



**Position Statement of the
Internal Medicine Society of
Australia and New Zealand**

Standards

for

**Medical Assessment and Planning
Units
in Public and Private Hospitals**

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**for the IMSANZ
Medical Assessment and Planning Unit
Working Group**

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This position statement was ratified by the Council of the Internal Medicine Society of Australia and New Zealand at its meeting on May 7, 2006. It should be regarded as a guide to the function and operations of an acute medical assessment and planning unit. It is not intended to be a totally prescriptive document as it is acknowledged that various models will need to be considered in catering for local needs and priorities.

This statement will be subject to future revisions, and feedback and comment are welcomed by the authors whose contact details are listed at the end of this document.

Background

Medical Assessment and Planning Units (MAPU) are designated hospital wards that are specifically staffed and equipped to receive medical inpatients for assessment, care and treatment for up to a designated period (usually 36-48 hours) prior to transfer to medical wards or home if appropriate. In some assessment and planning units, surgical patients with or without medical problems are also eligible for admission. These units are supervised by general physicians and concentrate patient assessment and planning activities with the aim of streamlining care processes and length of stay (LOS) for patients that have an anticipated LOS of greater than 24 hours. These units are different to emergency department (ED) short-stay observation units (SOU) and emergency medical units (EMU) which are supervised by ED staff and involve medical and surgical patients whose LOS is expected to be 24 hours or less.

There are various synonyms used by different units throughout Australia and New Zealand and which may be referred to in this document: Acute Medical Ward (AMW) or Unit (AMU), Acute Assessment Unit (AAU), Acute Medical Assessment and Planning Units (AMAPU), and Admission and Planning Unit (APU).

Patients can gain entry to the unit, either via the ED or by direct referral from primary care to MAPU, for initial care by physicians in liaison with multi-disciplinary health professionals.

Exceptions to these admission criteria are those patients presenting with clearly defined acute syndromes which may necessitate immediate transfer to highly specialised areas (e.g. CCU in acute coronary syndromes, ICU for patients with varying forms of circulatory shock, respiratory HDU for patients with respiratory failure requiring assisted ventilation, stroke units for patients with acute major strokes, and isolation wards for patients which pose infectious or toxic risks to others).

The objectives of MAPU are to:

- 1) streamline the process of admission for non-critically ill medical patients with complex problems, including patients who have medical illnesses but present with conditions where it is unclear as to the need for immediate surgical intervention;
- 2) expedite rapid and comprehensive multidisciplinary assessment of acute medical patients;
- 3) facilitate early consultant and/or senior medical registrar review (including that performed by subspeciality services);

- 4) improve access to laboratory, radiology and other clinical investigative services;
- 5) improve access to aged care assessment, community health nurse review and other clinical management resources;
- 6) improve links with general practitioner and community service providers;
- 7) enhance capacity of emergency departments (ED) by offloading non-critically ill medical patients (and the assessment, admission and disposal processes involved in dealing with these patients) to MAPU;
- 8) maximise optimal bed management by creating alternative care pathways which obviate need for hospitalisation such as hospital in the home (or nursing home) services;
- 9) reduce need to outlie patients in wards separate from home wards and eliminate inefficiencies from maldistribution of admitted patients;
- 10) standardise care on the basis of agreed care protocols and guidelines;
- 11) facilitate clinical and health services research into care of acutely ill patients.

If these objectives are achieved, the flow-on benefits are considerable for three separate groups:

For patients: More appropriate and timely care, with more rapid assessment, earlier diagnosis and treatment; reduction in unnecessary admissions and investigations; reduced length of stay.

For staff: A more organised work environment, with significant increase in medical and nursing morale; effective discharge planning; improved access to investigation and information technology; greater interdisciplinary interaction; increased exposure of junior medical staff to training opportunities in acute medicine; more suitable shift systems for better rostering.

For the hospital: Significant reduction in admission delay with streamlined admission processes; reduced access block to inpatient beds with flow-on benefits to ED efficiency; improved bed management with buffer bed capacity for acute medical patients at times of excess caseloads; improved risk management as a result of standardised management protocols and clinical handover involving ED staff and medical staff; more effective use of resources with considerable saving in inpatient beddays; greater retention of staff with enhanced team spirit.

Evidence of Benefit

Experience with MAPUs situated at Auckland City Hospital (ACH), Royal Brisbane and Women's Hospital (RBWH) and Sir Charles Gairdner Hospital (SCGH) in Perth suggests such units, compared with usual care, can streamline care delivery in a cost efficient way, can decrease hospital admission rates, and save inpatient beds.

ACH Experience

At the newly built ACH, a 45-bed APU has been open since October 2003. This unit admits patients with both medical and surgical problems and includes 11 high-dependency monitored beds. During this time, total admissions to APU for the first two years to October 2005 were 32,714 with 22,298 (68%) being direct admissions from the community, and 10,416 (32%) being direct admissions from ED. Of these 32,714 admissions, 17,931 (55%) were admitted to and discharged from inpatient Wards, while the remaining 14,783 (45%) were admitted to and discharged from APU. The average LOS for APU patients was 16.9hrs, compared to 3.7 days for all inpatient stays. The inpatient bed days saved as a result of being able to admit and

discharge from APU, as opposed to having to admit all patients to inpatient wards (assuming a minimum length of inpatient ward stay of 2.0 days), numbered 23,268 over two years.

If general medicine patients only are considered, 39% of 15,548 admissions to APU were discharged for whom average LOS was 23 hours, compared to a stay of 3.75 days for all medical patients who were admitted to inpatient wards. Approximately 7,500 general medical patients were admitted directly to the inpatient wards from ED, as their stay was likely to be more than the 36 hours allowable in APU.

Moreover, since the APU came into operation (superceding a 17 bed acute assessment unit run by the emergency service), the percentage of medical patients being discharged home without need for inpatient beds has risen from 17% to 39%, and the average LOS for patients admitted to non-APU wards has fallen from 4.2 to 3.75 days. The readmission rate to ACH within one month has remained stable between 5% and 7%. Savings within the Department of General Medicine as a result of this improved patient throughput has been estimated to be approximately \$900,000 per year.

RBWH Experience

An 18 bed MAPU was established in September 1999 to receive all emergency admissions to the Division of Medicine from ED. Patients are cycled through the unit with no more than a 24 hour stay which involves assessment by multi-disciplinary teams and review by an admitting team comprising consultant, registrar, clinical pharmacist and ward case manager. A management plan is clearly articulated and discharge destination decided. Over a 12 month period commencing October 1999, 14% of patients admitted to MAPU were discharged, the number of admissions to Internal Medicine wards reduced by 15%, average LOS fell from 8.2 to 6.5 days, and total occupied bed days dropped by 9% (equivalent to 15 beds), while the numbers of referrals to the Medical Day Procedure Unit which did not involve overnight stays increased by 21%. Medical registrar unrostered overtime decreased by 8% and questionnaire surveys showed more than 70% of staff were satisfied with unit operation, 55% felt quality of care had improved, and 70% indicated better process efficiency with operational benefits to individual services. All case managers were satisfied with the effectiveness of the unit in prioritising patient placement, with 80% noting improved care co-ordination. Patient satisfaction was high (65%) with more than 70% very satisfied with process efficiency and levels of information provided.

SCGH experience

A 25 bed AAU was established in May 2001 to provide for initial assessment and management of complex medical patients following their admission through ED. 60% of all emergency medical admissions (~4500 per annum) now pass through AAU. Shortly after opening of the unit, there was a significant reduction in median length of stay for patients admitted to General Medical wards (from 18.5 to 14.0 days) including a minority with Diagnostic Related Groups (DRGs) associated with disproportionately longer stays (from 31 days to 22 days). No reductions were seen in 'control' clinical departments which had no contact with AAU. About 35% of patients admitted to AAU are discharged home, while a significant minority undergo facilitated transfer to palliative care institutions or geriatric rehabilitation units. Considerable improvements have been noted in regards to timeliness, coverage and informational content of discharge summaries, as well as reduction in adverse medication-related incidents as a result of better medication reconciliation on presentation.

Organisational structure

The key components of any unit include:

- Management responsibility that lies with general medicine
- Focus on multidisciplinary early assessment, proactive planning and intervention
- Seven day, 24 hours service which features at least once daily consultant led ward rounds
- Nursing staff and allied health team with sufficient numbers of experienced non-rotational staff dedicated to the unit
- Adequate clerical and secretarial support services
- Beds which are geographically located within a distinct area (preferably co-located with ED) to maintain focus on intensive planning and intervention
- Beds which are quarantined for unit patients only
- Clear admission and discharge criteria and processes which can be consistently applied and understood by all staff
- Adequate back-up social services and community health services
- Unit occupancy rates which are kept below 100%
- Consultant leadership and strong supportive hospital management
- Group of dedicated physicians willing to take part in acute roster
- Close proximity and prioritised access to investigative facilities (pathology and radiology) and pharmacy services
- Implementation of standardised evidence based care protocols
- Evaluation of unit effectiveness on regular basis

Many factors determine the structure and organisation of any unit and one size does not fit all hospitals. Factors include:

- Size of hospital and number of daily admissions
- Physician and nursing availability
- Speciality mix within hospital
- Activity and capacity of primary care sector
- Number of inpatient and rehabilitation beds available.

However a minimum of 25 beds is recommended but may need to be more depending on numbers of medical presentations, availability of 'receiving' beds in general medical wards and other receiving wards, and the liberalness of the intended eligibility criteria for admission to the unit.

Collective experience suggests that for a 25 bed ward, the following standards should apply.

Staffing

1. Clinical Director

The unit should be under the overall direction of a designated Clinical Director, who should be a general physician with a special interest in acute medical assessment. He/she should remain as one of the general medicine acute on-take consultants to maintain continuity of care. Physical presence of such a Clinical Director within the unit should ideally be for extended periods as this seems to improve the overall functioning of the unit. An on-off service

model with cycles of up to 8 weeks may apply in hospitals where there are fewer physician numbers and whose other inpatient commitments cannot be delegated to others.

Service managers and Nurse Unit Manager must work closely with the Clinical Director to maintain administrative and clinical synergies. Having the Service Manager and Nurse Unit Manager cover both MAPU and ED (as exists at ACH) is of advantage in further optimising the relationship between the two areas.

2. Medical

A medical acute assessment team (MAAT) needs to be formed, although its composition may differ from hospital to hospital, depending on staffing and size. This team may be dedicated to MAPU work for a given period of a week or more, or alternatively comprise a rostered 'team for the day' whose members change on a daily basis. Over a twenty four hour period, both Junior and Senior Medical staff should be rostered to cover the acute intake. Part of the MAAT will include ED staff, as undifferentiated (not referred by GPs) patients will have their first assessment by ED staff before being referred to the medical services. The exact role of the "acute care physician" needs to be carefully defined and their position may be in the ED, rather than in the MAPU.

3. Nursing

A multi-skilled, highly qualified nursing workforce is required, with a nurse – patient ratio (minimum of 1 registered nurse for every 6 patients) that applies on a 24/7 continuous basis. Higher ratios (1 nurse for every 3 patients) may apply to high-dependency beds. This workforce should be separate from the ED nursing workforce, but if ED and MAPU are geographically proximate to each other, some cross over on occasions can be helpful in alleviating work load crises. Nurses acting as admission screeners, care co-ordinators, or discharge planners may also add further efficiency to unit operations if available.

3. Allied Health

For a 25-bed unit, there should be 1 FTE Community Health liaison nurse; 0.5FTE social worker; 0.5FTE clinical pharmacist; 0.2 FTE speech therapist (ST), 0.5FTE occupational therapist (OT), and 0.5 FTE physiotherapist (PT). Cross-covering between SLT, OT and PT has proved very successful in several units. These allied health services should be available 7 days a week with rostered shifts that cover the period with the highest influx of patients, which is for most institutions from 10am to 10pm.

4. Clerical

Dedicated clerical staff on a 7 day basis and which cover the period 7.30am to 10.00pm is important for smooth running of the unit, particularly relating to information gathering and maintenance of case records. If ED and MAPU are co-located, staff can work across both areas, which improves communication.

5. Health Care Assistants

This concept has proved very successful at ACH, and has allowed nurses to concentrate on nursing, rather than basic housekeeping, bed-making, cleaning and stock taking duties.

6. Orderly

An orderly designated 24/7 to looking after MAPU requirements is essential for efficient patient movements.

Facilities

The unit should ideally be co-located with, or have close proximity to, ED and anticipated physical patient flows should inform the overall layout design, as exemplified by the unit at ACH (appendix 1 and 2).

1. Bed composition

The number of beds required to make MAPU run smoothly is equivalent to the average number of daily medical admissions to non-critical wards (ie excepting direct transfers to ICU, CCU, respiratory HDU, dialysis ward, oncology wards). High bed occupancy (>95%) requires more beds (5% or more increase) to provide buffering capacity during periods of peak caseload.

The final decision regarding time allowed to stay in the unit also alters the need for beds i.e. if 36 – 48 hrs, it is likely that more beds will be required to avoid bed block compared to mandated discharge time of <36 hours.

It is advisable to have a certain number of beds (minimum of 4) designated as *higher dependency with fixed monitoring* although all beds should be capable of some degree of flexible monitoring capacity. Such beds can be used generically for chest pain assessment, and for caring for acutely ill patients not accepted by critical care units. Alternatively, units should be proximate to, and have preferential access to, high dependency beds supervised by other departments.

2. Work stations

Areas must be made available for both medical and nursing documentation, supported by information technology (electronic pathology, radiology, ED master patient index, discharge summary and discharge letter applications) which includes mobile laptop workstations. Whiteboards documenting expected patients, and patients already residing within the unit are mandatory. Access to ED information systems allows easy tracking of the physical location and clinical status of patients in ED who are being referred, or may be candidates for admission, to the unit.

3. Pharmacy

Access to an appropriately stocked pharmacy is required, with 12/7 pharmacy staff cover.

4. Consulting Rooms

Sufficient consulting rooms should be available for ambulatory assessment (for example patients with suspected DVT) and to support acute follow up clinics within 48 hours for patients discharged from the unit. This need is paramount if usual clinic appointments in general outpatients are not available because of public holidays or already fully booked general outpatient clinics.

5. Exercise Treadmill
An exercise treadmill with ECG monitoring should be available adjacent to monitored chest pain assessment beds to assist in ruling out cardiac disease in patients presenting with atypical chest pain or who have low or intermediate cardiovascular risk profiles. Ideally, there should be access to a clinical measurements technician for at least 4 hours every day of the week who can assist medical staff in the performance of stress tests.
6. Procedure Room
A procedures room is necessary for undertaking procedures such as pleural aspiration or sigmoidoscopy in patients prior to discharge home or transfer to other units.
7. Interview Rooms
8. Entry and Pre-discharge Waiting Lounges
9. Staff Common Room
This room would ideally be shared with ED staff (which helps to further promote good communication and working relationships) and may be sited in either the unit or ED.
10. Offices (CD, Manager, Secretarial Staff)
11. Seminar, Handover, Education Room
This room has multiple functions, the most important being morning, afternoon and late night handover, and nursing / medical education.
12. Access to hospital van or taxi services (to relieve burden on ambulance services)
13. Communication systems to general practitioners, community health and other external care providers

Policies and Procedures

These need to be carefully documented to provide guidelines for appropriate admission procedures, and to be able to collect data for calculating performance measures relating to patient care.

Admission

In most units, the majority of acute adult patients will be admitted via a single point of entry, located at a triage area in ED, where they will receive a triage category. Registration should occur at this stage.

Any medical patient is eligible for admission to the unit with the exception of patients who, after initial assessment in ED, are required by virtue of clinical indication or admitting policy of ED or subspecialty units, to be directly admitted to specific inpatient wards. Medical patients who should be considered for direct referral to subspecialty medical units are listed in appendix 3.

Selection of patients is often based on the Australasian Triage Scale (ATS) which categorises patients according to the urgency with which they need to be assessed and managed on presentation to ED. Patients presenting with chest pain, shock, multiple trauma or respiratory failure clearly need urgent attention as compared to patients presenting with falls, cellulitis or migraine. However, it is acknowledged that other criteria for determining need for medical assessment may be used.

ATS 1-2 All patients directed to, and managed by, ED in the first instance, with referral to the unit only if subsequent admission to an inpatient ward is not deemed indicated (eg nursing home patient in palliative care mode), where there remains uncertainty as to which inpatient unit a patient should be assigned, or where ED staff at their discretion request referral to the unit.

ATS 3-5 Undifferentiated patients (self-referrals) should undergo an initial but basic assessment by ED staff and if deemed suitable for referral to the unit, transferred to the unit for more detailed assessment by unit staff.

ATS 3-5 Differentiated (assessed by referring doctor as having a condition which meets eligibility criteria for the unit) are referred directly to the unit

Direct access criteria

The unit will accept direct admissions after ED triage as long as two criteria are satisfied:

- Triage category 3-5
- Differentiated referrals (GP or specialist referred) AND accepted by General Medicine AND stable cardiopulmonary status AND do not meet criteria for immediate transfer to critical care units.

Patients in any triage category who have been subject to complete assessment and management in ED may also be admitted if:

- It is thought likely the patient can be discharged home within, or close to, 36 hours after presentation.
- It is thought the patient would benefit from comprehensive medical assessment in the first 24hrs of an anticipated inpatient admission to another ward.

Patients referred to Internal Medicine in ED who are likely to require inpatient stay of more than 36 hours should be processed in ED and transferred directly to inpatient wards.

Initial Nursing Assessment

- For patients presenting to the unit directly from triage, the initial nursing assessment should take place in the unit at the patient's bedside.
- For those patients transferred to the unit following initial management by ED, the initial nursing assessment should already be complete and documented. The assessment and documentation commenced in ED will be progressed in the unit.

- The initial nursing assessment should identify the need for multi-disciplinary input, and automatic referral to the relevant discipline should be initiated at the outcome of the assessment.

Standing Orders

- Standing orders, when possible, should guide the initiation of diagnostic testing and treatment in a way that facilitates prompt accurate patient assessment and treatment within the unit.
- Nursing staff should predominantly initiate standing orders, although some may be developed specifically for Allied Health.

Medical Assessment and Management:

Medical registrar duties

For patients admitted to the unit directly from triage, the initial medical assessment should be performed within allocated triage times by the medical registrar rostered on for the unit, and certainly no later than 2 hours after arrival in the unit.

For patients already seen and assessed in ED and transferred to the unit, ongoing medical management should also revert to the registrar rostered on for the unit, and patients should be reviewed within 2 hours of arrival.

Consultant duties

General physician rostered on for the unit will: 1) consult with the on-take medical registrar, and physically review patients, as needed; 2) formally discuss all patients admitted to the unit at least once within the 24 hour admission (on-take) period; and 3) conduct a multidisciplinary post-take unit round at 8am following the conclusion of the 24 hour admission period. This round will include hand-over from night med registrar, articulation of a management plan, determination of anticipated LOS and designation of home ward, and issuing of requests for subspecialist review where indicated.

Unit clinical rounds

At least one round of all unit patients should be conducted every 24 hours, and depending on patient acuity and complexity, unit occupancy and ED demand, this may need to be repeated prior to the commencement of the next 24 hour on-take period.

Ideally the round should be attended by the members (consultant, registrar, resident) of the on-take medical team or MAAT, nursing and allied health staff of the unit, and hospital bed manager. Attendance by medical staff from receiving subspecialty departments should also be strongly encouraged if circumstances allow. The MAPU clinical director (if not the on-take consultant) should also attend rounds on regular occasions to ensure operational issues impacting on unit performance are identified and resolved expeditiously.

This round should be afforded sufficient time to ensure all patients are adequately assessed and handed over to receiving teams, and also allow time for 'teaching

on the run,' opportunity for subspecialties to interact with General Medicine, encouragement of team building and interaction (particularly on the part of junior staff), and promotion of research projects and patient recruitment.

Acute deterioration in patient status

If at any time there is severe deterioration in a patient's condition, and no doctor is immediately available in the unit, ED staff can assume default care for the patient and transfer the patient to resuscitation bays in ED.

Multidisciplinary assessment

All newly admitted patients who require allied health review should be reviewed within 24 hours of admission. Nursing staff will have the ability to screen and automatically refer eligible patients for allied health reviews prior to medical registrar/medical consultant review.

Patient disposition

Elderly patients

Elderly patients who screen positive to geriatric risk factor screening and/or present with functional incapacity, difficulty coping at home, or psychosocial problems, in the absence of clinically apparent acute medical illness, should be assessed by a specialist nurse or CHIP nurse trained in geriatric assessment. It should be determined whether such patients are able to be discharged home with community support or be considered for direct transfer to Geriatric Assessment and Rehabilitation Unit. General physicians working in MAPUs should develop close working relations with geriatricians and formally involve them in development and implementation of geriatric screening tools and referral procedures for geriatric assessment and transfer to inpatient geriatric wards.

Patients with mental health problems or serious behavioural disturbance

Patients presenting with mental health problems or behavioural disturbance which are not of a severity that warrants immediate transfer to a secure psychiatric or psychogeriatric ward should be assessed for any underlying medical illness and referred to the mental health team for further assessment. Patients thought to have underlying organic confusional state or delirium will need to be managed medically in the first instance.

Patients who may be eligible for outreach or 'hospital in the home' services

Patients with less serious conditions who, after assessment, are considered eligible for care at home provided by domiciliary nursing services, local general practitioner and community-based allied health should be referred to the appropriate service.

Default Care

The MAPU can assume default care for patients whose nominated timeframe for medical assessment within MAPU has been exceeded and beds are available within the unit. During normal working hours, care should default to the clinical director. Outside working hours, care should default to the designated consultant on acute call and all 'default care' patients should be reviewed.

Treatment Guidelines

Treatment guidelines should be provided for the management of particular acute presentations, stating interventions and observations typically required for effective delivery of care.

Discharge processes

Discharge cycle

Patients admitted to MAPU should aim to be discharged, either home or to other wards, no later than 36 hours after admission.

Management Plan

- A management plan should be documented for each patient following his/her assessment in MAPU.
- All management plans should specify the required treatments and observations prior to discharge home or transfer to an inpatient ward.

For patients who are likely to be discharged from the MAPU, this plan will:

- Define discharge criteria and will include nurse initiated discharge criteria where possible.
- Define allied health interventions and planning towards primary care integration and/or outpatient follow-up.

For patients whose hospital stay is expected to exceed the upper allowable length of stay for MAPU, the management plan should focus on:

- Workup required for transfer to inpatient ward
- Discharge planning including an estimated date of discharge.
- Ongoing observation, diagnostic testing and management decisions.

Discharge Planning

All patients should have a discharge plan initiated on admission to MAPU or ED if the patient is likely to be admitted. The initial medical assessment should be written in a formal 'Admission to Discharge' document. Documentation commenced in ED/MAPU should continue to be used as part of the progress notes in the inpatient ward to prevent duplication.

Discharge to home

Patients should receive exit documentation from MAPU, preferably generated in electronic form, which contains: provisional diagnosis(es); specific management plan that details drugs to be continued, investigations or assessments to be performed as an outpatient (including details of appointments); names of general physician and medical registrar who attended the patient in MAPU; written assessments performed by allied health staff; information pertaining to accessing community and domiciliary support; drug prescriptions; and any other patient/carer educational or support resource materials.

Transfer to other wards

Patients being transferred to other wards should have exit documentation from MAPU which contains: provisional diagnosis(es); specific management plan that details fluid and medication orders, nursing observations required, resuscitation status, and pending investigations; family and local doctor contact details; names of general physician and medical registrar who attended the patient in MAPU; and written assessments performed by allied health staff.

Bed Management

A Bed Manager should be active in both ED and MAPU to facilitate admissions, and more particularly transfer of patients from ED to MAPU, and from ED and MAPU to the inpatient wards.

MAPU Diagnostics

Service level agreements should be established with support services to prioritise laboratory specimen processing and radiology requests for MAPU. If diagnostic requests are currently paper based, electronic referral should be developed in the future. Laboratory and radiology results should be reviewed, and review verified, electronically. Diagnostic tests can be initiated by nursing staff based on standing orders.

Evaluation of unit performance

The performance of the unit should be periodically audited using the following key performance indicators:

- No (%) of all medical patients presenting to ED who are admitted to MAPU
- Of patients admitted to MAPU
 - No (%) discharged home within 24 hours of admission
 - No (%) transferred to other wards within 24 hours of admission
 - Mean and median length of stay within MAPU
 - Reasons documented for prolonged MAPU stay
 - Top 10 by volume (no/%) of discharge diagnoses
 - No (%) of readmissions within 30 days of discharge
 - Mean and median time to review of newly admitted patients by medical registrar and consultant
 - Mean and median number of allied health assessments (according to discipline) undertaken per patient
 - No (%) deaths within the unit
 - No (%) patients suffering serious adverse events within the unit
 - No (%) of patients receiving formal discharge summary at time of discharge or transfer to other units
 - Nursing/allied health hours per patient hour
 - Pharmacy and laboratory utilisation
 - Accuracy of triage assessment for admission to MAPU

- Patient and staff satisfaction with unit operations as ascertained by formal questionnaire and review of all formal complaints
- Budget and HRM performance, including staff overtime, absenteeism and turnover

Unit funding

In most hospitals throughout Australasia, budgets for MAPUs are based on casemix formulae which apply to other forms of inpatient care. In some hospitals, 'incentive' funding is also provided such as in Victoria through the Hospital Demand Management Strategy. However, casemix-based funding which focuses on a patient's principal and secondary diagnoses does not adequately account for a patient's level of independence in activities of daily living. It is this level of independence which has a major impact on patients' LOS and their requirements for medical, nursing and allied health resources, which in turn determine costs of care.

There will be significant variation across hospitals in costs of these units which reflects the variability in allocation of specific costs from site to site and the variability in design and operations of MAPUs.

However, any proposed funding model for MAPUs should rest upon the following assumptions:

- 1) Units are established in accordance with the guidelines set out in this position statement
- 2) Units operate at less than 100% occupancy
- 3) The primary purpose of these units is to improve patient flow and any funding mechanism needs to support this function
- 4) The resource use by the units is 'front loaded' in that this resource use is greatest in the first 24-48 hours of the patient's admission
- 5) When patients are transferred from MAPU to other inpatient wards, this movement is seen and coded as a discharge from MAPU and admission to the other ward (ie. as two statistically separate episodes of care) for which the funding streams are entirely separate

In ensuring adequate funding, there may be a need to consider 'top up' incentive funding to keep occupancy rates below 100% if casemix to remain as the traditional metric for funding allocation. However a more preferred option is to formulate 'loaded' weighted separation items which reflect the increased cost accrued in the first 48 hours of hospitalisation.

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Hospitals which currently have MAPU (as of March 2006)

Royal Brisbane and Womens Hospital

Austin Hospital
Royal Melbourne Hospital
Western Hospital
Box Hill Hospital
The Alfred Hospital
Monash Medical Centre
Dandenong Hospital

Sunshine Hospital
Ballarat Base Hospital

Flinders Medical Centre

Sir Charles Gairdner Hospital

Auckland City Hospital

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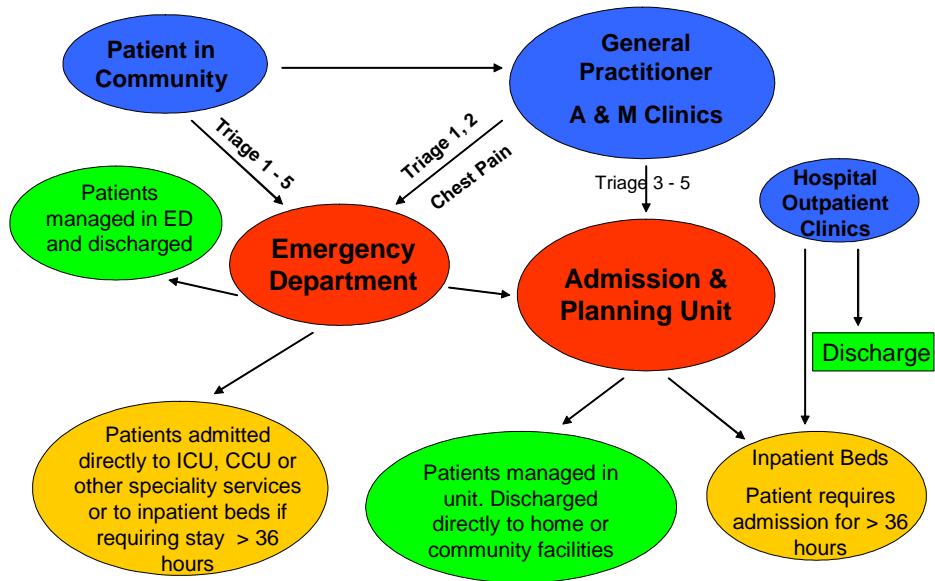
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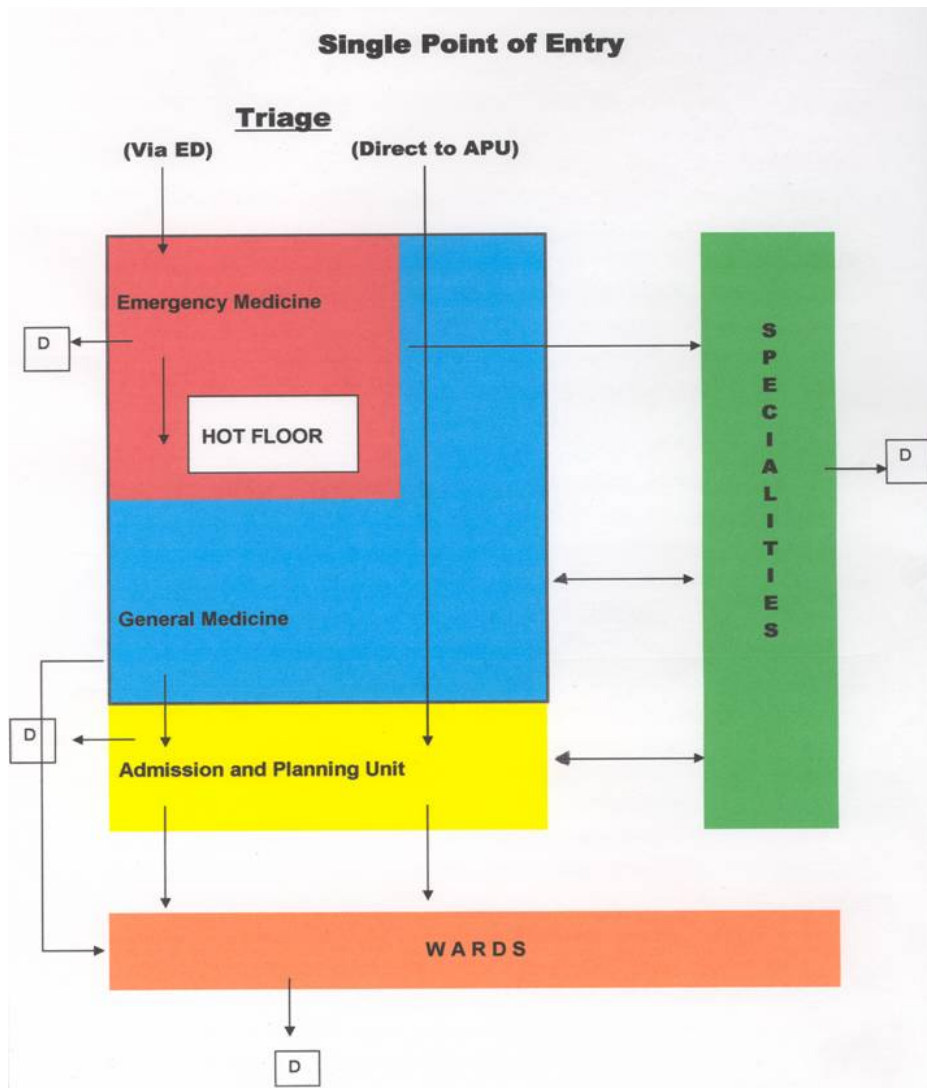
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Appendix 1.
Patient flow for Auckland City Hospital MAPU

PROCESS MAP (ADULT)
ACUTE MEDICAL AND SURGICAL ADMISSIONS



Appendix 2. Floor plan for Auckland City Hospital MAPU



Appendix 3.

Clinical conditions which may warrant direct transfer of patients to subspecialty units from ED depending on local circumstances.

Neurology

- **Acute severe neuromyopathic weakness** suggestive of acute neuropathic and/or myopathic process or cord compression syndrome that places the patient at risk of ventilatory failure (eg. suspected acute myasthenia gravis, Guillain-Barre syndrome, etc).

Gastroenterology

- **Haemodynamically compromised acute upper GI bleeding requiring urgent endoscopy** i.e. BP <110/70 (although threshold could be higher in elderly patients), pulse rate >90, haemoglobin less than 11 grams/l or more than 2 grams less than previous baseline, or patients with ongoing significant haematemesis/melaena).

- **Acute hepatic failure:** Hepatic synthetic dysfunction consisting of hepatic encephalopathy; gross jaundice (serum bilirubin >40 mmol/l), corrected prothrombin ratio >2, serum albumen <25grams per litre.

Respiratory

- **Respiratory arrest or near-arrest** (most of these will first go to intensive care).

- **Acutely dyspnoeic patients** (including asthmatics) who present cyanosed or have other clinical features or arterial blood gas results suggestive of acute respiratory failure, or any patient who has the potential for rapid deterioration on the basis of past history or lack of response to immediate intensive bronchodilator therapy.

- **Severe, life-threatening pneumonia** as defined by the following clinical features: systemic hypotension, confusion or altered level of consciousness in non-elderly patients with no other underlying causes, extensive bilateral or multilobar involvement.

- **Large-volume (>200mls) frank haemoptysis.**

Cardiology (Coronary Care Unit)

- Definite or suspected **acute coronary syndrome** in patients who are eligible for coronary care monitoring and/or invasive intervention

- **Cardiac arrhythmia** or other cardiac conditions associated with marked haemodynamic instability

Endocrine

- **Diabetic patients with diabetic ketoacidosis** with severe acidosis (pH <7.1)

- **Thyroid storm or severe hyperthyroidism** with overt cardiac, psychiatric, ocular or neurological complications (e.g. cardiac failure, psychosis, marked proptosis and/or visual impairment).

- **Myxoedema coma or pre-coma**

Renal

- **Any patient with acute or acute-chronic renal failure that may require dialysis** to treat fluid overload, congestive heart failure, life-threatening hyperkalemia or accelerated/malignant hypertension.

Haematology

- **Undiagnosed severe pancytopenia** (two or more of the following: haemoglobin <90; WCC <2.5; platelet <15).
- **Undiagnosed marked neutropenia** (WCC <1.0).
- **Undiagnosed isolated marked thrombocytopenia** (platelets <5) associated with overt bleeding or high risk of serious spontaneous bleeding.
- **Acute haematological malignancies.**