DISCUSSION PAPER:
ALLIED HEALTH PROFESSION STAFFING
IN QUEENSLAND HEALTH EMERGENCY DEPARTMENTS

MARCH 2011
(This paper was endorsed by the State-Wide Emergency Department Clinical Network on 15 March, 2011)
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EXECUTIVE SUMMARY

INTRODUCTION
The Queensland Health Allied Health Workforce Advice and Coordination Unit was invited to contribute to the State-Wide Emergency Department Network Workforce Working Group (SWWG). The function of the SWWG is to examine current and future issues related to the state-wide Emergency Department (ED) workforce and provide short and long term recommendations to Queensland Health.

OBJECTIVES
The objectives of this discussion paper are to:
• Describe current staffing levels for allied health professionals in EDs across the state;
• Provide a rationale for allied health Models of Care in EDs based on Australian and international evidence/literature;
• List the principles of provision of an allied health service in Queensland Health EDs;
• Make recommendations for minimum allied health staffing levels for EDs in Queensland;

BACKGROUND
Traditionally EDs in Australia and overseas have been staffed by doctors and nurses. Recently there has been a movement towards a more multi-disciplinary approach to the management of patients in the ED. The benefits of employing allied health staff as established members of the ED service have been described in a growing body of literature. These benefits include:
• Improved patient flow through the ED;
• Avoidance of ED patients proceeding to admission to inpatient wards;
• Alleviation of medical staff workload, particularly in lower triage category patients;
• Improved patient outcomes.

CURRENT STAFFING LEVELS
There is little consistency between facilities with respect to current allied health staffing levels in the ED. Radiography, Social Work and Physiotherapy are the allied health professions which have demonstrated the greatest presence in Queensland Health ED teams, particularly in metropolitan facilities. The other allied health professions tend to receive ad hoc referrals. Recently, strategies to promote hospital avoidance and patient flow have been introduced, which has resulted in growth in allied health ED services. An example of this is the Community Hospital Interface Program (CHIP) which is a state-wide framework focusing on the transition between the hospital and the community. Please refer to Table 2 on Page 6 for details of current staffing levels for allied health professionals in Queensland Health EDs.

RECOMMENDATIONS
The recommended minimum staffing levels for allied health professionals in Queensland Health EDs are listed in Table 1. A number of points need to be highlighted as follows.
• These recommendations are only a guideline for ED service planning based on staffing levels and models which exist in Queensland Health or elsewhere. The decision around actual staffing levels is a service decision and is based on available resources, service models and priorities.
• These recommendations may form the basis for reallocation of resources internally to improve patient flows and access to services in a timely fashion, not just for new funding.
### TABLE 1: RECOMMENDED MINIMUM STAFFING LEVELS (FTES) FOR ALLIED HEALTH PROFESSIONALS IN QUEENSLAND HEALTH EMERGENCY DEPARTMENTS

<table>
<thead>
<tr>
<th>MEDICAL IMAGING/RADIOGRAPHY</th>
<th>55000-70000 ED PRESENTATIONS PER ANNUM</th>
<th>40000-55000 ED PRESENTATIONS PER ANNUM</th>
<th>25000-40000 ED PRESENTATIONS PER ANNUM</th>
<th>&lt;15000-25000 ED PRESENTATIONS PER ANNUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIAL WORK</td>
<td>3.5</td>
<td>2.7</td>
<td>1.8</td>
<td>Access to these allied health services in the ED is by referral to relevant profession.</td>
</tr>
<tr>
<td>PHYSIOTHERAPY</td>
<td>3.5</td>
<td>2.7</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>PHARMACY</td>
<td>1.7</td>
<td>1.7</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>OCCUPATIONAL THERAPY</td>
<td>1.7</td>
<td>1.7</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>DIETETICS</td>
<td>0.4</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>SPEECH PATHOLOGY</td>
<td>0.4</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>CARDIAC SCIENCE</td>
<td>1.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.4</td>
</tr>
<tr>
<td>PSYCHOLOGY</td>
<td>Access to these allied health services in the ED is by referral to the relevant profession. Traditionally there has been no allocation of these services to the ED.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUDIOLOGY</td>
<td>This may be due to the fact that they have not been utilised by the ED in the past or the fact that there are limited services available in the local facility. Potential ED models for these professions are described in the Appendix to this document.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>PODIATRY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEURO-PHYSIOLOGY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**N.B.**
- The recommended allied health FTEs should only be allocated for services provided to patients at the time of presentation to the ED.
- Consideration should be given to local service requirements, community needs, availability of technology and models of service delivery when calculating workforce requirements at the facility level.
- Recommended staffing levels include FTEs for management, clinical education and backfill for annual leave as described in the individual tables for each profession.
- The minimum staffing recommendations do not include:
  - Allocations for penalties or shift allowances;
  - Research positions;
  - Services in the ED which are funded by Mental Health Units;
  - Allocations for other services associated with the ED, such as short stay wards, post-discharge follow-up, home visits, etc;
  - Support staff including allied health assistants, technicians and administration staff.
INTRODUCTION

In May 2010 the Queensland Health Allied Health Workforce Advice and Coordination Unit was contacted by the State-Wide Emergency Department Network (SWEDN) and invited to contribute to the State-Wide Emergency Department Network Workforce Working Group (SWWG). The function of the SWWG is to examine current and future issues related to the state-wide Emergency Department (ED) workforce and provide short and long term recommendations to Queensland Health. The SWWG is comprised of multidisciplinary leaders from a range of backgrounds including education, clinical professional groups and recruitment. It is anticipated that the group will be operational for a six month period.

OBJECTIVES

The objectives of this discussion paper are to:
- Present current staffing levels for allied health professionals in EDs across the state;
- Provide a rationale for allied health Models of Care in EDs, based on Australian and international evidence/literature;
- List the principles of provision of an allied health service in Queensland Health EDs;
- Make recommendations for minimum allied health staffing levels and models of care for EDs in Queensland.

BACKGROUND

Traditionally EDs have been staffed by doctors and nurses. Allied health professionals such as physiotherapists, occupational therapists, social workers, radiographers and pharmacists were called to the ED to consult on an ad hoc basis. Over the past 10-20 years there has been growing evidence for a more multi-disciplinary approach to the management of patients in the ED (Johnson & Cusick, 2009). The benefits of employing allied health staff as established members of the ED service have been described in a growing body of literature. Whilst acknowledging the need for further investigation, larger bodies of research involving the professions of pharmacy, social work, occupational therapy, and physiotherapy have demonstrated benefits such as:
- Decreased average length of stay in the ED;
- Decreased admission rates to inpatient wards from the ED (Bird et. al., 2007; Moss et. al., 2002; Princess Alexandra Hospital, 2003);
- Decreased average length of stay in inpatient wards (Bird et. al., 2007; Moss et. al., 2002);
- Decreased readmission rates to the ED (Bird et. al., 2007; Moss et. al., 2002);
- More efficient discharge planning for patients who are discharged directly from the ED or from an inpatient ward at a later date (Moss et. al., 2002);
- Improved continuity of care between the ED and community services (Moss et. al., 2002; Princess Alexandra Hospital, 2003);
- Improved continuity of care between the ED and inpatient wards (Moss et. al., 2002).

The Queensland Government 2010-2011 budget was delivered in June 2010, with a 10.5% growth in the Queensland Health budget. A significant component of this new funding has been committed to:

...facilitate improved emergency department waiting times and the achievement of new National Access Targets to ensure patients are admitted, deferred or discharged within four hours of presentation to an emergency department, when it is clinically appropriate to do so; (Queensland Government, 2009, p3).

Multidisciplinary models of care and increased allied health staffing levels on a 24 hour, 7 day a week basis in the EDs across Queensland will assist Queensland Health to achieve:
- Improved patient flow through the ED;
- Avoidance of ED patients proceeding to admission to inpatient wards;
- Alleviation of medical staff workload, particularly in lower triage category patients;
- Improved patient outcomes.
CURRENT STAFFING LEVELS

Table 2 lists the current staffing levels for allied health professionals in Queensland Health EDs as reported in June 2010. Facilities have been categorised by number of ED patient presentations annually (i.e. activity). This is in line with the categorisation used by the SWWG for nursing, medical and administration staffing levels.

**TABLE 2: FUNDED FTES FOR ALLIED HEALTH PROFESSIONS IN QUEENSLAND HEALTH EMERGENCY DEPARTMENTS (JUNE 2010)**

<table>
<thead>
<tr>
<th>Facilities with 55 000 – 70 000 ED presentations per annum</th>
<th>Facilities with 40 000 – 55 000 ED presentations per annum</th>
<th>Facilities with 25 000 – 40 000 ED presentations per annum</th>
<th>Facilities with &lt;15 000 – 25 000 ED presentations per annum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEDICAL IMAGING/RADIOGRAPHY</strong></td>
<td>Up to 18.6</td>
<td>Up to 8.0</td>
<td>Up to 1.0, may be staffed by private</td>
</tr>
<tr>
<td><strong>SOCIAL WORK</strong></td>
<td>1.4 – 4.0</td>
<td>0.2 – 3.0</td>
<td>0.0 – 2.1</td>
</tr>
<tr>
<td><strong>PHYSIOTHERAPY</strong></td>
<td>0.0 – 2.4</td>
<td>0.0 – 1.0</td>
<td>0.0 – 2.3</td>
</tr>
<tr>
<td><strong>PHARMACY</strong></td>
<td>0.5 – 1.0</td>
<td>0 – 1.25</td>
<td>0.0 – 1.5</td>
</tr>
<tr>
<td><strong>OCCUPATIONAL THERAPY</strong></td>
<td>0 – 1.0</td>
<td>0.0 – 1.0</td>
<td>0.0 – 1.0</td>
</tr>
<tr>
<td><strong>DIETETICS</strong></td>
<td>0.0 – 0.2</td>
<td>0.0 – 0.1</td>
<td>0.0 – 0.1</td>
</tr>
<tr>
<td><strong>SPEECH PATHOLOGY</strong></td>
<td>0.0 – 0.2</td>
<td>0.0 – 0.0</td>
<td>0.0 – 0.0</td>
</tr>
<tr>
<td><strong>CARDIAC SCIENCE</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>PSYCHOLOGY</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>AUDIOLOGY</strong></td>
<td>0.0</td>
<td>0.0</td>
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<tr>
<td><strong>PODIATRY</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>NEUROPHYSIOLOGY</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

* Some Medical Imaging work units have not reported their funded FTEs in ED
** 0.0 FTE may mean the following:
   a) Work units have not reported funded FTEs
   b) There are no specifically funded FTEs for that profession in ED and services are provided on an ad hoc basis

MULTIDISCIPLINARY REFERENCES


The figures in Table 2 demonstrate that there is little consistency between facilities with respect to allied health staffing levels. Medical Imaging/Radiography, Social Work and Physiotherapy are the allied health professions which currently demonstrate the greatest presence in ED teams, particularly in metropolitan facilities. Some examples of the shortfalls which currently exist in funded allied health services in Queensland Health EDs are listed below.
• Very few allied health professions are funded to provide week-end or after hours services to Queensland Health EDs across the state. Most are funded for business hours, Monday to Friday. This does not reflect the nature of the ED caseload.
• The Townsville Hospital (>60 000 presentations per annum), have only just succeeded in securing funded positions for Pharmacy (1.0 FTE) and Social Work (1.5 FTE) to service the ED. Apart from Radiography (FTEs not reported), there are no other allied health professions which are currently funded. The redevelopment of the Townsville Hospital ED is currently underway and staffing levels for nurses, medical officers, allied health professionals and other support staff are currently being planned for the new facility.
• The Gold Coast Hospital (>65 000 presentations per annum) currently has funding for Social Work (4.0 FTE), Radiography (FTEs not reported), Speech Pathology (0.1 FTE) and Pharmacy (0.6 FTE). A trial of a new model, the Advanced Health Practitioner (2.0 FTE), is also being conducted at Gold Coast Hospital. Further details regarding this role are on Page 9.
• Rockhampton Base Hospital ED (>40 000 presentations per annum) has 1.0 funded FTE for Pharmacy only. Apart from Radiography (FTEs not reported), there are no other allied health professions with funded positions to service the Rockhampton Base ED.
• Toowoomba Hospital (>40 000 presentations per annum) ED has 0.8 FTE for Social Work. There is no funding for other allied health services apart from Radiography (FTEs not reported).

There are many more examples of Queensland Health ED services which could benefit from increased input from allied health professionals. The following sections of this discussion paper aim to make recommendations for minimum staffing levels for allied health professions in Queensland Health EDs, and give examples of allied health models of care in EDs from Australia and overseas. Current and future models of care should be planned in response to the needs of the local community and the clinical capability of the facility.

SUGGESTED MODELS OF CARE
To highlight the contribution that allied health professions can make in EDs, this section describes the general principles of providing an allied health service, the outcomes of such a service and suggestions regarding caseload and model of care.

PRINCIPLES
There are a number of principles that need to be taken into account when considering the allied health contribution in the ED. Common themes across disciplines are discussed in the body of this paper with discipline-specific information available in the Appendix. The principles that underpin recommendations on models of care and ED staffing are listed below.

1. Allied health professionals providing services to the ED should operate as part of the broader multi-disciplinary team with medical officers, nursing staff, other allied health professionals and other clinical staff, including assistants and technicians.
2. Allied health services should be delivered as part of an allied health team, the skill mix of which should vary in response to the clinical needs of the facility. New models and services should be considered, trialled, evaluated and implemented where improved patient outcomes are demonstrated.
3. Patient protocols and screening in the ED should be multi-disciplinary where appropriate.
4. Allied health services to the ED should focus on discharge planning and be designed to enable early intervention, improve patient flow and integrate with existing flow strategies. Achieving outcomes in these areas should be a priority and may necessitate the reallocation of resources from other service areas.
5. Allied health professionals in ED should possess the relevant skills to provide appropriate services, particularly when acting as first contact practitioners. There should be recognition and development of a specialty ED skill set within allied health disciplines including advanced and extended practice.
6. Allied health services within ED should focus on the requirements of patients and their families at the time of presentation in order to ensure appropriate care and facilitate a safe discharge from the department. Services which can be safely provided in a more appropriate setting should be organised accordingly.

7. In the allocation of resources for allied health positions in ED, consideration needs to be given to the associated costs of service delivery. Depending on caseload, it may be necessary for allied health professionals to work extended hours, weekends and overnight on-call. There may be the need for a non-labour budget for equipment, disposables, computers and telecommunications. The nature of ED presentations will necessitate staff clinical education, supervision and the establishment of reporting mechanisms.

8. Any FTE allocation and funding that is associated with growth in ED activity should take into account the impact on allied health services within the department, the facility and community services. Support staff such as allied health assistants or technicians should play a role in complementing the ED allied health workforce by performing delegated duties.

OUTCOMES
The application of allied health staff to a model of care in EDs should always be guided by outcomes. These outcomes are evident in a growing body of evidence.

- Use of allied health in ED results in improved efficiency through reduced waiting times, improved patient flow, decreased average length of stay in ED and on inpatient wards as well as a corresponding effect on expenditure (Boyle et. al., 2001; Carlill et. al., 2002; Hardy et. al., 2001; Hendriksen and Harrison, 2001; PAH, 2003).
- Improved individual health outcomes include avoided admissions, more targeted discharge planning and enhanced continuity of care between ED, inpatient and community services (Boyle et. al., 2001; Davidson et. al., 2005; Patterson and Williams, 2005).

MODELS
There are significant caseload and allied health staffing variations in EDs across the state. In light of these variations, allied health services may utilise a number of models, some of which are established while others are being trialled. Patient groups that may potentially be targeted for allied health involvement are listed below.

- Patients to be admitted who require early allied health intervention, treatment planning or significant input during admission, such as early initiation of alternative feeding and nutrition management for stroke patients.
- Patients to be discharged directly from the ED where assessment, intervention and referral to relevant community services is required to ensure a safe transition to the home environment.
- Patients in low triage categories who potentially have long waiting times prior to being seen.
- Patients requiring management of musculoskeletal conditions, functional assessments, assessment and management of psychosocial issues, early assessment of high risk foot complications, medication reviews, complex discharge planning, rehabilitation, education or counselling. Additional detail can be found in the discipline-specific sections of this document’s Appendix.

An increased focus on interdisciplinary care and partnerships between health professionals must be emphasised to enable a holistic, coordinated approach to meeting patient needs. The development of models should consider the elements listed below.

- Allied health professionals in first contact roles to reduce waiting times and improve health outcomes for patients.
- Advanced and extended roles should be explored to allow for effective and efficient practice.
- An allied health team should be a vital part of the ED service utilising interdisciplinary screening, preliminary intervention and referral to appropriate services. This team should include a Team Leader to be an integral part of the department’s management team.
- Access to the Emergency Department Information system (EDIS) for allied health professionals to identify suitable patients without waiting for a referral.
- Referrals from medical officers, nursing staff and other allied health professionals should be considered where the first contact role in this setting is yet to be established. Blanket referrals may be appropriate in particular settings where an allied health team is well established.
• The use of diagnostic modalities in ED to assist with early diagnosis and intervention. This may include radiography/sonography worksheets to assist ED staff in more timely management of patients and should not be limited to low triage categories.
• Staffing should reflect the needs of the service and pay particular attention to high demand times and local factors affecting caseload.
• Patients receiving allied health intervention in the ED may be seen in a dedicated “fast track” area and there may be scope for the ED team to have direct referral access to outpatient clinics or specialist community services.

OTHER ALLIED HEALTH MODELS

COMMUNITY HOSPITAL INTERFACE PROGRAM (CHIP)
The Community Hospital Interface Program (CHIP) is a state-wide framework focusing on the transition between the hospital and the community, enhancing a safe continuum of care for the client. The program aims to:
• Prevent avoidable hospital admissions and readmission;
• Prevent unnecessary presentations to the ED;
• Improve access to appropriate services for clients who are discharged from ED to home;
• Improve communication and care coordination between the hospital and community care providers.

The program may provide:
• Discharge planning support;
• Complex care coordination;
• Temporary clinical care/resources and education;
• Targeted projects;
• Community Health Outside Business Hours Service;
• Assessment and coordination of community services;
• Liaison with community service providers;
• Discharge planning;
• Liaison with community education programs;
• Patient advocacy;
• Patient and family education.

CHIP intake criteria and target groups may vary between Health Service Districts. The program is usually coordinated by a CHIP nurse but often includes funding for allied health services, such as physiotherapy, occupational therapy and dietetics.

MENTAL HEALTH
Allied health professionals play an important role in mental health multidisciplinary teams. Mental Health has not been included in the scope of this document.

PAEDIATRICS
Planning for paediatric ED services for the Queensland Children’s Hospital and for regional and metropolitan hospitals is currently underway. The Allied Health Workforce Advice and Coordination Unit and the allied health professional groups are involved with this planning, which is ongoing. Allied health professionals will require specific training in paediatrics to work in this area.

ADVANCED HEALTH PRACTITIONERS
Currently the Gold Coast Health Service District is in the preliminary stages of implementing a project designed to inform the development of an Advanced Health Practitioner role in ED. The Advanced Health Practitioner project role has been established to lead the development and integration of clinical practices, procedures and protocols that support the patient accessing the appropriate allied health discipline/s for their presenting problems. This role aims to ensure early AH intervention and efficient discharge planning to
improve the patients’ continuity of care regardless of whether they are admitted or discharged from the ED. There are currently 2 FTE Advanced Health Practitioner roles being trialled at the Gold Coast Hospital ED.

ALLIED HEALTH ASSISTANTS/TECHNICIANS

Allied health assistants and technicians currently form part of the allied health team in a large number of Queensland Health facilities. They complement the allied health workforce by performing duties, as delegated by a professional, which do not require high level clinical reasoning. Many allied health assistants in Queensland Health have recently obtained formal qualifications, such as Certificate IV in Allied Health Assistance.

Some efficiencies may be gained through the employment of allied health assistants in the ED. Possible ED models include the employment of pharmacy technicians and medical imaging assistants in the ED. A multidisciplinary model also exists for allied health assistants. This model may also be of benefit in the ED by employing assistants who could work with more than one allied health professional group.

SEXUAL ASSAULT

Social workers and psychologists provide essential services to acute adult (14 years and over) victims of sexual assault who present to EDs. This service is provided alongside the medical, legal and forensic responses. Roles typically undertaken include:

- Provision of crisis intervention;
- Explanation of options re proceeding with forensic and legal responses;
- Co-ordinating the elements of care, including forensic and police involvement;
- Co-ordinating the involvement of support persons;
- Advocating for the victim;
- Supporting the victim through the process as appropriate;
- Ensuring safe discharge;
- Ensuring continuity of care by referral for appropriate follow up.

RECOMMENDATIONS

Across Queensland Health there will be variation in the mix of presentations at EDs. Staffing should be reflective of this with focus on triage categories 3, 4 and 5 ensuring patient flow is prioritised. Table 3 lists the recommended minimum staffing levels for allied health professionals in Queensland Health EDs based on annual patient presentations to EDs. These recommendations are based on present allocations, as well as the suggested models. Please note that minimum staffing levels (FTEs) in the tables have been recommended by the Allied Health Workforce Advice and Coordination Unit in consultation with the various allied health professions. A number of points that need to be highlighted are listed below.

- These recommendations are only a guideline for ED service planning based on staffing levels and models which exist in Queensland Health or elsewhere. The decision around actual staffing levels is a service decision and is based on available resources, service models and priorities.

- These recommendations may form the basis for reallocation of resources internally to improve patient flow and access to services in a timely fashion, not just for new funding.
TABLE 3: RECOMMENDED MINIMUM STAFFING LEVELS (FTES) FOR ALLIED HEALTH PROFESSIONALS IN QUEENSLAND HEALTH EMERGENCY DEPARTMENTS

<table>
<thead>
<tr>
<th>Medical Imaging/Radiography</th>
<th>55000-70000 ED Presentations per annum</th>
<th>40000-55000 ED Presentations per annum</th>
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<th>&lt;15000-25000 ED Presentations per annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to these allied health services in the ED is by referral to relevant profession. Traditionally there has been no allocation of these services to the ED. This may be due to the fact that they have not been utilised by the ED in the past or the fact that there are limited services available in the local facility. Potential ED models for these professions are described on Pages 31-34.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOCIAL WORK | 3.5 | 2.7 | 1.8 |
PHYSIOTHERAPY | 3.5 | 2.7 | 1.8 |
PHARMACY | 1.7 | 1.7 | 0.8 |
OCCUPATIONAL THERAPY | 1.7 | 1.7 | 0.8 |
DIETETICS | 0.4 | 0.2 | 0.1 |
SPEECH PATHOLOGY | 0.4 | 0.2 | 0.1 |
CARDIAC SCIENCE | 1.6 | 0.6 | 0.6 | 0.4 |
PSYCHOLOGY | Refer to Table 4 (Page 14) |
AUDILOGY |
PODIATRY |
NEURO-PHYSIOLOGY |

N.B.  
- The recommended allied health FTEs should only be allocated for services provided to patients at the time of presentation to the ED.  
- Consideration should be given to local service requirements, community needs, availability of technology and models of service delivery when calculating workforce requirements at the facility level.  
- Recommended staffing levels include FTEs for management, clinical education and backfill for annual leave as described in the individual tables for each profession  
- The minimum staffing recommendations do not include:  
  - Allocations for penalties or shift allowances;  
  - Research positions;  
  - Services in the ED which are funded by Mental Health Units;  
  - Allocations for other services associated with the ED, such as short stay wards, post-discharge follow-up, home visits, etc;  
  - Support staff including allied health assistants, technicians and administration staff.

SHIFT ALLOWANCES, PENALTIES AND ON-CALL

When budgeting for allied health services in Queensland Health EDs, funding must include shift allowances and penalty rates for those professions which are required to work extended hours and on-call. When developing and reviewing after-hours services, consideration should be given to the cost of weekend and overnight call-outs. If the cost of call-outs outweighs the cost of a full after-hours shift, it may be preferable to instigate an extra shift. This may result in improved patient flow and budgetary efficiencies.

COMMUNITY SERVICES

Patient flow in the ED relies heavily on the ability of ED staff to refer patients on to health services in the community in a timely manner. It should be noted that any growth in ED activity will have flow-on effects for these services.

RESEARCH

The recommended FTEs in this discussion paper do not include FTEs for research positions. Given the fact that the utilisation of allied health professionals in the ED is a relatively new concept in Australia, further research and establishment of evidence-based practice should be promoted and fostered.
TEACHING/STUDENT MODELS
Pre-entry allied health students should be given the opportunity to gain experience in the ED environment. Models for provision of teaching and supervision of allied health students in the ED should be explored, particularly as the roles of allied health professionals in the emergency environment expand.

SUMMARY
Traditionally there has been limited funding for allied health services in Queensland Health EDs. There is growing evidence, both locally and internationally, to support a more multidisciplinary approach to the care of patients who present to the ED. Current allied health staffing levels in Queensland Health EDs are not consistent across the state and are not sufficient to support the needs of local services.

This document aims to highlight the models of care in which allied health professionals can contribute to cost-effective, efficient, quality care of ED patients. Whilst acknowledging the limitations of making general recommendations for services which are currently provided in an ad hoc manner across the state, it is hoped that this paper will provide guidance on minimum staffing requirements and enable greater consistency in the provision and funding of allied health services in Queensland Health EDs.
APPENDIX: DISCIPLINE-SPECIFIC MODELS FOR ALLIED HEALTH STAFF IN QUEENSLAND HEALTH EMERGENCY DEPARTMENTS

Please note that minimum discipline staffing levels (FTEs) in the tables contained in this Appendix have been recommended by the Allied Health Workforce Advice and Coordination Unit in consultation with the various allied health professions. A number of points should be noted as listed below.

- Some facilities may require more FTEs to cater for specific services.
- The recommended allied health FTEs should only be allocated for services provided to patients at the time of presentation to the ED. They do not include allocations for other services associated with the ED, such as home visits, etc.
- No FTEs have been included for allied health research positions.
- No allocations for penalties or shift allowances have been included in the FTEs.

When calculating FTEs for management, clinical education and backfill for annual leave, the following principles were applied:

- 0.08 FTE per clinical staff FTE was added for management of allied health clinical staff;
- 0.04 per clinical staff FTE was added for clinical education of allied health clinical staff;
- 0.08 FTE per clinical staff FTE was added for backfill for annual leave of allied health clinical staff who are required to work 5 day weeks only;
- 0.1 FTE per clinical staff FTE was added for backfill for annual leave of allied health clinical staff who are required to work extended hours, weekends and shift work.

MEDICAL IMAGING/RADIOGRAPHY

Caseload Type/Procedures
There are 5 general areas of service provision for ED from the Department of Medical Imaging.
- Plain X-rays in all facilities
- CT scanning in some small, all medium and all large facilities
- Ultrasound in some small, all medium and all large facilities
- Interventional Radiology in some large tertiary services.
- MRI is some large facilities.

Suggested Hours of Operation
- Refer to Table 4 below
- 24 hour coverage for all Medical Imaging facilities, either on a staffed or on-call basis.
- 24 hour, 7 day staffed service in the largest facilities for plain x-rays with on call for most modalities.
- On-call service after normal business hours in smaller facilities.
- MRI operating hours may vary due to local requirements and staff availability.

Suggested Models / Current practices and projects
- Medical imaging departments should be located adjacent to EDs. Where this is not possible, arrangements for a satellite medical imaging department with a minimum of plain film service +/- CT and ultrasound should be located either within or adjacent to the ED. Other Services such as MRI, angiography and interventional procedure suites will be generally located within the main x-ray departments.
- A radiologist should be readily available for consultation by ED staff regarding image reports and choice of appropriate imaging procedures. This consultation may be face to face or via established communication pathways.
- Reporting by radiologists should be on-site during business hours and on-call remotely via PACS out of hours.
- Sonographers will produce a worksheet summarising the findings of the examination. These worksheets form part of the diagnostic suite. These worksheets inform the radiologists’ final report however it may be acted upon directly to ensure timely provision of care.
- The Radiographer Abnormality Description (RAD) Project is currently being trialled at the Royal Brisbane and Women’s Hospital and The Prince Charles Hospital. This involves the radiography workforce providing comments in the form of a worksheet on acute injury plain film imaging within a clinically useful timeframe.
• FAST (Focused Assessment with Sonography in Trauma) scans are performed by sonographers and some medical staff as first contact clinicians to detect intraperitoneal free fluid in trauma patients.

**Benefits**
• Improved timely access to image interpretation opinions by Radiographers and Sonographers will facilitate a reduction in missed abnormalities.

### TABLE 4: RECOMMENDED STAFFING (FTES) FOR MEDICAL IMAGING/RADIOGRAPHY SERVICES TO EMERGENCY DEPARTMENT*

*N.B. Table 4 lists the staffing requirements in EDs for medical imaging, as recommended by the Association of Medical Radiation Directors - Queensland. It should be noted ED radiographer staffing models, particularly after normal business hours, need to reflect the concurrent hospital-wide services provided by medical imaging. These duties will also include intensive care, inter-hospital transfers, ward cases, mobile and operating theatre service.*

<table>
<thead>
<tr>
<th></th>
<th>55 000-70 000 ED PRESENTATIONS PER ANNUM</th>
<th>40 000-55 000 ED PRESENTATIONS PER ANNUM</th>
<th>25 000-40 000 ED PRESENTATIONS PER ANNUM</th>
<th>&lt;15 000-25 000 ED PRESENTATIONS PER ANNUM</th>
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<td><strong>General</strong></td>
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<td></td>
<td>– 24 hour cover</td>
<td>– 17 hour cover</td>
<td>– 12 hour cover</td>
<td>– 8-12 hour cover</td>
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<td>– 7 day service</td>
<td>– 7 day service</td>
<td>– 7 day service</td>
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<td></td>
<td>– 3 shifts + 1 overlapping shifts</td>
<td>– 2 shifts + 1 overlapping shift</td>
<td>– 2 overlapping shifts</td>
<td>– (Often sole practitioner)</td>
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<td></td>
<td>– 2 FTE per shift and 1 coordinator for</td>
<td>– 2 FTE per shift</td>
<td>– 1-2 FTE per shift</td>
<td>– On-call as required</td>
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<td></td>
<td>day and evening shifts</td>
<td>– On-call as required</td>
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<td><strong>CT</strong></td>
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<td>– 17 hour cover</td>
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<td>– 7 day service</td>
<td>– 7 day service</td>
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<td>– 2 shifts + 1 overlapping shift</td>
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<td>– On-call as required</td>
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<td><strong>Ultrasound</strong></td>
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<td>– 17 hour cover</td>
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<td>– 2 shifts + 1 overlapping shift</td>
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<td>– On-call as required</td>
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<td><strong>Interventional Radiology</strong></td>
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<td>– 8 hour cover</td>
<td>– 8 hour cover if available</td>
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<td></td>
<td>– 5 day service</td>
<td>– 5 day service</td>
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<td>– 2 overlapping shifts</td>
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<td><strong>MRI</strong></td>
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<td>– 12 hour cover</td>
<td>– 12 hour cover</td>
<td>– 8 hour cover if available</td>
<td>– 8 hour cover if available</td>
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<td></td>
<td>– 2 overlapping shifts</td>
<td>– 5-7 days as available/required</td>
<td>– 1 shift</td>
<td>– 1 shift</td>
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<td></td>
<td>– 1-2 FTE per shift</td>
<td>– 2 overlapping shifts</td>
<td>– 1 FTE per shift</td>
<td>– 1 FTE per shift</td>
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<td></td>
<td>– 5-7 days as available/required</td>
<td>– 1-2 FTE per shift</td>
<td>– 5 day service</td>
<td>– 5 day service</td>
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<td></td>
<td>– On-call as required</td>
<td>– On-call as required</td>
<td>– 1 FTE per shift</td>
<td>– 1 FTE per shift</td>
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</tbody>
</table>
MEDICAL IMAGING/RADIOGRAPHY REFERENCES

SOCIAL WORK

Caseload Type
- Sudden death
- Life threatening/resuscitation presentations
- Critical incidents such as a motor vehicle accident, assault, witness to traumatic death, victim of crime or other criminal act.
- Sexual Assault (adult)
- Child Protection issues (including child sexual assault)
- Domestic and Family Violence including intimate partner violence, elder abuse
- Chronic illness/disability, including intellectual or acquired brain injury/ dementia/palliative and change in level of functioning or capacity issues
- Carer stress and/or family conflict
- Alcohol or drug misuse/ addictions
- Mental health issues where liaison with specialist mental health services needs to be facilitated, or where mental health intervention not available
- Homelessness
- Stress related to a pregnancy issue such as miscarriage or unexpected pregnancy
- Stress related to parenting or other family issues
- Situational crisis related to anxiety, grief and loss issues, relationship issues or isolation.
- Resourcing requirements, including emergency housing, finance to pay for medications, food, transport.
- Requirement for information and education about, referral to or liaison with community based services for home care, aged care assessment teams, respite and permanent residential care, Department of Communities Child Safety Services and Disability Services, cross cultural supports, ongoing counselling services, practical assistance, Centrelink, legal services, local support groups or emergency relief agencies.

Suggested Hours of Operation
- Refer to Table 5 below
- 7 day service
- Morning and evening shifts with on-call overnight in larger facilities
- Guidelines for overnight call-outs need to be clearly defined to work within Best Practice standards, Fatigue Management Policy and Crisis Intervention Theory. Sudden death, major trauma, domestic violence, sexual assault and child protection are commonly established as indications for on-call overnight intervention. The protocols and guidelines for SW on-call will be defined and established according to the casemix and needs of the individual facility.

Interventions Provided
- Psychosocial Assessments including high risk psychosocial screening
- Bereavement intervention including trauma counselling, liaison with Coroner’s Office and QPS, support for relatives in identification/viewing procedures, counselling regarding autopsy, organ and tissue donation and coronial procedures, practical assistance
- Crisis Intervention in major trauma and assault
- Risk management for Child Protection/statutory duties, including liaison with Department of Community Services, QPS
- Counselling interventions including adjustment counselling and grief/loss counselling
- Complex discharge planning including psychosocial risk management, advocacy and resourcing for vulnerable elderly/disabled or those lacking capacity, homeless, victims of domestic and family violence
- Risk management for Child Protection/statutory duties, including liaison with Department of Community Services, QPS
- Liaison with other hospital based services e.g. alcohol and drug, mental health, indigenous health, CHIP and ED team members
- Provision of information, education and referral to community based services
- Disaster response: defined role in individual Health Service Districts

**Suggested Models / Current practices and projects**

- The social worker should be physically located in the ED, preferably close to triage, with private confidential space and as a minimum have access to an interviewing room to see clients and make private phone calls.
- Access to a computer with EDIS to identify patients suitable for SW intervention.
- The social worker should access referrals through a variety of means including direct referrals from medical and nursing staff, as well as from others including administration staff, QAS, GPs. Referrals can also come as a result of a direct request from patients and their families. The social worker should be responsible for screening all patients in the ED via EDIS for patients in the above caseload categories that may not be referred by other means.
- The social worker can be a first contact practitioner from Triage for patients presenting with emotional trauma or other psychosocial distress and no other medical concerns. These patients usually receive a low triage score and potentially have long waiting times to be seen by a medical officer. The social worker would then liaise with the medical and nursing staff regarding intervention provided, need for medical review and discharge plans.
- The social worker should take on an educative role with the ED team about issues such as identifying and responding to issues of bereavement, family violence, child abuse and neglect, sexual assault and other areas of expertise. Specific triage guidelines should be developed.
- The social worker should make available written information and education material such as in waiting areas e.g. brochures about crisis counselling services, community services, and health issues.
- When admission is required, comprehensive written report and referral to ward social workers for further assessment, intervention and appropriate discharge planning should be made.
- Social Work Departments in EDs throughout Queensland Health have a number of innovative models. These include:
  - At RBWH a social alert mechanism known as HOVER has been successfully instigated to identify those patients whose social issues could impact upon timely discharge from the ED. The objective is to provide prompt and early assessment to patients who are likely to have issues impacting upon a safe and suitable discharge from the emergency dept and to minimise representation on social grounds. The acronym HOVER alerts ED staff to the following social issues:
    - Homeless
    - Out of area
    - Violence
    - External issues impacting discharge
    - Resource issues
  - At RCH partnerships with the Child Advocacy Service, Pastoral Care, Welfare Officers, Health Liaison officers and RCH Foundation Volunteers, who provide specialised additional or supporting services on referral from social workers in ED.
  - A state-wide network for SW working in ED was established in 2009. Projects include development of standardised ED Fact Sheets on psychosocial issues, standardised protocols; screening and triage tools, and promotion of evidence-based practice.
  - There is currently a trial of Emergency Department Homeless Liaison Officers at 4 sites across Queensland, including RBWH, PAH & Logan.

**Benefits** (Boyle et. al., 2010; Bywaters, 2003; Hardy 2001; McLeod, 2002; PAH, 1996, Serrano, 2007)

- Reduction in inappropriate presentations or frequent representations
- Reduction in unnecessary admissions
- Enhanced continuity of care for those patients requiring admission
- Reduced length of stay for admitted patients
- Diversion of patients to community agencies where this is appropriate
- Relieving other staff from having to provide a psycho-social intervention
- Reduced psychosocial distress due to changed health status/crisis/critical incident
- Risk management and completion of statutory duties e.g. in child protection

Table 5 lists the recommended minimum staffing levels for Social Work in the ED. It should be noted that some Queensland Health facilities currently have higher staffing levels than those suggested. This is due to specific services which have been established to meet local community needs.
### TABLE 5: RECOMMENDED MINIMUM STAFFING (FTES) IN EMERGENCY DEPARTMENT FOR SOCIAL WORK

<table>
<thead>
<tr>
<th>ED PRESENTATIONS PER ANNUM</th>
<th>Mon-Fri</th>
<th>Weekends and public holidays</th>
<th>Total Clinical FTE</th>
<th>Add (0.08 per FTE for management + 0.04 per FTE for clinical education) = 0.12 per FTE</th>
<th>Add 0.1 per FTE for backfill (extended hours)</th>
<th>TOTAL FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 000-70 000</td>
<td>2.0 FTE</td>
<td>2.0 FTE</td>
<td>2.9</td>
<td>0.35</td>
<td>0.29</td>
<td>3.5</td>
</tr>
<tr>
<td>40 000-55 000</td>
<td>1.5 FTE</td>
<td>1.5 FTE</td>
<td>2.2</td>
<td>0.26</td>
<td>0.22</td>
<td>2.7</td>
</tr>
<tr>
<td>25 000-40 000</td>
<td>1.0 FTE</td>
<td>1.0 FTE</td>
<td>1.5</td>
<td>0.18</td>
<td>0.15</td>
<td>1.8</td>
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<tr>
<td>&lt;15 000-25 000</td>
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</tbody>
</table>

Access to these allied health services in the ED is by referral to relevant profession

*Consideration should be given to local service requirements, community needs, availability of technology and models of service delivery when calculating workforce requirements at the facility level.

### SOCIAL WORK REFERENCES


PHYSIOTHERAPY

**Caseload Type**
- Musculoskeletal conditions with evidence for immediate/early management including but not limited to sprains, strains, contusions, dislocations, fractures, back and neck pain, and spinal pathology indicating deteriorating neurological function.
- Early management of patients presenting with mobility problems and mobility equipment requirements to facilitate early function and safe discharge e.g. conditions as listed above, neurological patients, frail aged patients, etc, with a focus on hospital admission prevention.
- Adult and paediatric patients requiring urgent cardiorespiratory physiotherapy e.g. pneumonia, COPD, fractured ribs, etc.
- Patients who have been admitted post fall or who are deemed at high risk of falling due to musculoskeletal or balance problems with the primary aim of facilitating safe discharge, reducing likelihood of future falls, re-injury and re-presentation.
- In some services – notably rural and smaller facilities, physiotherapists may provide assistance with splinting, plasters and bracing.
- Screening, education and management for paediatric conditions, including musculoskeletal, cardiorespiratory and specific paediatric conditions (e.g. talipes, plagiocephaly) where it is inappropriate to delay intervention.

**Suggested Hours of Operation**
- Refer to Table 6 below
- 7 day service
- Morning and afternoon shifts in larger facilities
- On-call overnight

**Suggested Models / Current practices and projects**
- The Australian Physiotherapy Association has recently established a national ED Physiotherapy Special Interest Group. This group has developed some definitions around physiotherapy roles in ED:
  - The Emergency Physiotherapy Practitioner (EPP) provides a primary contact physiotherapy service to patients presenting with musculoskeletal injuries. The EPP may draw patients directly from the ED waiting room and commence assessment and treatment according to defined intake and exclusion criteria.
  - The Emergency Department Physiotherapist (EDP) provides a secondary contact physiotherapy service to patients who have already been assessed by medical staff and who require physiotherapy intervention in order to facilitate discharge from the ED to their home. The EDP provides physiotherapy assessment and intervention to ensure adequate mobility status, and to arrange appropriate community physiotherapy or other health professional services. The EDP would also facilitate physiotherapy handover to ward physiotherapy staff for patients who are admitted to hospital.
- The Prince Charles Hospital uses the EPP model. The position is a primary contact clinician for musculoskeletal conditions and injuries. The clinicians monitor the Emergency Department Information System (EDIS) for appropriate patients and are then responsible for the assessment, management, treatment, discharge, referral on, and all documentation for that patient.
- Local agreements may exist for ED physiotherapists to request plain X-rays for persons >16 years.
- Patients may be seen in a dedicated “fast track” area.
- RBWH and PAH have daily Soft Tissue Clinics run by ED physiotherapists with medical staff support, offering 15 min appointments to review musculoskeletal injuries previously seen in the ED. Input includes hands-on treatment, advice for exercise progression, and organisation of continuing care. The benefits of this system include:
  - A second point of contact for patients, allowing organisation of check x-rays (e.g. scaphoid and other small bone fractures which may not be evident on initial x-ray images).
  - Appropriate referral to fracture clinics for injuries that fail to settle, rather than booking larger numbers of unnecessary referrals based on decisions made at initial presentation to the ED. (This clinic has direct referral access to orthopaedic outpatients).
  - A more thorough musculoskeletal examination at a time when initial post-injury hyperalgesia has settled.
Benefits

- The primary contact physiotherapy (EPP) service would complement the medical and nursing service provided within ED by fast tracking patients with musculoskeletal conditions therefore reducing waiting times and freeing up medical resource for patients presenting with higher category conditions (Anaf & Sheppard, 2007; Bethel, 2005).
- Improved patient satisfaction (Anaf & Sheppard, 2007; McClellan et. al., 2006).
- Decreased average length of stay (Fleming-McDonnell et. al., 2010).
- Improved patient outcomes (Fleming-McDonnell et. al., 2010; Anaf & Sheppard, 2007)
- Avoidance of detrimental effects caused by delayed treatment of injuries due to lengthy physiotherapy outpatients waiting lists.

Table 6 lists the recommended minimum staffing (FTEs) for physiotherapy in EDs. It should be noted that the Physiotherapy Advisory Forum of Queensland has recommended higher FTEs. This is based on the inclusion of specific models of care. Also, shift allowances and penalties have not been included in the recommended FTEs in this document. Some facilities are currently staffed at higher levels than those suggested below. This is due to the fact that these facilities provide specific physiotherapy-related services to meet local clinical needs, e.g. the soft tissue injuries clinics in the EDs at PAH and RBWH.

<table>
<thead>
<tr>
<th>TABLE 6: RECOMMENDED MINIMUM STAFFING (FTES) IN EMERGENCY DEPARTMENT FOR PHYSIOTHERAPY</th>
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<tbody>
<tr>
<td>55 000-70 000 ED PRESENTATIONS PER ANNUM</td>
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<td>---------------------------------------------------------------</td>
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<tr>
<td>Mon-Fri</td>
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<tr>
<td>2.0 FTE On-call overnight</td>
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<td>1.5 FTE On-call overnight</td>
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<td>1.0 FTE On-call overnight</td>
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<td>2.9</td>
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<tr>
<td>Add (0.08 per FTE for management + 0.04 per FTE for clinical education = 0.12 per FTE)</td>
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<tr>
<td>0.35</td>
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<td>0.26</td>
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<td>3.5</td>
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</tbody>
</table>

*Consideration should be given to local service requirements, community needs, availability of technology and models of service delivery when calculating workforce requirements at the facility level.

PHYSIOTHERAPY REFERENCES


**PHARMACY**

**Caseload Type**
- Patients with specialised medication requirements or dose adjustments such as paediatric patients or patients with renal impairment, diabetes, cardiac disease, liver disease, transplants, mental health problems, cancer or those requiring palliative care.
- Patients presenting with a medication-related problem.
- Patients that would benefit from a Home Medication Review referral program to community-based pharmacists, to limit re-presentations due to poor medication management in the community.
- Patients at greater likelihood of re-presenting due to medication misadventure.
- Provision of advice to medical and nursing staff on toxicology and management of poisonings, medication issues or protocols, drug information and stock availability.

**Suggested Hours of Operation**
- Refer Table 7 below
- 7 day service

**Suggested Models / Current practices and projects**
- The Society of Hospital Pharmacists of Australia (SHPA) has published the Standards of Practice in Emergency Medicine Pharmacy Practice (SHPA, 2006). These standards describe the activities consistent with good practice for the provision of clinical pharmacy services in the specialty area of emergency medicine. They recommend that the presentation and bed ratio per 1 FTE pharmacist is 60 presentations to standard ED cubicles (not all will require a full clinical service) and 1 FTE per 20 short stay (MAPU) beds to maintain a comprehensive patient-focused service for effective full-time pharmacist input.
- Patients to be admitted would be screened to identify those most likely to require the expertise of a pharmacist and the level of pharmaceutical review required. The Emergency Department Pharmacist aims to optimise patient outcomes by working to achieve the best possible quality use of medicines (SHPA, 2006). Clinical pharmacy activities include:-
  - Conducting medication history interviews and reconciling them with the patient's medication chart, medical condition and presenting complaint. Electronically inputting medication information into the electronic liaison medication system (eLMS) to facilitate transfer of medication information and discharge processes.
  - Identifying medication-related admissions and problems and taking action to resolve them.
  - Providing advice on medication issues and protocols.
  - Identifying and reducing medication error.
  - Assessment of a patient’s ability to manage their medication regimen after discharge and initiate discharge planning process by communicating medication-related problems to relevant ward staff and providing a handover to ward pharmacists.
  - Provide patient’s with medication counselling and written information
- The implementation of a Home Medication Review referral program to community based pharmacists would limit re-presentations from patients who are poorly managed in the community.
- Other activities provided by the Emergency Department Pharmacist would include:
  - Provision of advice on toxicology, management of poisonings, medication issues, methods of administration and stock availability.
  - Assistance with development of drug protocols, drug selection, and formulation choice.
  - Coordination of medication supply, dispensing, and inventory control
  - Provision of drug expenditure advice, evaluation of drug use and promotion of best practice
  - Staff education and orientation
- Pharmacists have been integral members of the ED team in many USA locations for approximately 20 years and in the last decade in the UK. The legal framework in these jurisdictions is different from that
Currently in Australia and allows pharmacists a greater scope of practice. Possible future role of pharmacists that can be evaluated within the Australian setting (subject to legislation) could include: treatment and prescribing for appropriate patients and the implementation of a pharmacist role in the Medical Emergency team (Society of Hospital Pharmacists of Australia, 2006).

- One clinical pharmacist with advanced ED skills should be responsible for the coordination of all aspects of the service. The provision of some aspects of the service may be delegated to more junior or pre-registration pharmacists and support staff.
- The importance of the contribution of Pharmacy Assistants in supply and delivery of stock should be emphasised when describing any Pharmacy ED models.

**Benefits**

- Facilitation of patient transition from primary to secondary care (SHPA Clinical Standards, Collignon, 2010; Welch, 1997; Taylor, 2003)
- Improved continuity in medication management between the ED and community services (McCradden, 1995; Akwagyrian, 1996; APAC Guidelines 2005)
- Improved continuity in medication management between the ED and inpatient wards (APAC Guidelines 2005; Welch, 1997)
- Expedite of patient discharge process (Welch, 1997)
- Alleviation of workload for medical and nursing staff (Harding, 2001)
- Improved medication safety (Fairbanks, 2007; Fairbanks et al., 2007; Schenkel, 2000; Stowasser, et al., 1997; Welch, 1997)
- Reduction in medication history errors (Taylor et al., 2003)
- Improved efficiencies and reduced drug wastage (Fairbanks, 2007; Welch, 1997; Collignon 2010)
- Provision of medication-related education and induction for junior medical staff and nursing staff (Fairbanks, 2007; Collignon 2010)
- Increased influence over appropriate prescribing (Taylor, 2007)
- Provision of a discharge medication record in the discharge summary to ensure accuracy, reducing the risk of readmissions (Stowasser, et al., 2002)
- Support of ED targets by improving patient flow (Collignon, 2010)
- Greater offset of ED drug costs through supply and improved claiming of PBS subsidised medicines to ED patients (Collignon, 2010)

**TABLE 7: RECOMMENDED MINIMUM STAFFING (FTES) IN EMERGENCY DEPARTMENT FOR PHARMACY**

<table>
<thead>
<tr>
<th>ED Presentations Per Annum</th>
<th>Mon-Fri</th>
<th>Weekends and Public Holidays</th>
<th>Total Clinical FTES*</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 000-70 000</td>
<td>1.0 FTE</td>
<td>1.0 FTE</td>
<td>1.4</td>
</tr>
<tr>
<td>40 000-55 000</td>
<td>1.0 FTE</td>
<td>1.0 FTE</td>
<td>1.4</td>
</tr>
<tr>
<td>25 000-40 000</td>
<td>0.5 FTE</td>
<td>0.5 FTE</td>
<td>0.7</td>
</tr>
<tr>
<td>&lt;15 000-25 000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Access to these allied health services in the ED is by referral to relevant profession.

*Consideration should be given to local service requirements, ED peak times in relation to casemix, community needs, availability of technology and models of service delivery when calculating workforce requirements at the facility level.
PHARMACY REFERENCES


OCCUPATIONAL THERAPY

Caseload Type

- Patients who are at risk due to decreased functional ability and are unable to be discharged from the ED to manage safely and independently in their home environment.
- Patients who have presented to ED post fall at home or in the community.
- Patients with upper limb fractures or injuries that may affect independence and safety to carry out essential activities of daily living.
- Hand injuries requiring OT intervention, including basic splinting.
- Patients with lower limb fractures or injuries that may affect transfers, mobility, ADL function and ability to manage in home environment.
- Patients who require splinting, compression therapy or other equipment which may facilitate safe discharge from the ED.
- TIA screening for functional concerns, or early management of cerebrovascular attack patients.
- Mild Traumatic Brain Injury cognitive screening and referral.
- Minor burns screening, early management and appropriate referral.

The types of services provided by OTs in the ED include:

- Functional assessment including self care, domestic tasks and community access
- Discharge planning and safety assessment for ED discharge home
- Education regarding energy conservation and falls prevention
- Cognitive and neurological assessments (e.g. confusion, head injuries)
- Referral to community agencies (e.g. Home Visits, Community Rehabilitation)
- Provision of and/or advice regarding equipment.

Suggested Hours of Operation / Current practices and projects

- Refer Table 8 below
- 7 day service

Suggested Models

- At PAH a trial is being conducted to investigate the validity and reliability of a phone interview tool to follow-up patients who have been discharged from the ED with minor brain injuries.
- An informal model of care has developed in some Queensland Health ED settings, whereby OTs initiate first contact with patients. Provision of assessment details has then been provided to appropriate medical personnel. The types of patients include those with confusion, post-fall or decline in functional ability with low triage category and who are medically stable.
- Funding and support of an appropriate short-term equipment loan pool. This equipment could be co-located with other allied health equipment, such as walking aids, and should be stored in an area close to the ED to facilitate timely discharge.

Benefits

- More efficient discharge planning for patients who are discharged directly from the ED or from an inpatient ward at a later date (Boyle et. al., 2007; Carlill et. al., 2002; Hardy et. al., 2001; Paterson and Williams, 2005; Hendriksen and Harrison, 2001)
- Improved continuity of care between the ED and community services (PAH, 2003; Hendriksen and Harrison, 2001)
- Improved continuity of care between the ED and inpatient wards resulting in decreased length of stay (Boyle et. al., 2001; Davidson et. al., 2005; Patterson and Williams, 2005)
- Improved patient flow through ED resulting in earlier discharge from ED (Boyle et. al., 2001; Carlill et. al., 2002; Hardy et. al., 2001; Hendriksen and Harrison, 2001; PAH, 2003)
- Early intervention and appropriate and timely follow-up for patients, resulting in enhanced patient outcomes such as enhanced independence in ADLs (Carlill et. al., 2002; Hardy et. al., 2001; Hendriksen and Harrison, 2001; Patterson and Williams, 2005; Close, 1999; Davidson et. al., 2005; Shaw et. al., 2003)
- Decreased hospital readmission rates as a result of a fall (Patterson and Williams, 2005; Close et. al., 1999)
- Decreased falls rate in cognitively intact patients (Davidson et. al., 2002; Patterson and Williams, 2005; Close, 1999)
TABLE 8: RECOMMENDED MINIMUM STAFFING (FTES) IN EMERGENCY DEPARTMENT FOR OCCUPATIONAL THERAPY

<table>
<thead>
<tr>
<th>Number of ED Presentations Per Annum</th>
<th>Mon-Fri</th>
<th>Weekends and public holidays</th>
<th>Total Clinical FTEs*</th>
<th>Add (0.08 per FTE for management + 0.04 per FTE for clinical education) = 0.12 per FTE</th>
<th>Add 0.08 per FTE for backfill (5 day service)</th>
<th>TOTAL FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 000-70 000</td>
<td>1.0 FTE</td>
<td>1.0 FTE</td>
<td>1.4</td>
<td>0.17</td>
<td>0.11</td>
<td>1.7</td>
</tr>
<tr>
<td>40 000-55 000</td>
<td>1 FTE</td>
<td>1.0 FTE</td>
<td>1.4</td>
<td>0.17</td>
<td>0.11</td>
<td>1.7</td>
</tr>
<tr>
<td>25 000-40 000</td>
<td>0.5 FTE</td>
<td>0.5 FTE</td>
<td>0.7</td>
<td>0.08</td>
<td></td>
<td>0.8</td>
</tr>
<tr>
<td>&lt;15 000-25 000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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*Consideration should be given to local service requirements, community needs, availability of technology and models of service delivery when calculating workforce requirements at the facility level.

OCCUPATIONAL THERAPY REFERENCES


### DIETETICS

**Caseload Type**
- Malnourished patients
- Patients who are addicted to alcohol
- Unstable diabetes
- Patients requiring a percutaneous endoscopic gastrostomy (PEG) or enteral feed regimen and feeds to be arranged during their stay in ED
- Patient requiring enteral nutrition to avoid admission e.g. malnourished, eating disorders
- Acutely unwell children with metabolic disorders who present with an intercurrent illness, requiring assessment and urgent commencement of emergency feeding regime
- Patients with eating disorders and very poor nutritional status, who may require rehydration and safe re-feeding plan to be commenced in ED prior to admission to ward
- Initiation of a feeding plan for early intervention prior to transfer to the ward.

**Suggested Hours of Operation**
- Refer Table 9 below
- 5 day service

**Suggested Models / Current practices and projects**
- Malnutrition screening protocols should be implemented for ED admissions of patients who are deemed at risk. This could involve the use of screening questions on nursing admission forms. E.g. patients who present to ED post-fall.
- A current Queensland Health ED study has revealed that the malnourished are not being identified through routine hospital procedures. Of 21 participants assessed as malnourished in the study, only one was captured through routine hospital data collection, documentation and coding processes. A malnutrition diagnosis as part of an ED admission can influence Diagnosis-Related Group (DRG) coding. This emphasises the need for not only malnutrition screening, but a dietetic presence to complete and document malnutrition assessments within EDs (Watterson et al., 2010). As a result, appropriate identification, documentation, DRG coding and funding may be achieved (Banks and Vivanti, 2005).
- Consideration should be given to ED nursing admission forms including the identification of bariatric cases to ensure appropriate equipment and handling for staff safety. This can be successfully screened by assessing BMI of those weighing >90kg if females and >100kg if male (Vivanti, 2010). This will contribute to patient and staff safety through improved handling.
- The Prince Charles Hospital has instigated a co-ordinated interdisciplinary service (including dietetics) in their Early Assessment Medical Unit (EMU). The majority of patients are transferred directly from ED. Average Length of Stay is 27 hours with 35% direct discharge home from the ward. All staff are at senior level and positions are not rotated. All patients are screened for malnutrition with around 40% confirmed as malnourished. Preliminary advice only is provided and services are arranged for ongoing support. Follow-up concerning malnutrition and any referrals for chronic disease are linked to community services for ongoing care.

**Benefits**
- Early identification and treatment of malnutrition to avoid secondary complications from malnutrition, such as infection, death, increased average length of stay and hospital costs (Correia and Waitzberg, 2003).
- Early identification and treatment of malnutrition to reduce falls (Vivanti et. Al., 2009).
- Early identification of bariatric patients (Vivanti, 2010) to reduce staff and patient handling risks.
- In recognition of the national burden of injury, including from alcohol use, falls prevention amongst older people was endorsed as a National Priority Area by Australian Health Ministers (Department of Health and ageing, 2005). This initiative is in support of this endorsement.
### TABLE 9: RECOMMENDED MINIMUM STAFFING (FTES) IN EMERGENCY DEPARTMENT FOR DIETETICS

<table>
<thead>
<tr>
<th>Presentations per annum</th>
<th>Mon-Fri</th>
<th>Weekends and public holidays</th>
<th>Total Clinical FTEs*</th>
<th>Add (0.08 per FTE for management + 0.04 per FTE for clinical education) = 0.12 per FTE</th>
<th>Add 0.08 per FTE for backfill (5 day service)</th>
<th>TOTAL FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 000-70 000 ED</td>
<td>0.3 FTE</td>
<td>On-call 24 hours</td>
<td>0.4</td>
<td>0.02</td>
<td>0.008</td>
<td>0.4</td>
</tr>
<tr>
<td>40 000-55 000 ED</td>
<td>0.2 FTE</td>
<td>On-call 24 hours</td>
<td>0.2</td>
<td>0.02</td>
<td>0.008</td>
<td>0.2</td>
</tr>
<tr>
<td>25 000-40 000 ED</td>
<td>0.1 FTE</td>
<td>On-call 24 hours</td>
<td>0.1</td>
<td>0.012</td>
<td>0.008</td>
<td>0.1</td>
</tr>
<tr>
<td>&lt;15 000-25 000 ED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### DIETETICS REFERENCES

### SPEECH PATHOLOGY

#### Caseload Type/Procedures
- Swallowing assessments for dysphagia due to neurological conditions.
- Children with feeding and/or swallowing disorders.
- Patients with communication difficulties.
- Patients with who have presented with a cerebrovascular attack.
- Patients with progressive neurological disease.
- Minor head injury.
- Laryngectomy.

#### Suggested Hours of Operation
- Refer Table 10 below
- 5 day service
- On-call for week-ends and out of hours
Suggested Models / Current practices and projects

- Referrals from medical, nursing and allied health staff for patients with communication and swallowing difficulties, to meet best practice guidelines by providing earlier intervention e.g. the National Stroke Foundation Guidelines 2007 recommend that:
  - Patients should be screened for swallowing deficits before being given food, drink or oral medications;
  - Screening should be undertaken by personnel specifically trained in swallowing screening;
  - Patients should be screened within 24 hours of admission;
  - Patients who fail the swallowing screening should be referred to a speech pathologist for a comprehensive assessment.
- Training of ED doctors and nurses in screening protocols and swallowing guidelines would reduce the need for on-call and weekend work.

Benefits

- Earlier commencement of appropriate diet.
- Improved timeliness of referrals to objective assessments of swallowing.
- Reduced average length of stay for patients with dysphagia due to reduced likelihood of aspiration related complications.
- Reduced likelihood of readmissions of patients discharged from ED with dysphagia due to timely home follow-up.

| TABLE 10: RECOMMENDED MINIMUM STAFFING (FTES) IN EMERGENCY DEPARTMENT FOR SPEECH PATHOLOGY |
|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| 55 000-70 000 ED PRESENTATIONS PER ANNUM | 40 000-55 000 ED PRESENTATIONS PER ANNUM | 25 000-40 000 ED PRESENTATIONS PER ANNUM | <15 000-25 000 ED PRESENTATIONS PER ANNUM |
| Mon-Fri | 0.3 FTE | 0.2 FTE | 0.1 FTE | 0.4 |
| Weekends and public holidays | On-call | On-call | On-call | 0.02 |
| Add (0.08 per FTE for management + 0.04 per FTE for clinical education) = 0.12 per FTE | 0.04 | 0.02 | 0.012 | 0.02 |
| Add 0.08 per FTE for backfill (5 day service) | 0.02 | 0.02 | 0.008 | 0.02 |
| TOTAL FTE  | 0.4 | 0.2 | 0.1 | |

Access to these allied health services in the ED is by referral to relevant profession

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SPEECH PATHOLOGY REFERENCES


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**CARDIAC SCIENCE**

**Caseload Type/procedures**

- Exercise stress tests
- Transthoracic echocardiograms
- Implantable cardiac device checks

**Suggested Hours of Operation**

- Refer Table 11 below
- 7 day service in larger facilities
- Extended hours in larger facilities

**Suggested Models / Current practices and projects**

- An innovative Chest Pain Management Service (CPMS) was developed at the RBWH in 2005 and has now been expanded as a state-wide service.
- Chest pain (CP) is one of the major reasons why patients present to emergency departments. Patients presenting with chest pain have experienced long delays in treatment due to a lack of available resources, which places pressure on hospital beds and can result in inappropriate discharges. Reducing heart muscle damage reduces heart failure which is a debilitating disease for the patient and a burden on the health care system.
- The CPMS is a standardised chest pain management protocol (based on best practice) and provision of after-hours testing services. The service results in an improvement in patient safety by identifying high risk patients earlier and reduced patient bed-night stays. A key contributor to the savings is the implementation of after-hours Exercise Stress Testing (EST) which has dramatically reduced bed night stays and bed block. After-hours EST expedites discharge for patients who are low risk, and admission for high risk patients with earlier time to treatment, resulting in better clinical outcomes.

**Benefits**

- Since October 2005, over 3341 patients have been assessed through the CPMS at the RBWH. This has resulted in $4,131,380 saved in overnight bed stays. *(Based on The Patient Fees and Charges Guide, a public patient costs $979 for an overnight stay).* The results showed 18% indeterminate, 76% negative and 6% positive (high risk of heart attack).
  - A total of 1193 days’ delay was avoided for high risk patients to receive earlier treatment.
  - High risk patients were identified earlier and received earlier access to treatment (interventional angiogram). Earlier intervention for high risk patients decreases the likelihood of heart failure which is a major burden to the patient and the health system.
  - Low risk patients were able to be discharged with the knowledge that they were at a low risk of a coronary event and had received all evidence based recommended testing resulting in a high level of confidence that they are discharged appropriately.
  - 75% of staff indicated that their practice was improved though use of the CPMS protocol as it prompted them to perform tasks.
TABLE 11: RECOMMENDED MINIMUM STAFFING (FTES) IN EMERGENCY DEPARTMENT FOR CARDIAC SCIENCE

<table>
<thead>
<tr>
<th>Caseload Type</th>
<th>55 000-70 000 ED PRESENTATIONS PER ANNUM</th>
<th>40 000-55 000 ED PRESENTATIONS PER ANNUM</th>
<th>25 000-40 000 ED PRESENTATIONS PER ANNUM</th>
<th>&lt;15 000-25 000 ED PRESENTATIONS PER ANNUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon-Fri</td>
<td>11.00am-8.00pm</td>
<td>1.00pm-5.00pm</td>
<td>1.00pm-5.00pm</td>
<td>M,W,F 1.00pm-5.00pm</td>
</tr>
<tr>
<td>Weekends and public holidays</td>
<td>9.00am-12.00pm</td>
<td>9.00am-12.00pm (On-call)</td>
<td>9.00am-12.00pm (On-call)</td>
<td>No service</td>
</tr>
<tr>
<td>Total Clinical FTEs*</td>
<td>1.3</td>
<td>0.5</td>
<td>0.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Add (0.08 per FTE for management + 0.04 per FTE for clinical education) = 0.12 per FTE</td>
<td>0.16</td>
<td>0.06</td>
<td>0.06</td>
<td>0.04</td>
</tr>
<tr>
<td>Add 0.08 per FTE for backfill (5 day service)</td>
<td>0.1</td>
<td>0.04</td>
<td>0.04</td>
<td>0.02</td>
</tr>
<tr>
<td>TOTAL FTE</td>
<td>1.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.4</td>
</tr>
</tbody>
</table>

*Consideration should be given to local service requirements, community needs, availability of technology and models of service delivery when calculating workforce requirements at the facility level.

PSYCHOLOGY

**Caseload Type**
- Mental health models/ assessment.
- Psycho-social assessment.
- Basic cognitive function testing for stroke, delirium and dementia.
- Mood assessment for COPD, cardiac, chest pain not due to a cardiac condition (e.g. panic).
- Presentation due to poor adherence to treatment (diabetes, etc).
- Behaviour management in cases of anger or distress among patients or carers.
- Emotional support.
- Debriefing.
- Patients presenting in pain associated with opioid seeking.
- Non-specific abdominal pain in women where high psychological co-morbidity exists.
- While the above patients are medically investigated and treated, the frequency of presentation, resource use and prognosis/outcome for the patient is often governed by the untreated psychological co-morbidity.

**Suggested Hours of Operation**
- Refer Table 3 (page 11)
- 5 day service

**Suggested Models / Current practices and projects**
- Referrals from nurses, doctors and other allied health professionals.
- Existing mental health service models.
- There are a large cohort of ED presentations where psychological factors are critically enmeshed with the reason and frequency for presentation, yet the presence and severity of the mental health condition is ‘subthreshold’ from a Mental Health Services admission point of view, or often not considered or detected.
- Although out of scope of this paper, reviews of Mental Health service models in EDs support the need for more psychologically skilled staff in ED for adequate triaging and responsiveness to mental health conditions.
Benefits
- Early psychological intervention.
- Reduced readmissions to ED.

PSYCHOLOGY REFERENCES

AUDIOLOGY

Caseload Type
- Audiological assessment subsequent to: sudden hearing loss in one or both ears, head trauma, perforation of an eardrum, increase in tinnitus, vertigo or dizziness, recurrent middle ear dysfunction, and meningitis.
- Provision of assistive listening devices and organisation of rehabilitation in the community for patients experiencing communication difficulties with hospital staff as a result of a pre-morbid or newly acquired hearing loss.

Suggested Hours of Operation
- Refer Table 3 (Page 11)
- 5 day service

Suggested Models / Current practices and projects
- Patients with a sudden hearing loss in one or both ears which does not appear to be related to middle ear effusion or ear trauma should be referred to and seen by Audiology on the same day of admission.
- Infants or children diagnosed with meningitis (which can cause significant sensorineural hearing loss in one or both ears, particularly if bacterial in nature) should be referred for audiological assessment as soon as they are medically stable.
- Further development of the clinical pathways currently in place in ED for the conditions mentioned above (in Caseload Type section) so that ED staff are more aware of the importance of immediate audiological contribution in these cases.
- Education for ED staff on deafness and hearing loss, the barriers and stresses people with a hearing impairment typically face when coming to hospital, how staff can change their practices so that communication and care are not compromised in any way, and how to assist patients in managing their hearing aids and other amplification devices.
- Advice to ED staff on the purchase or loan of assistive listening devices and the utilisation of interpreter services to assist hearing impaired patients.

Benefits
- If a sensorineural hearing loss with sudden onset is identified on audiological testing, early treatment by an ENT specialist or medical officer may be able to reverse the hearing loss in some cases.
- Early audiological assessment of paediatric patients diagnosed with meningitis (particularly if bacterial in nature) is critical for speech and language outcomes. If audiological assessment is delayed in these cases, ossification of the cochlea/s can occur which can limit the success of rehabilitation options such as cochlear implants.
- Early identification of communication difficulties may lead to better health outcomes.
PODIATRY

**Caseload Type**
- Expert foot ulcer triage.
- Lower Limb vascular and neurological assessment.

**Suggested Hours of Operation**
- Refer Table 3 (Page 11)
- Ad hoc referral service

**Suggested Models**
- Ad hoc podiatry services are currently provided to Queensland Health EDs on referral. There are no designated funded podiatry services.
- Clinical pathways and protocols exist for the presentation of high risk foot complications at EDs in other states and overseas (Royal Melbourne Hospital, 2008; NHS, 2009). The National Health Service Guidelines (2009) recommend that all foot ulcer presentations should be reviewed by a specialist diabetic foot health professional or team within four hours of presenting, which is consistent with procedures at Royal Melbourne and Royal Perth Hospitals (Royal Melbourne Hospital, 2008; NHS, 2009).
- A trial is proposed in the Metro North Health Service District to implement a similar model to the Royal Melbourne Hospital model (described above). This would involve the implementation of clinical pathways for patients presenting to ED with high-risk feet, resulting in early podiatry assessment and intervention.

**Benefits**
- NHMRC guidelines (2005) report diabetic foot complications to be the most common reason for admission of a diabetic patient (Diabetes Australia, 2005). In Queensland (2008) there were:
  - 3,036 admissions from a diabetic foot ulcer (70.7 / 100,000) and
  - 37,682 occupied bed days required, excluding substantial non diabetic foot ulcers (Queensland Health, 2010).
- Early identification and referral to specialist multi-disciplinary high risk foot teams (consisting, at least, of a Podiatrist and Physician) can significantly reduce:
  - hospitalisation rates by 90%,
  - average length of stay (ALOS),
  - amputations by 85% and
  - days lost from work by 70% (Diabetes Australia, 2005; Van Houtum et. al., 2004; Patout et. al., 2000).
- A 23% reduction in admissions for patients, presenting to a large Australian Tertiary Hospital ED with foot ulceration, was achieved through employing Podiatrists as a key early component of foot ulcer ED triage (Royal Melbourne Hospital, 2010).
- Potential cost savings per prevented foot ulcer admission are significant, at from $9,000 per average admission. This is based on a 13-day average length of stay coupled with a $698 average occupied bed day cost. (Australian Institute of Health & Welfare, 2008).
- $US63 000 can be saved by preventing a major lower limb amputation admission (Apelqvist, 1995).
- Improved patient outcomes, fiscal savings and multiple efficiencies are achievable through full scope utilisation of podiatrists with high-risk foot management skills in EDs, in line with the Queensland Health Guidelines for Care and Referral of Adults with Type 2 Diabetes (2006).
- The National Health Service National Institute of Clinical Excellence Guidelines (2009) suggest that podiatry coordination of community discharge referrals would not only provide timely treatment for presenting patients but allow medical, nursing and other health professionals to utilise their time more effectively.

**PODIATRY REFERENCES**

11. Royal Melbourne Hospital (2010), Diabetic Foot Unit. 

**NEUROPHYSIOLOGY**

**Caseload Type**
- EEGs for investigation of patients presenting to ED with status epilepticus

**Suggested Hours of Operation**
- Refer Table 3 (Page 11)
- 5 day service

**Suggested Models**
- At RBWH, neurophysiology staff perform EEG services in ED.

**Benefits**
- Early assessment and appropriate intervention