambulatory Care (Day Hospital) - a comprehensive rehabilitation program conducted by a multidisciplinary team in an outpatient setting
- Ambulatory Care (Outpatients) – discipline specific therapy provided in an outpatient setting
- Ambulatory Care (Home based) – rehabilitation services provided in the patients home
- Outreach rehabilitation service for rural and regional centres (hub and spoke) - rehabilitation provided outside a specialised rehabilitation unit.


11.15 Transfer of Care – Acute to Aged-Related Care Services (AARCS)

AARCS aims to provide inpatient hospital coordination for older patients with complex and chronic conditions\(^48\). AARCS workers are aged health specialist staff who provide support to older people in hospital and facilitate their access to community and residential aged care by improving coordination between the hospital and those services. MAUs that have AARCS in their hospitals will utilise this service to assist appropriate MAU patients.

11.14 Transfer of Care – ComPacks

ComPacks is a non-clinical, case-managed package of care available for inpatients discharged from participating NSW public hospitals\(^47\).

Eligible patients are those whom require short term, coordinated community services, to ensure a safe transfer home from hospital, and reduce risk of readmission. Each package is short term and available for up to 6 weeks from the time of transfer home. The service packages are customised based on the individual’s physical, cognitive, and psychosocial functioning. They also take into consideration an individual’s existing supports and their home environment.
12. IMPLEMENTATION

12.1 Self-Assessment Tool for Existing MAUs

A key influence in bridging the difference between best practice and everyday practice is the ability of health care teams and LHD/SHNs to implement and rapidly spread innovations and new ideas.

For existing MAUs a self-assessment tool has been developed which is designed to assess the effectiveness of the current MAU. It can be downloaded from the ACI website at www.aci.health.nsw.gov.au. The tool assesses four domains related to the model:

1. Location and staffing considerations
2. Staff skills within the MAU team
3. Evidence based care to support operation of the model
4. Governance structures to enable ongoing assessment and quality improvement.

Each of the four domains has a selection of questions based on the principles of the model, and the essential elements to facilitate/influence the effective operation and delivery of quality care for patients.

By completing the self-assessment, MAUs will have a clearer picture of how well the model will work, and you can identify priority areas to improve operation of the model to assist with improving patient flow.

12.2 Considerations for developing a MAU in NSW

For those services considering developing a MAU, a redesign methodology would be the most appropriate approach to determine need. The ACI Centre for Healthcare Redesign® runs a state-wide diploma program that teaches health care teams how to identify the root causes of issues impacting patient journeys and then develop and implement sustainable change processes to improve the way health care is delivered.

Some of the questions that you would need to consider are included below.

Patient demand for a MAU from the ED
(determining what proportion of ED presentations are undifferentiated, complex, chronic, non-critical medical patients)

- What proportion (%) and number of ED presentations are medical patients (i.e. do not need surgical intervention)?
- What proportion (%) and number of ED medical patients were admitted to an in-patient unit (i.e. medical patients that are not admitted and discharged from the ED)?
- What proportion (%) and number of ED medical patients were admitted to an in-patient unit (i.e. medical patients that are not admitted and discharged from the ED) for single organ v’s complex conditions?
- What is the age breakdown and ALOS in the ED for (i.e. are medical patients managed for > 4hrs in the ED?)
  - Medical patients admitted and discharged from the ED
  - Medical patients admitted to an inpatient unit from the ED
  - Medical patients admitted to an inpatient unit from the ED for single organ v’s complex conditions
- If you have an ED Short Stay Unit OR Emergency Medical Unit what proportion (%) and number of admitted medical patients utilise this & are then transferred to another in-patient unit?

Patient demand for a MAU from the community
(determining what proportion of community presentations are undifferentiated, complex, chronic, non-critical medical patients):

- What proportion (%) and number of separations from your hospital are medical DRGs (i.e. not surgical or procedural)?
- What proportion (%) and number of these patients
were referred into the hospital (source_of_referral) from 02-community health, 03-outpatients, 06-nursing home/residential aged care facility?

**Patient outcomes to determine the need for a MAU** (determining what proportion of readmitted undifferentiated, complex, chronic, non-critical medical patients would have benefitted from a MAU)

- What is the readmission rate for your hospital?
- What is the readmission rate for unplanned medical patients in your hospital?
- What is the age breakdown of unplanned medical readmissions?
13. DATA MEASURES

MAU patients are admitted to a bed type 87 (Admitted Patient Data Dictionary). There are four outcome indicators and seven process indicators. Reports for the outcome measures can be downloaded from the report module on the Patient Flow Portal.

**Table 3: NSW Ministry of Health MAU Outcome Indicators**

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Average Total Hours in ED for all MAU patients</td>
<td>≤ 4 hours</td>
</tr>
<tr>
<td>2. Average Length of Stay in the MAU (hours)</td>
<td>≤ 48 hours</td>
</tr>
<tr>
<td>3. Average Length of Stay of MAU patients transferred to the ward (days)</td>
<td>≤ 7 days</td>
</tr>
<tr>
<td>4. Unplanned Readmissions within 28 days of MAU discharge from MAU-home OR MAU-inpatient ward_home</td>
<td>≤ 10%</td>
</tr>
</tbody>
</table>

**Table 4: NSW Ministry of Health MAU Process Indicators**

<table>
<thead>
<tr>
<th>Description</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Separations from MAU</td>
<td>Nil</td>
</tr>
<tr>
<td>6. Average Length of Stay of MAU patients aged 65yrs +</td>
<td>≤ 48 hours</td>
</tr>
<tr>
<td>7. % patients transferred from the MAU within 48hrs</td>
<td>80% - 90% (guide only)</td>
</tr>
<tr>
<td>8. % patients discharged home from MAU</td>
<td>50%</td>
</tr>
<tr>
<td>9. % patients discharged home from MAU within 48hrs</td>
<td>80% - 90% (guide only)</td>
</tr>
<tr>
<td>10. % patients transferred to inpatient ward from MAU</td>
<td>50%</td>
</tr>
<tr>
<td>11. % patient admitted directly to the MAU</td>
<td>Nil</td>
</tr>
<tr>
<td>12. Unplanned Readmissions within 28 days of MAU discharge from MAU-home</td>
<td>≤ 10%</td>
</tr>
</tbody>
</table>
14. REFERENCES


6. AIHW, Ware VA. Improving the accessibility of health services in urban and regional settings for Indigenous people. Closing the Gap Clearinghouse, 2013.


25. NSW Agency for Clinical Innovation. NSW Chronic Disease Management Program – Connecting Care in the Community. ACI Chronic Care team, ACI Chronic Care team; 2013.


37. NSW Ministry of Health, Emergency Care Insitute.
## APPENDIX A: Data collection for MAU Evaluation

### Table 5: MAUs included in data collection and analysis

<table>
<thead>
<tr>
<th>Local Health District / Specialty Health Network</th>
<th>MAU location</th>
<th>Quantitative analysis</th>
<th>Observational Study / Site visits</th>
<th>Provider Survey</th>
<th>Patient survey</th>
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<td>Central Coast</td>
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<td>✓</td>
<td>✓</td>
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<tr>
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<tr>
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<td>John Hunter</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
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<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mid North Coast</td>
<td>Port Macquarie</td>
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</tr>
<tr>
<td>Mid North Coast</td>
<td>Coffs Harbour</td>
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</tr>
<tr>
<td>Nepean Blue Mountains</td>
<td>Nepean</td>
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<td>Northern NSW</td>
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<td>Northern Sydney</td>
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</tr>
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<td>✓</td>
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<tr>
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<tr>
<td>South Western Sydney</td>
<td>Campbelltown</td>
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<tr>
<td>South Western Sydney</td>
<td>Fairfield</td>
<td>✓</td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>St Vincent’s</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sydney</td>
<td>Royal Prince Alfred</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sydney</td>
<td>Concord</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sydney</td>
<td>Canterbury</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sydney Children’s</td>
<td>Children’s Hospital Westmead</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sydney Children’s</td>
<td>Sydney Children’s</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Western NSW</td>
<td>Orange</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Western Sydney</td>
<td>Blacktown</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: NSW Department of Health, Health Services Improvement Branch*
## APPENDIX B: MAU Draft Business Rules

The following issues should be included in business rules:

- Admissions to the unit will be short stay (48hrs)
- Inclusion and exclusion criteria
- **Referral to MAU**
  - Triage via ED
  - Direction admissions (Residential Aged Care Facility, General Practitioner (GP), Aboriginal Medical Service, Ambulance)
- **Transfer of Care from the MAU**
- **Operational Arrangements**
  - Hours of operation

- **Staffing**
  - Medical
  - Nursing
  - Allied Health
- **Governance**
  - Clinical Governance
  - Escalation process
  - Incident Management

A set of draft business rules are included below for local adaptation.

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
<th>Exclusion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any adult medical patient who is not critically unwell who is likely to be admitted to hospital under the care of a medical specialty, including those patients in whom the most appropriate specialty is yet to be determined.</td>
<td>&lt;=insert examples&gt; Examples include:</td>
</tr>
<tr>
<td>- Falls investigations</td>
<td>- requiring resuscitation</td>
</tr>
<tr>
<td>- Frail elderly requiring assessment and further intervention with an expected length of stay of less than 48 hours.</td>
<td>- with vital signs in the red zone of the Standard Adult General Observation (SAGO) Chart</td>
</tr>
<tr>
<td>- Cardiac failure in the absence of recent rapid atrial fibrillation or acute ischaemia or infarction</td>
<td>- with airway compromise</td>
</tr>
<tr>
<td>- Intermediate risk acute coronary syndrome</td>
<td>- with anaphylaxis</td>
</tr>
<tr>
<td>- Gastrointestinal diseases including liver disease</td>
<td>- with undifferentiated or life threatening rhythm disturbance</td>
</tr>
<tr>
<td>- Renal diseases including urinary infection</td>
<td>- with severe sepsis</td>
</tr>
<tr>
<td>- Respiratory infections with or without underlying pulmonary disease</td>
<td>- with significant new altered level of consciousness</td>
</tr>
<tr>
<td>- Non acute neurological problems</td>
<td></td>
</tr>
<tr>
<td>- Infections in patients not critically unwell</td>
<td></td>
</tr>
<tr>
<td>- Haematological conditions</td>
<td>Cardiology</td>
</tr>
<tr>
<td>- Aged Care patients</td>
<td>- Undifferentiated chest pain</td>
</tr>
<tr>
<td>- Cellulitis</td>
<td>- Stratified as high risk Acute Coronary Syndrome</td>
</tr>
</tbody>
</table>

<=insert examples> Examples include:

- Falls investigations
- Frail elderly requiring assessment and further intervention with an expected length of stay of less than 48 hours.
- Cardiac failure in the absence of recent rapid atrial fibrillation or acute ischaemia or infarction
- Intermediate risk acute coronary syndrome
- Gastrointestinal diseases including liver disease
- Renal diseases including urinary infection
- Respiratory infections with or without underlying pulmonary disease
- Non acute neurological problems
- Infections in patients not critically unwell
- Haematological conditions
- Aged Care patients
- Cellulitis

[Table continues on page 39]
<table>
<thead>
<tr>
<th>Gastroenterology</th>
<th>Other: Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Acute upper gastro intestinal bleeding</td>
<td>• suitable for transfer to Fast Track area</td>
</tr>
<tr>
<td>• Oesophageal foreign body obstruction</td>
<td>• with primary surgical diagnosis</td>
</tr>
<tr>
<td>• Undifferentiated abdominal pain</td>
<td>• for direct admission to appropriate specialty</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Neurology</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Acute headache / Acute stroke / Seizures</td>
<td>• with delirium / requiring special care</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respiratory</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Patient requiring CPAP, BIPAP, and chest drain, intercostal catheter</td>
<td>• with a high risk of falls</td>
</tr>
<tr>
<td>• May require non-invasive respiratory support</td>
<td>• who are haemodynamically compromised</td>
</tr>
<tr>
<td>• Requiring procedure (e.g. chest drain, intercostal catheter)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mental Health</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Aggressive or violent behaviour requiring sedation</td>
<td></td>
</tr>
<tr>
<td>• Needing mental health assessment</td>
<td></td>
</tr>
<tr>
<td>• Patients under a schedule II of the Mental Health Act</td>
<td></td>
</tr>
<tr>
<td>• Patients with acute psychiatric illness</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dedicated Director</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• The &lt;insert title&gt; will provide direction, clinical leadership and medical services for patients in the MAU, with the provision of senior physician cover to develop and review comprehensive care management plans to ensure patient safety and quality is delivered within the KPI.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dedicated Nursing Staff</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• The nursing team will be led by a Nurse Unit Manager with liaison and consultation with hospital Clinical Nurse Consultants. Management of patient care will be delivered by senior members of the interdisciplinary team, responsible for all aspects of patient care including; ordering and interpretation of diagnostic tests, prescribing and referral with disposition authority. Staff working in the MAU will be quarantined to ensure that there is continual access to staff that have the knowledge and skill to facilitate the patient journey and manage an episode of care.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specialty Nurses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• The roles of specialty nursing services are pivotal in supporting and meeting the timelines for care for patients admitted to the MAU. This includes services that support the early transfer of care (discharge) of patients including &lt;insert programs RCCP, Heart Failure, Quick Response Program, AARC’s and Community Nursing&gt;</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dedicated Allied Health Staff</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• The Allied Health Team will be led by the &lt;INSERT role e.g: Physiotherapist&gt; who will liaise with other Allied Health staff to ensure that their in-put will expedite the assessment, treatment, referral and appropriate transfer of care (discharge) of patients.</td>
<td></td>
</tr>
<tr>
<td>• The MAU has access to dedicated:</td>
<td></td>
</tr>
<tr>
<td>• Social Worker(s)</td>
<td></td>
</tr>
<tr>
<td>• Pharmacist(s)</td>
<td></td>
</tr>
<tr>
<td>• Physiotherapist(s)</td>
<td></td>
</tr>
<tr>
<td>• Occupational Therapist(s)</td>
<td></td>
</tr>
<tr>
<td>• Speech Pathologist(s)</td>
<td></td>
</tr>
<tr>
<td>• Dietitian(s).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wards persons and Administration Officers will be recruited to the MAU team to support the interdisciplinary team in the care of MAU patients.</td>
<td></td>
</tr>
</tbody>
</table>
### Patient Flow

<table>
<thead>
<tr>
<th>Hours</th>
<th>Operation Rules</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Between &lt;insert hours of operation e.g. 0800-2200hrs&gt;, the MAU will operate &lt;insert number&gt; beds.</td>
</tr>
<tr>
<td></td>
<td>• &lt;insert hours of operation e.g. 0800-2200hrs&gt; &lt;insert number&gt; beds will remain operational. &lt;insert number&gt; beds will be available for overnight medical referrals.</td>
</tr>
</tbody>
</table>

#### Within first 2hrs of Patient Arrival
- Clinical assessments to be completed by nursing and medical staff
- Commencement of clinical management plan
- Order and initiate diagnostic services
- Identify patients usual GP

#### Within first 4hrs of Patient Arrival
- All Assessments completed
- Social work, Physiotherapy and Occupational therapy services will complete an AH screening
- assessment for 100% of patients admitted to the MAU
- Clinical management plans completed and communicated to patient / family / carer, including
- estimated date and time of discharge

#### Within first 24hrs of Patient Arrival
- A structured interdisciplinary team round, ideally at the patient’s bedside. This round will facilitate timely access to commence transfer of care planning (e.g. discharge letter, pharmacy, equipment, transport)
- Review required community services and initiate assessment referral
- Referral to outpatient clinics to be organised
- Patients likely to require ongoing admission should have a referral made to the subspecialty consultant on call for the day.

#### Within first 48hrs of Patient Arrival
- Confirm and execute all clinical management plans
- Enable transition out of MAU (e.g. discharge home or to alternative inpatient unit)

### Transfer of Care

<INSERT process for admission. E.g Patients transferred to the MAU will be formally admitted in the eMR to General Medicine, under the care of the MAU physician for the day. The MAU registrar and Intern are responsible for assessing all patients admitted to MAU.>

A discussion should occur with the patient’s usual GP or Aboriginal Medical Service to ensure a full assessment can be undertaken. If a patient doesn’t have a usual GP an effort should be made to secure one.

Referrals to the MAU may be from sources other than ED for assessment and treatment. All referrals to the MAU are to be made by calling <INSERT Number>

This phone will be answered by a senior member of the MAU nursing team or the MAU registrar. The clinician answering the phone will review the triage assessment and accept the referral if appropriate for the MAU.

A concise assessment of the patient will be undertaken over the telephone by the <insert role e.g. MAU Registrar or CNC>. If the MAU Registrar or CNC feels that the patient requires emergency treatment, a referral will be made to the ED admitting medical officer by the MAU. If the patient is considered suitable for transfer to the MAU in accordance with the inclusion criteria for the unit, transfer will be coordinated. The patient may need to be assessed at triage, by-passing the emergency department.
The MAU should be considered as a streaming option for all patients seen by Triage.

- At triage patients should be triaged in FirstNet to ascertain any alerts or pre arrival information and assigned to the a team prior to MAU being rung.
- Patients with a likely surgical diagnosis should be seen in the Emergency Department.
- For suitable patients, a referral should be made by the triage nurse to the MAU senior staff. If there is doubt about whether a patient should be referred to the MAU, this will be resolved by discussion between the ED and MAU Senior Medical Staff.
- Following the triage nurse referral to the MAU, there is no requirement for a member of the MAU team to conduct a further assessment of the patient in the ED, but all patients referred from Triage will be fully assessed by the MAU team in the MAU.
- The ED staff will coordinate prompt transfer to the MAU.
- Patients accepted by MAU are to have a nursing protocol completed in FirstNet but should not be checked out of FirstNet until they are physically transferred to MAU.
- To ensure rapid patient assessment and early medical intervention, no more than 1 triage patient should be transferred to MAU per 30 minutes.

The MAU Team Leader will make a waiting list if necessary so that Triage will have an idea how long it will be before a particular patient can go to the MAU, so that other arrangements can be made if required. Patients waiting for a MAU bed should be seen by the allocated ED team and assessment commenced.

The principles of policy directive PD2009_055 Emergency Department - Direct Admission to Inpatient Wards will apply to the transfer of patients from the MAU as well as to those from the ED. For patients being transferred out of the AAU, clinical handover will be provided to:

1. The accepting inpatient unit, by the nurse looking after the patient in the AAU
2. The consultant and registrar of the team taking over care of the patient by the AAU Registrar or Resident.

- Early liaison and referral to outpatient clinics and community services such as *<INSERT names of out of hospital programs such as ComPacks, Hospital in the Home, GP Shared Care, Heart Failure and Chronic Care Rehabilitation>* will be required to ensure support is instigated early to facilitate timely discharge.
- Priority access to early outpatient clinic or ambulatory care clinic appointments is required for MAU patients. The appointments will be given within 3 days or alternative arrangements must be made
- Liaison with community services will be coordinated by the Nursing Case Manager and AARCs.
- A discussion should occur with the patient’s usual GP regarding the follow up requirements.
- Monthly KPI data will be tabled at the *insert meeting name e.g. Patient Access & Demand Management Meeting, Department of General Medicine within the Division of Medicine and Aged Care (DoMAC)*
- *insert timing e.g. fortnightly* MAU Governance Committee: This is the forum where issues and constraints are managed. It should provide operational oversight and a monitoring function. *smaller MAUs may combine the functions of this group with an existing committee*

### Performance and Process Measures

- Average Total Hours in ED for all MAU patients (target <4 hours)
- % of admitted MAU target Medical patients with ED LOS <4 hours *insert local target*
- Average Length of Stay in the MAU (target <48 hours)
- Average Length of Stay of MAU patients transferred to the ward (target <7 days)
- Unplanned Readmissions within 28 days of MAU (target <10%)
- Separations from MAU
- Average Length of Stay of MAU patients aged 65yrs + (target <48 hours)
- % patients transferred from the MAU within 48hrs (guide 80% - 90%)
- % patients discharged home from MAU within 48hrs (guide 80% - 90%)
- % out of MAU within 72 hours (guide 100%)
- % patients discharged home from MAU (target 50%)
- % patients transferred to inpatient ward from MAU (target 50%)
- % patient admitted directly to the MAU
- Off stretcher time: % of patients offloaded in 30 minutes *insert local target*

The MAU Working Group Acknowledges individual MAU Business Rules from across the state that have formed the basis of these generic rules.
APPENDIX C: MAU Draft Letter to support Direct Admission

The MAU Model of Care WG acknowledges Royal North Shore Hospital for the letter draft included below.

Dear <Primary Health Networks/Aboriginal Medical Service/ Aboriginal Community Controlled Health Organisations, delete/insert organisation as appropriate>

Re: <insert hospital> Medical Assessment Unit (MAU)

The Medical Assessment Unit (MAU) consists of <insert number> beds on <insert location in hospital with particular wayfinding marks>.

The MAU accepts Medical patients from any of the following sources:

1. GPs and other doctors’ rooms
2. The emergency department
3. Hospital outpatient clinics
4. Aboriginal Community Controlled Health Services/Aboriginal Medical Services

These patients have a medical condition which is not critical but is likely to require an admission to hospital. Many patients are elderly, and many have a number of medical co-morbidities. Admission to the MAU means that the patient is seen quickly by the MAU Clinical Team, composed of doctors, nurses and allied health staff. The MAU Team assesses the patient and plans investigations, treatment and discharge options.

Please note that the MAU is unable to accept the following. These patients should be sent to ED Triage for assessment by the Emergency Department.

1. Unstable or severely ill medical patients
2. Surgical patients
3. Mental health patients, and
4. Paediatric referrals.

General Practitioners or Aboriginal Medical Services can refer patient with potential medical problems directly to the MAU. The <insert medical staff member e.g. MAU Consultant> is available to take phone calls <insert timeframes e.g. 24 hours a day, seven days a week>. The telephone number is <insert number>.

Following discussion with the <insert medical staff member e.g. MAU Consultant>, patients may come directly to the MAU for assessment and possible admission, or <if a General Medicine clinic or Aboriginal Medical Services runs insert details e.g. be booked to see a General Physician in the MAU General Medicine Clinic within a few days. There are currently two such clinics each week, with a view to increasing as referrals dictate. For direct clinic referrals, please use the same telephone number <insert number>>
For patients referred to the MAU, following assessment and initial management, one of the following occurs:

- Some patients can go home with assistance at home from the <insert local teams Hospital in the Home and/or the Aged Care Team as well as their GP, Aboriginal Medical Service staff and community nurses>.
- Other patients require admission under the care of the appropriate medical team (General Medicine, Aged Care or other medical specialty). Most patients spend less than <insert timeframe e.g. 24-48> hours in the MAU while assessment, planning and treatment are carried out.
- Some patients may be discharged and booked in for a follow-up visit in the <insert clinic e.g. MAU General Medicine Outpatients Clinic>.

We request that all patients are referred to the MAU with

- a referral letter,
- copies of any previous test results and relevant correspondence
- any care plans in place, including a complete list of medications

Yours sincerely,

__________________________________  _________________________  ________________________
<insert name>                        <insert name>                        <insert name>
Director of MAU                      Nurse Unit Manager MAU              Clinical Nurse Consultant MAU
## APPENDIX D: MAU Model of Care Working Group

### Table 6: MAU Model of Care Working Group

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Full Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency for Clinical Innovation</td>
<td>Cecily Barrack</td>
<td>Network Manager, Respiratory</td>
</tr>
<tr>
<td>Agency for Clinical Innovation</td>
<td>Kate Lloyd</td>
<td>Manager, Acute Care</td>
</tr>
<tr>
<td>NSW Ambulance</td>
<td>Michelle Shiel</td>
<td>Manager, Low Acuity Care</td>
</tr>
<tr>
<td>NSW Ambulance</td>
<td>Jon Tunhavasana</td>
<td>A/Manager Patient Flow &amp; Access Manager</td>
</tr>
<tr>
<td>Central Coast LHD</td>
<td>Ellen Hardcastle</td>
<td>District Patient Flow &amp; Access Manager</td>
</tr>
<tr>
<td>Central Coast LHD</td>
<td>Natalie Irwin</td>
<td>Redesign Lead</td>
</tr>
<tr>
<td>Central Coast LHD</td>
<td>Debbie Scott</td>
<td>A/District Patient Flow &amp; Access Manager</td>
</tr>
<tr>
<td>Wyong MAU</td>
<td>Jennie Lamb</td>
<td>CNC - Central Coast</td>
</tr>
<tr>
<td>Wyong MAU</td>
<td>Phil Harrison</td>
<td>Career Medical Officer (CMO)</td>
</tr>
<tr>
<td>Illawarra Shoalhaven LHD</td>
<td>Robin Peters</td>
<td>A/DON</td>
</tr>
<tr>
<td>Coffs Harbour MAU</td>
<td>Sergio Diez Alvarez</td>
<td>(former) MAU, Director / Now Director, Clinical Governance</td>
</tr>
<tr>
<td>Coffs Harbour MAU</td>
<td>Chris Mostert</td>
<td>Medical Director</td>
</tr>
<tr>
<td>Lismore MAU</td>
<td>Nikia Goldsmith</td>
<td>Clinical Nurse Specialist</td>
</tr>
<tr>
<td>Port Macquarie MAU</td>
<td>Grace Livingston</td>
<td>Nurse Unit Manager</td>
</tr>
<tr>
<td>Port Macquarie MAU</td>
<td>Tracey Morris</td>
<td>Clinical Nurse Specialist</td>
</tr>
<tr>
<td>Nepean MAU</td>
<td>Ann Attwood</td>
<td>Nurse Manager Aged &amp; Chronic &amp; Complex Care</td>
</tr>
<tr>
<td>Nepean MAU</td>
<td>Drew Roberts</td>
<td>A/Nurse Unit Manager</td>
</tr>
<tr>
<td>Nepean MAU</td>
<td>Anita Sharma</td>
<td>Geriatrician, Director MAU</td>
</tr>
<tr>
<td>Hornsby MAU</td>
<td>Patricia Norton</td>
<td>Physiotherapy Department Manager</td>
</tr>
<tr>
<td>Hornsby MAU</td>
<td>Sarah Parkinson</td>
<td>Clinical Nurse Educator</td>
</tr>
<tr>
<td>Mona Vale MAU</td>
<td>Jane Edmond</td>
<td>Nurse Unit Manager</td>
</tr>
<tr>
<td>Mona Vale MAU</td>
<td>Majella McFarlane</td>
<td>Nurse Unit Manager, MAU</td>
</tr>
<tr>
<td>Royal North Shore AAU</td>
<td>Paul Collett</td>
<td>Director AAU (Renal Physician)</td>
</tr>
<tr>
<td>Royal North Shore AAU</td>
<td>Ana Diaz</td>
<td>Nurse Unit Manager AAU / Co-Chair</td>
</tr>
<tr>
<td>Royal North Shore AAU</td>
<td>Ashley McIntosh</td>
<td>Physiotherapy</td>
</tr>
<tr>
<td>Royal North Shore AAU</td>
<td>Vanya Ripley</td>
<td>A/Clinical Nurse Consultant</td>
</tr>
<tr>
<td>Prince of Wales MAU</td>
<td>Louise Goetz</td>
<td>Cardiac MAU</td>
</tr>
<tr>
<td>Prince of Wales MAU</td>
<td>Melissa Gole</td>
<td>Clinical Nurse Consultant - Parkes 6</td>
</tr>
<tr>
<td>St George MAU</td>
<td>Grant Pickard</td>
<td>Director, MAU (Geriatrician) / Co-Chair</td>
</tr>
<tr>
<td>Sutherland ACAU</td>
<td>Sandra Frese</td>
<td>Clinical Nurse Consultant</td>
</tr>
<tr>
<td>Bankstown MAU</td>
<td>Bin Ong</td>
<td>Director, MAU (Geriatrician)</td>
</tr>
<tr>
<td>Liverpool MAU</td>
<td>Sarah Ghamraoui</td>
<td>Social Worker</td>
</tr>
<tr>
<td>Sydney LHD</td>
<td>Deb Donnelly</td>
<td>Clinical Manager Aged Care, Rehabilitation, Chronic &amp; Ambulatory Care, Endocrinology, General Medicine &amp; General Practice, Andrology &amp; Clinical Genetics</td>
</tr>
<tr>
<td>Westmead MAU</td>
<td>Ray Cabela</td>
<td>Clinical Lead</td>
</tr>
<tr>
<td>Western Sydney Medicare Local</td>
<td>Dr O’Halloran</td>
<td>General Practitioner / Medicare Local</td>
</tr>
</tbody>
</table>