Metropolitan Emergency Department Access Initiative

a report on

AMBULANCE RAMPING

in metropolitan hospitals

JULY 2012

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EXECUTIVE SUMMARY

The Metropolitan Emergency Department Access Initiative (MEDAI) was established in October 2011 to identify solutions to ambulance ramping in Queensland metropolitan hospitals.

Representation included key stakeholder groups:

- Queensland Health hospital administrators;
- Emergency Department (ED) clinicians;
- Queensland Ambulance Service (QAS) paramedics; and
- Relevant union representatives.

Three key system-wide change principles were identified:

WHOLE OF SYSTEM APPROACH

Ambulance ramping and delay in offload of patients into public hospital EDs occurs primarily because of ED overcrowding.

- The greatest single contributing factor to ED overcrowding is *Access Block* (the inability to access an inpatient hospital bed).
- Queensland Health must recognise ambulance ramping as a whole of health system problem.
- System wide solutions are needed. A focus for solutions solely within EDs will result in escalation of the problem over time.

ACCOUNTABILITY

As system manager, Queensland Health retain responsibility for ensuring optimal overall performance:

- Queensland Health must incorporate a well-defined accountability framework with regard to public hospital ED access into Hospital and Health Service performance agreements; and
- Queensland Health should consider introduction of a performance related incentive funding framework for Hospital and Health Services.

Accountability for ED access at the hospital level must be clearly defined and understood by executives, administrators and clinicians throughout the entire hospital system.

THE QUEENSLAND AMBULANCE SERVICE – QUEENSLAND HEALTH INTERFACE

QAS are a key stakeholder. The interface between QAS and Queensland Health has significant implication for delivery of services by both organisations.

QAS is responsible for distribution of workload into public hospital EDs:

- QAS must implement and be accountable for a mutually agreed distribution framework;
- QAS require capability to measure real-time capacity within EDs.

Queensland Health is responsible for providing open and timely access into all public hospital EDs:

- Initiation of QAS diversion or *bypass* by Queensland Health EDs cannot occur;
- Triage must occur upon arrival and no patient can return to the back of an ambulance after triage;
- There is a need for clarity around responsibilities during the Patient Off-Stretcher Time.

Improving coordination and integration between QAS and Queensland Health is a key element for reform however combining them under a single organisational structure is not a solution to ramping.

IMPLEMENTATION OF RECOMMENDATIONS

- Issues affecting ED access are not unique to metropolitan areas.
- The review recommendations are all interdependent and should be considered as a package, in their entirety, across the state.
- Implementation of recommendations should be completed by 1 January 2013.

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SUMMARY OF KEY FINDINGS

MEDAI have undertaken detailed analysis of the entire patient journey; from ambulance pick up; to arrival at hospital; to being treated in the ED; and through to admission or discharge.

Individual processes undertaken by both QAS and Queensland Health staff have been reviewed in detail by working group members and a series of findings and recommendations relating to process improvements are outlined in this report.

Key findings of the MEDAI include:

• Internal hospital processes for the management of ED capacity issues are inconsistent across metropolitan hospitals. Inconsistencies were identified in:
  – How accountability for ED capacity issues is defined;
  – How demand escalation processes are implemented and applied;
  – How the Emergency Capacity Hospital Overview (ECHO) system and the SAPhTE ED capacity tool is applied;
  – How patient flow management systems and processes are applied.
• Ambulance diversion or *bypass* is an unacceptable mechanism for Queensland Health to manage ED demand;
• QAS load share distribution (i.e. decisions around which hospitals ambulances transport patient to) requires increased central coordination and accountability;
• Triage and Patient off Stretcher Time (POST) care varies between hospitals;
• The roles and responsibilities for transfer of patients between QAS and Queensland Health staff is not clearly defined and/or understood;
• Existing processes for inter-hospital transfers results in the inappropriate use of EDs;
• There is inadequate integration between QAS and Queensland Health in the planning for and delivery of a seamless emergency healthcare system.

SUMMARY OF RECOMMENDATIONS

RECOMMENDATION 1

That each Hospital and Health Service nominates an accountable person at Executive Director level (or higher) to be responsible for Emergency Department (ED) access issues within each facility. This role should include providing a 24-hour single point of non-ED executive level contact for the QAS on ED access issues.

RECOMMENDATION 2

That Queensland Health includes a key performance indicator relating to Patient off-Stretcher Time (POST) in future Service Level Agreements for Hospital and Health Services. Furthermore, consideration should be given to the development of a performance based hospital access incentive-funding framework as part of the Queensland Health purchasing framework from 2013–14.

RECOMMENDATION 3

That Queensland Health review the current ED capacity escalation response based on the framework outlined in Appendix B and establish a mechanism to ensure that it is a mandatory requirement for each Hospital and Health Service to implement by 1 January 2013.

RECOMMENDATION 4

That Queensland Health reviews the role of the Emergency Capacity Hospital Overview (ECHO) and internal ED capacity (SAPhTE) scores. This review should consider:

• Removal of visibility of these scores across EDs;

• The requirement for a validated hospital and ED capacity measurement tool.

RECOMMENDATION 5

That Queensland Health expects maximal patient flow and bed management strategies as normal business practice within all Queensland public hospitals. Each Hospital and Health Service must demonstrate:

• Active use of predictive bed management tools to optimise capacity by balancing emergency and elective demand over a seven (7) day week;

• Introduction of patient flow management IT systems that have seamless state-wide integration.

RECOMMENDATION 6

That Queensland Health supports a policy position that ambulance '*bypass*' is an unacceptable mechanism for managing ED demand and that by 1 January 2013; no Queensland hospital will have the authority to divert ambulances to another hospital.

RECOMMENDATION 7

The QAS is responsible for ambulance load share into EDs. The distribution framework must take into account the following decision hierarchy:

• Specific mutually agreed criteria relevant to the anticipated clinical needs of the patient;

• Proximity of the patient to the receiving hospital;

• Real time capacity of the receiving hospital;

• QAS resource distribution and response capability.

The provision of timely and accurate data from QAS to Queensland Health is necessary to allow audit of QAS distribution with an emphasis on delivering the right patient to the right hospital at the right time, and to allow review of each ED contribution to overall ambulance load.

RECOMMENDATION 8

Triage must occur on arrival.
- Analysis of time-to-triage is a necessary component of any review into POST performance;
- POST should be reported as both 30 minutes and 90th percentile time;
- Appropriate ambulance patients should be transferred to the waiting room under the observation of the Clinical Initiative Nurse.

RECOMMENDATION 9

That Queensland Health introduce dedicated senior level Clinical Initiative Nurses to the waiting room of all major EDs to assist in mitigating the risk associated with those patients waiting to be seen.

RECOMMENDATION 10

No patient should return to the back of an ambulance after triage. Hospitals must provide a suitable area within the ED for QAS crews to support patients who have been triaged and are awaiting transfer off stretcher to a dedicated treatment space. This location must be:
- In visible proximity to clinical ED staff;
- Discrete from the ED waiting room.

RECOMMENDATION 11

That Queensland Health and QAS introduce formal education modules into respective mandatory training to ensure QAS paramedics and Queensland Health triage staff have a clear understanding of each other's role and scope of practice.

RECOMMENDATION 12

That a Patient off Stretcher Time (POST) Policy directed at ensuring the time from arrival to clinical handover from QAS to the hospital is less than 30 minutes, be reviewed and implemented as a mandatory directive from Queensland Health by 1 January 2013. This policy must reflect:
- Queensland Health's responsibility for overall patient care from the time of triage;
- QAS responsibility for supportive care within the approved scope of practice.

RECOMMENDATION 13

That QAS review the role of the QAS Hospital Liaison Officer (HLO), to optimise its contribution in the environment created by implementation of these recommendations.

RECOMMENDATION 14

Inter-hospital transfers not requiring specialist emergency medical care should not transit through the ED. A policy for this is to be developed and implemented as a mandatory directive from Queensland Health by 1 January 2013.

RECOMMENDATION 15

The establishment of a high-level Emergency Services Management Committee (ESMC) is required to provide policy advice to the Minister on issues affecting consumer access to (and delivery of) public hospital emergency services. The ESMC:
- Must have the breadth of membership to represent key stakeholders and the level of membership to take responsibility for implementation;
- Should be co-chaired by the Queensland Health Director General and the QAS Commissioner and meet at least quarterly.

In addition to the strategic agenda, the co-chairs will be responsible for leadership around operational issues.

The initial mandate of this committee will be to monitor implementation of the recommendations of the review in their entirety across the state, by 1 January 2013.

INTRODUCTION

This report outlines the major findings from the *Metropolitan Emergency Department Access Initiative (MEDAI)* undertaken between October 2011 and May 2012.

Ambulance ramping refers to the situation where patients transported to an Emergency Department (ED) by ambulance experience delays in offload from the ambulance trolley to an ED treatment area.[1] For the purpose of this report, a delay in ambulance offload into public hospital EDs of 30 minutes or greater will be referred to as ambulance ramping.

Ambulance ramping is not new to Queensland but the impact of delay in offload of ambulance patients into public hospital EDs has increased dramatically in the last few years. Whilst Queensland demonstrated the best national performance in 2010/11 with an average ambulance off-stretcher time of 18 minutes (31 minutes in NSW), there has been a staggering 62% increase in paramedic lost-hours time due to ramping in the same time period. This suggests that without definitive remedial action, Queensland is on the verge of a crisis in access for ambulance patients into EDs.

There are costs associated with ambulance ramping that can be measured.

- QAS lost time associated with delay in off-stretcher exceeding 30 minutes, within the 27 main public hospital EDs in Queensland, has increased by over 200% in the last four (4) years with a 92% increase in the last year alone *(see Figure 1)*.

- In 2010/11 there was 1,315 days of lost time for QAS associated with ramping in excess of 30 minutes.

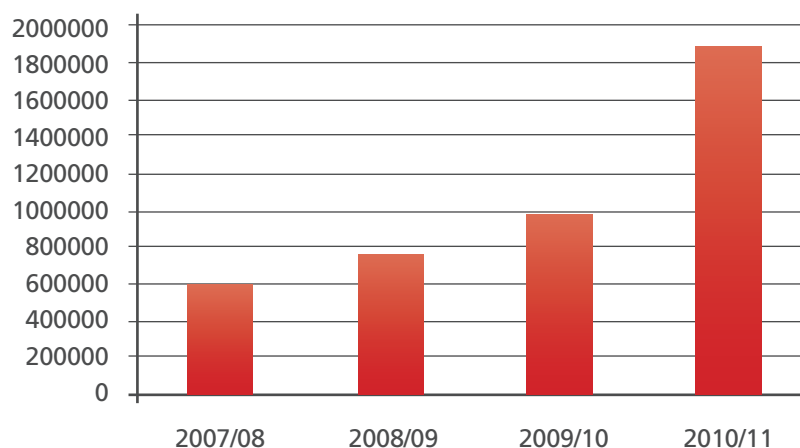## LOST TIME (QAS) IN MINUTES WHEN OFF STRETCHER > 30 MINS

Figure 1 – QAS lost time associated with ramping

1 Hammond, E., Shaban, R. Z., et al (2012). *An Exploratory Study to Examine the Phenomenon and Practice of Ambulance Ramping at Hospitals within the Queensland Health Southern Districts and the Queensland Ambulance Service.* Queensland Health & Griffith University: Brisbane.

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An exact measure of adverse morbidity and mortality directly related to ambulance ramping is not known. The causative relationship between *access block* and ramping however suggests that a correlation can be drawn between the two and that there is a very strong likelihood that ambulance ramping is associated with adverse outcomes for patients who experience a delay in access to appropriate emergency medicine care.

A Health Quality and Complaints Commission (HQCC) investigation into a patient death in the ED of a metropolitan public hospital in 2007 highlighted multiple system issues around the QAS and Queensland Health interface. In the final report dated November 2009, the HQCC notified the intention to *"maintain a monitoring role in relation to the development of state-wide guidelines for the handover and transfer of patient responsibility between QAS and Queensland Health, when a patient is brought to a Queensland Health ED"*. The HQCC have lodged a formal request for a copy of the findings of this review.

The MEDAI project brought together a broad group of ED clinicians and ambulance service professionals, as well as senior clinicians from other key areas within the health system. This is the first time that such a diverse group of stakeholders had been brought together to discuss the causes and potential solutions to ambulance ramping in Queensland public hospital EDs.

The primary aim of the MEDAI project was to improve timely access to emergency care for the people of Queensland. This report provides a series of recommendations for consideration by the Queensland Government that are considered essential in improving the interface between the QAS and public hospital EDs.

MEDAI TERMS OF REFERENCE

The Metropolitan Emergency Department Access Initiative (MEDAI) was established to identify a range of initiatives, to enhance the interface between Queensland public hospitals and the QAS, and to improve consumer access to ED services in metropolitan hospitals.

The project included the following key focus areas:

- Engagement of pre-hospital and ED clinicians to define the common obstacles to timely and equitable access to care.
- Engagement of southeast Queensland metropolitan hospitals to develop models of service delivery that foster collaborative working relationships and reduce the siloed approach to the delivery of patient care with a specific focus on the QAS / ED interface.
- Engagement of key stakeholders to clarify and obtain consensus on the responsibilities of Queensland Health and QAS with respect to access to ED care and in collaboration with QAS, review the current Queensland Health Patient Off-Stretcher Time (POST) Policy and provide recommendations to enhance the effectiveness and applicability of this policy.
- Review of service delivery models that have been proven to enhance the interface between patient transport/ ambulance services and public EDs resulting in improved ED access and experiences for consumers; and examine their applicability in the Queensland context.

In October 2011, Dr David Rosengren was appointed as the Director of MEDAI. Dr Rosengren is a Senior Staff Specialist Emergency Physician at Royal Brisbane and Women's Hospital and Director of Emergency Medicine at Greenslopes Private Hospital. He is on the Executive of the Queensland Faculty of the Australasian College for Emergency Medicine and is Chairman of the Queensland Emergency Medicine Research Foundation. He has many years of experience in clinical emergency medicine in Queensland.

The MEDAI project involved the establishment of two advisory committees:

- The **Strategic Advisory Committee** was established to provide strategic oversight to MEDAI and through the Director, provide advice to the Minister for Health; and
- The **Operational Working Group** was established to provide support and guidance to the Director, MEDAI by representing the views and experiences of frontline practitioners involved in providing emergency care.

Dedicated operational support was provided to the Director MEDAI by:

- Ms Eleanor Hammond, Registered Nurse, Princess Alexandra Hospital; and
- Mr Alan Mountford, Advanced Care Paramedic – Hospital Liaison, United Voice.

The Centre for Healthcare Improvement, Queensland Health, provided business and secretariat support functions.

Further details around the Scope of the project, Committee Membership and Review Methodology can be found in **Appendix A.**

KEY ISSUES

EMERGENCY DEMAND DRIVERS

Demand for ED services in Queensland public hospitals is growing at an alarming rate. Between July 2008 and July 2011, there has been, on average a 4.8% annual increase in attendances in Queensland's 27 largest EDs. For the 14 metropolitan hospitals within the scope of this project there has been an average 4.2% annual increase in attendances.

The reasons for this growth in demand for ED services are varied[2]. It is widely recognised that Queensland's rapidly growing and ageing population is placing a significant demand burden on our public hospitals. As our population grows older, there is a heightened dependence on the public health system. The median age of the Queensland population in June 2010 was 36.2 years. The Australian Bureau of Statistics predicts that by 2026, this will have increased to 38.9, and by 2056 to 42.1.

The proportion of the population aged 65 years and older in Queensland is increasing. In 2009, 12.4% of the population was aged 65 years and older and by 2056, this proportion is expected to increase to 26.1% Over the next 50 years the number of people aged more than 75 years will increase by more than 400%. This projection alone confirms that demand for health services will continue to grow.
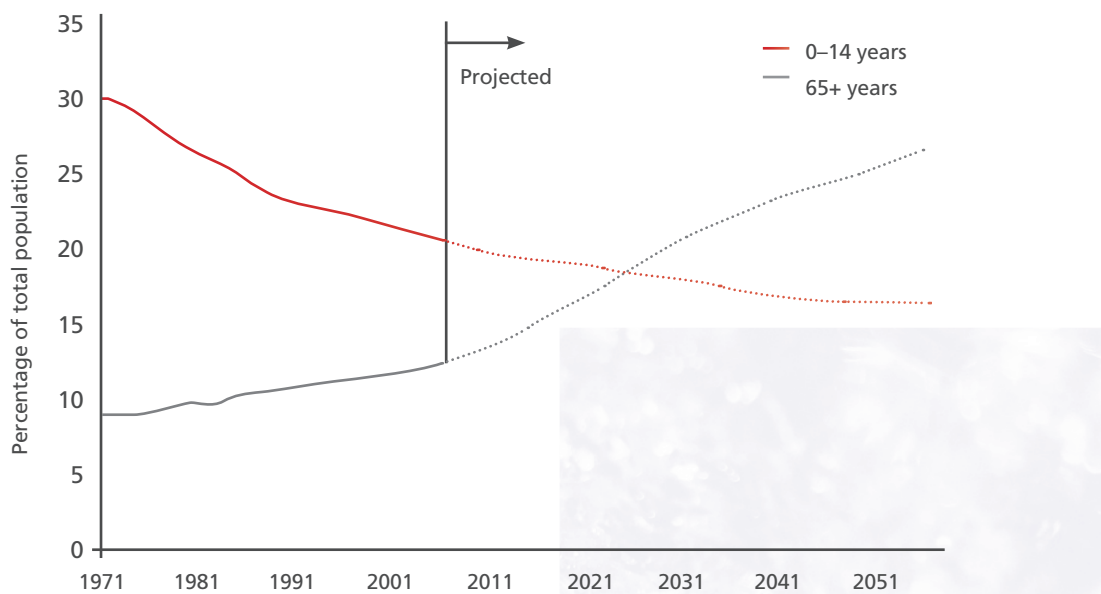

Fig 2. Proportion of children and older people Queensland 1971–2056
Source: The health of Queenslanders 2010. Third report of the Chief Health Officer

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2   Tooo, S., Fitzgerald, G., et al. Emergency Health Services Demand and Service Delivery Models. *Queensland University of Technology*

Queenslanders are also feeling the burden of growing rates of chronic disease caused by lifestyle factors such as poor diet, smoking and growing rates of cardiovascular disease. This is a major contributor to the ever-growing dependence on the public health system.

Add to this the increasing growth in the cost of living for the average Queensland household (leading to more people relying on the publicly funded health system) and difficulties in accessing Commonwealth-funded General Practitioner services in the community; it is not surprising that we are seeing more people turn to our public ED services to access primary health care.

The QAS has not been immune to these demographic demand pressures. The same drivers of disproportionate increase in demand for ED care over the last decade have been mirrored by an increase in demand for ambulance transport. In 2010/11 there were 338,908 ambulance transports to the 27 main EDs in Queensland, compared to 295,869 in 20008/09, an increase of over 14% in one year. This is not a phenomenon unique to Queensland with data from Victoria demonstrating a nearly 5% annual increase in ambulance demand beyond that explained by demographic changes.[3]

The Queensland Treasury commissioned *Queensland Ambulance Service Audit Report*[4] by Pricewaterhouse Coopers in 2007 noted there were multiple drivers for increased demand. In addition to the well described impact of an ageing population and the increase burden of chronic disease in the community, the report acknowledged a peak in demand associated with the introduction of the Community Ambulance Levy in 2003.

Despite the growing demand pressures on the Queensland public hospital and ambulance services, it is without doubt that Queenslanders are afforded a high quality of health care when compared to international public health care standards. Our dedicated nursing, medical and paramedic workforces continue to provide a world class standard of care to the people of Queensland, despite the complex and frequently chaotic environment.

In the realms of emergency medicine, the symptoms of this chaotic environment include extended waiting times to see a doctor in the ED; delays in patients accessing inpatient beds; ambulances queuing outside the ED and sub-optimal ambulance response times.

EMERGENCY DEPARTMENT ACCESS

Ambulances ramp primarily because the EDs are full. ED overcrowding is an international phenomenon and the underlying cause is well studied and reported[5].

The causes of ED overcrowding are complex and multifaceted. Factors that influence ED capacity include:

• Input factors – demand for ED services;

• Throughput factors – processing efficiency within the ED;

• Output factors – access to discharge options (home / community / inpatient hospital bed).

It is widely acknowledged that the single greatest contributor to ED overcrowding is the inability to access an inpatient bed for those patients requiring admission from the ED[6, 7]. An inability to transfer patients out of the ED into an appropriate inpatient area has a direct effect on the ability to manage throughput and input issues. Commonly known as *Access Block*, fixing this ED outflow bottleneck is the key to solving overcrowding and ambulance ramping.

There is no doubt that appropriately balanced load distribution by ambulance into EDs is important. There is however strong local evidence that supports the notion that addressing ED ambulance input in isolation will not provide any sustainable relief to the ambulance ramping problem. The introduction of a highly sophisticated ambulance distribution matrix in NSW has resulted in a very balanced distribution of workload across metropolitan EDs. This reform however has not been matched by improving *access block* within the hospitals and the EDs remain overcrowded. NSW currently demonstrates their worst ramping statistics on record. It is worthwhile noting that in NSW, ambulance is incorporated into the government Health portfolio.

3   Lowthian, J., Jolley, D., et al. The challenges of population ageing: accelerating demand for emergency ambulance services by older people. *Med J Aust* 2011; 194:574–578

4   Queensland Ambulance Service Audit Report. *Pricewaterhouse Coopers* (PwC) Dec 2007

5   Hoot, N. and Aronsky, D. Systematic review of ED crowding *Ann Emerg Med* 2008; 52(2):126–136

6   Forero, R., Hilman, K., et al. Access Block and ED Overcrowding. *Emerg Med Austral* 2010; 22: 119–135

7   Fatovich, D., Nagree, Y., and Sprivulis, P. Access Block causes ED overcrowding and ambulance diversion in Perth, WA. *Emerg Med J*2005; 22:351–354

NATIONAL HEALTH REFORM

Queensland Health is currently in the midst of introducing significant Commonwealth health reform as outlined in the *National Health Reform Act 2011*. The introduction of Hospital and Health Service's (HHS's) and divestment of responsibility of health care to community Boards provides an opportunity for decision-making and accountability that is more responsive to local health priorities.

The introduction of the National Emergency Access Target (NEAT) and the changes in funding for health service provision through the introduction of Activity Based Funding (ABF) will ensure access to acute hospital care through EDs will be in the spotlight. With this opportunity however come challenges. The challenge of the unknown may be overwhelming for some but for others provides an opportunity to think outside the square and look at innovative ways to review traditional practices and find improved efficiency through process redesign. It is the latter that is needed.

Patients attending EDs rightly expect to be seen by a doctor, treated appropriately and either admitted to a ward or discharged home in a timely manner. Achieving the NEAT requires a coordinated approach from the whole health system. There will be a challenge to ensure the target is met by ensuring application of best practice in patient flow whilst simultaneously supporting the necessary cultural change towards a patient-centred focus within hospitals.

It is impossible for the health system to remain complacent. With the increasing demand for emergency health care over recent years, the ability to achieve and meet the NEAT in our current system will be increasingly unachievable without significant reform. As Braitberg[8] pointed out recently in the Medical Journal of Australia, "The message is clear: we must change the way our hospitals work if we are to meet current and future demand".

There is much to learn from observing the introduction of the *Four Hour Rule Program* in Western Australia (WA). Introduced in late 2009 following an extensive planning period, there has been a significant reduction in overcrowding in the tertiary EDs in Perth despite the continued growth in attendances. The associated benefits have included a coincidental improvement in access for ambulance patients into the EDs. (*see Fig 3*)

SIR CHARLES GAIRDNER HOSPITAL – RAMPING HOURS V LOS TARGET COMPLIANCE
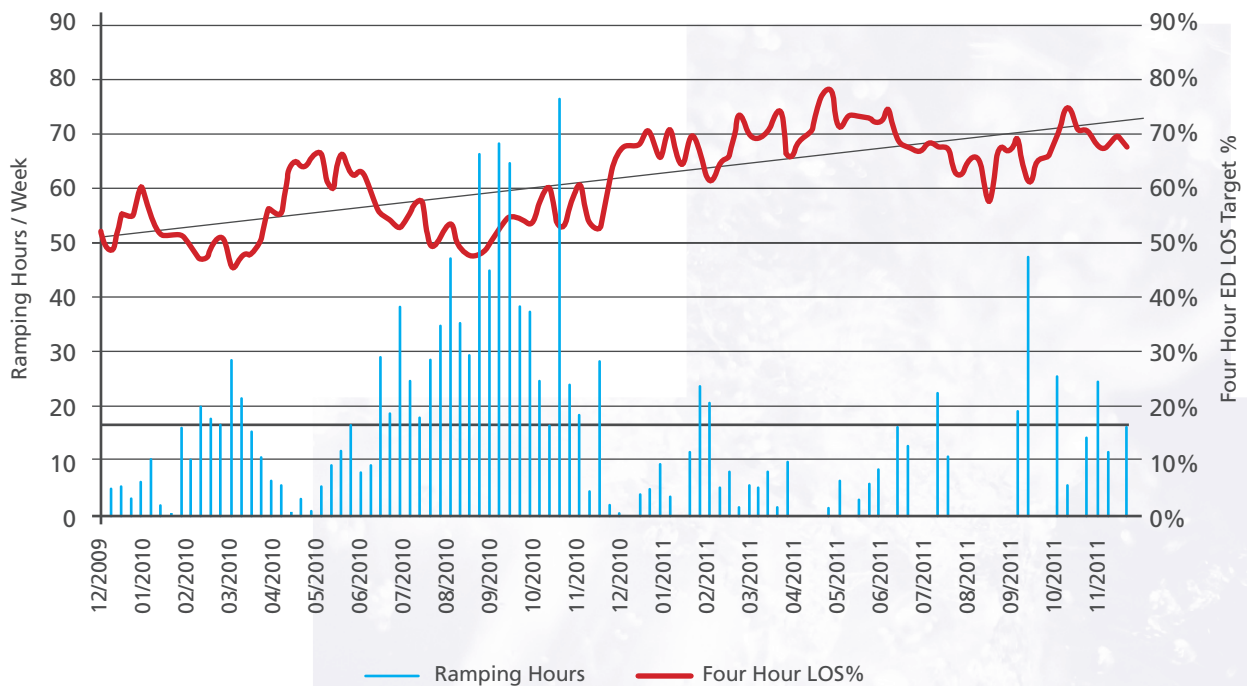

Figure 3 – **Ramping hours matched against ED 4 hour performance at Sir Charles Gardiner Hospital in Perth**

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8   Braitberg, G. ED overcrowding: The solution to any problem is a matter of relativity. *Med J Aust* 2012; 196:88–89

There must be optimism about the opportunity for change and reports from Emergency Physicians working in EDs within WA suggest there is valid cause for optimism.

"The change in how the ED functions has been dramatic at both sites – these EDs have both gone from constant overcrowding due to access block, to vastly better flow with major falls in access block in spite of sharply increasing numbers of patients."

In addition there is early evidence that supports a reduction in overall hospital mortality rate associated with successful improvements in access block and 4–hour performance.[9]

The WA implementation has not been without difficulties and in particular there has been dissatisfaction expressed by staff experiencing increasing work related stress and having reduced opportunities for education and training.

There is significant insight and a number of important messages that can be taken from the *Four Hour Rule Program Progress and Issues Review* by Professor Bryant Stokes[10], completed in December 2011, two years following the implementation in WA.

Stokes attributes many of the difficulties being experienced to the fact that reform through clinical services redesign has not been embraced at an organisation-wide level. He also expresses concern that the lack of consistent executive leadership and consultant clinical engagement in the redesign program has potential to compromise patient care and staff safety.

Stokes suggests, "Reform of this scale requires significant sustained executive support and accountability". He goes on to comment, "It is vital the status and governance of the program is part of every hospital executive committee's core business for change to be achieved and sustained".

Hospital executives must see it as a chance to shine light into all the dark closets of hospital practice. "We've always done it this way" is no longer good enough. They must be prepared to drive change with a "That's just not good enough anymore" attitude. If they are lukewarm, bow to pressures from powerful clinician groups who see their interests threatened, or focus on EDs as the cause of the problem, the process is doomed to failure.

Valuable insight can be obtained by observing commentary from clinicians in Perth EDs:

"There have to be 'champions of change' in the hospital. Powerful and eloquent clinicians from all groups (medical, nursing, allied health) need to be brought on board by executive to drive change in their areas."

The review by Professor Stokes is essential reading for all health executives and senior clinicians involved in the implementation of clinical services redesign linked to achieving the NEAT in Queensland.

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9   Geelhoed, G. and de Klerk, N. ED overcrowding: mortality and the 4-hour rule in WA. *Med J Aust* 2012; 196:122–127.
10   Stokes, B. Four Hour Rule Program Progress and Issues Review. December 2011. *Department of Health WA*

GUIDING PRINCIPLES FOR CHANGE

MEDAI identified three key system-wide change principles considered pivotal in providing a sound platform upon which ambulance ramping can be eradicated.

A WHOLE-OF-HOSPITAL APPROACH:

It is essential that there is system-wide recognition that ambulance ramping is a symptom of a health system that is frequently experiencing excessive demand stresses at various points along the patient acute hospital journey. Ambulance ramping must be treated as a whole-of-hospital capacity issue and not just an ED problem.

MEDAI recognise that there is significant organisational-wide cultural change that will be required to effect positive change in this regard. An ongoing commitment to the Federal Governments national health reform agenda, in particular the introduction of the National Emergency Access Target (NEAT), often referred to as the four hour rule, should continue to act as a key system-wide driver to underpin the cultural and process changes needed.

This report acknowledges work being progressed by Queensland Health in this regard but will insist that this effort will need to be lifted significantly if ambulance ramping is to be remembered as a thing of the past. Government and Queensland Health alike must maintain a commitment to:

• Reviewing and optimising the patient journey through the entire acute hospital experience and back into the community;

• Increasing system capacity through capital expansion and system-wide efficiency optimisation and;

• Actively managing growth in demand for emergency services.

ACCOUNTABILITY FOR SYSTEM PERFORMANCE:

As Queensland Health moves closer to implementing a more devolved model for the management and administration of public hospitals by establishing Hospital and Health Services (HHSs), it will be crucial that enforcing accountability for overall system performance remain a key focus for Queensland Health in its role as the 'system manager'.

Through the deliberations of MEDAI, there has been an increasing level of evidence that the accountability for performance is not entirely clear across the system. Different Health Service Districts display varying levels of commitment to the achievement of key organisational and government priorities in relation to the federal and state government hospital access agendas. Most noticeably, there was a disparate level of commitment to the achievement of the NEAT.

MEDAI firmly believe that a commitment to this federal government agenda is a key to driving real system reform. Agreement on the relevance of the NEAT is not the issue. The issue lies in developing a culture of performance improvement that delivers real and sustainable outcomes for patients. This will require a heightened level of accountability across the entire health system; from the role of systems manager through to individual front-line clinicians charged with the responsibility of delivering high quality care for the people of Queensland.

As a system management function, Queensland Health will need to ensure that:

• A clear and well-defined accountability framework, incorporated into performance agreements for HHS Boards, be established and effectively administered;

• Effective communication and consultation mechanisms are in place that supports the ongoing development of effective relationships with key stakeholders groups (e.g. Commonwealth, QAS, primary care).

THE QUEENSLAND AMBULANCE SERVICE AND QUEENSLAND HEALTH INTERFACE:

Ambulance services and EDs have a common goal to meet the emergency health care needs of the Queensland community.

It is an imperative element of any reforms directed towards eradicating ambulance ramping that QAS be acknowledged as a key contributor to the delivery of emergency services through the Queensland health system.

During period of peak hospital demand, when ambulances remain queued outside public hospital EDs, the ability of QAS to service their own demands within acceptable timeframes is severely compromised. It is in the wider community interest to find effective solutions to the issue of ambulance ramping to ensure ambulance response times can continue to meet community expectations amidst growing service demands.

QAS deserve the opportunity to advocate their service delivery needs, both in real time and through formal review processes. This can only be achieved through effective and responsive collaboration between QAS, Queensland Health and its network of public ED services now and into the future.

Current hospital access difficulties are external to the issue of QAS being an individual agency. There is no evidence to suggest that ED access would be improved by combining QAS and Queensland Health under an incorporated organisation.

KEY FINDING

Internal hospital processes for the management of ED capacity issues are inconsistent across metropolitan hospitals. Inconsistencies were identified in:
- How accountability for ED capacity issues is defined;
- How demand escalation processes are implemented and applied;
- How the Emergency Capacity Hospital Overview (ECHO) system and the SAPhTE ED capacity tool is applied;
- How patient flow management systems and processes are applied.

ACCOUNTABILITY FOR EMERGENCY DEPARTMENT CAPACITY ISSUES

Accountability for the provision of timely and efficient public health services is a key principle underpinning the national health reform agenda currently being rolled out across Australia. This is being largely facilitated through the establishment of Hospital and Health Services (HHS), giving rise to local communities having a greater say in how their health services are being managed. The Queensland Government has made a firm commitment to the establishment of HHSs to provide strategic and functional oversight in the management of health services across the State. Seventeen HHSs were established in Queensland on 1 July 2012.

Queensland Health has developed a performance and accountability framework for the new HHSs, which outlines a range of system-wide strategic directions and priorities. Included in these priorities are commitments to achieving key elements of the national health reform agenda including the National Emergency Access Target (NEAT) and the National Elective Surgery Target (NEST). With regard to the former, the Service level Agreements between Queensland Health (the system manager) and HHSs outline a range of performance expectations in relation to emergency access including:
- Percentage of patients seen within recommended triage timeframe;
- Median waiting time for ED treatment;
- Percentage of patients treated and departed within four hours – NEAT target.

While accountability for the achievement of these key system performance expectations ultimately lies with the HHS Chief Executive Officer (or equivalent), currently many Districts have cascaded these accountabilities down to a more operational level management position, usually being a senior staff member within the ED. MEDAI have agreed that, for real improvements to occur, accountability for the achievement of these targets must lie at a senior executive level outside of the ED. Responsibilities of this position would include:
- Providing executive sponsorship to a hospital patient flow management committee including the development and implementation of an annual Patient Flow Management Plan;
- Promoting performance around ED access at executive and departmental director level; and
- Managing the process of escalation of emergency admissions across the hospital.

This would sufficiently recognise that issues relating to ED access, and moreover ambulance ramping, is a whole of hospital issue and not one that resides solely in the ED.

Additionally, MEDAI strongly advocate for the inclusion of a key performance indicator relating to patient off-stretcher time.

The MEDAI process has revealed that QAS have limited avenues for escalating potential ambulance access issues at the facility level. In instances where QAS could foresee a potential issue relating to 'ramping' or ambulance access in a particular region, it was identified that there was no single point of contact at the hospital level to discuss and potentially address these issues before they escalated. MEDAI has a firm position that each facility should have a single point of accountability within the hospital senior management structure for the management of emergency access (including ambulance ramping) issues and that this accountable officer should act as a 24/7 single point of contact for QAS.

RECOMMENDATION 1

That each Hospital and Health Service nominates an accountable person at Executive Director level (or higher) to be responsible for Emergency Department (ED) access issues within each facility. This role should include providing a 24-hour single point of non-ED executive level contact for the QAS on ED access issues.

RECOMMENDATION 2

That Queensland Health includes a key performance indicator relating to Patient off-Stretcher Time (POST) in future Service Level Agreements for Hospital and Health Services. Furthermore, consideration should be given to the development of a performance based hospital access incentive-funding framework as part of the Queensland Health purchasing framework from 2013–14.

HOSPITAL ESCALATION PROCESS

In 2010, Queensland Health, in consultation with the State-wide Emergency Department Clinical Network developed *Model Business Rules for the Management of Hospital Emergency Care Escalation*. These Business Rules were developed to provide a suite of consistent state-wide guidelines in relation to how facilities should manage ED demand issues, when the whole hospital or one part of the hospital system is experiencing a high level of demand, placing stress on bed availability within that facility.

The Model Business Rules were developed to provide a platform for the implementation of a local escalation action plan and outline local strategies (with clear responsibilities and accountabilities) to improve access to inpatient beds.

It was well recognised that the intent behind the development of these Business Rules was extremely sound. It has however been found that there is significant variance in how they have been implemented across metropolitan hospitals. At the extreme, in some sites, there is no obvious escalation process in place to facilitate better access to inpatient beds during period of peak demand.

MEDAI have concern that the use of the term *escalation* is potentially misleading. It suggests that there is suboptimal management of capacity in the lead up to crises and that there is latent surge capability. MEDAI strongly believe that maximal patient flow and bed management strategies should be normal business practice for all hospitals. It should be mandatory for all hospitals to demonstrate implementation of available predictive demand management tools as well as a patient flow management system with seamless statewide integration (see *Patient Flow Management Systems* below).

One of the criticisms of the current Model Business Rules is that the thresholds for escalation are incorrect and that expected responses do not fall within the capability or authority of the 'accountable' person. MEDAI believe that any extraordinary responses to capacity crises must be tailored to the local environment. These local strategies must be predefined to ensure there is clarity around responsibilities for all stakeholders and the ability to audit implementation when required.

A cornerstone of a revised peak demand escalation process must be an understanding of the *individual* versus *population* risk, when normal standards of care for an individual may be compromised to maintain safety and service to the overall community. There must be explicit acknowledgement from Queensland Health that practitioners who continue to work in this environment of elevated demand have limited capacity to mitigate the risk of an unsafe environment.

MEDAI believe that there are significant gains to be made in terms of reducing ambulance ramping should well-defined and well-understood peak demand escalation processes be implemented into all metropolitan facilities. A review of the current Model Business Rules is necessary. MEDAI have invested significant time and engaged relevant stakeholders to develop a framework for this review process (**see Appendix B**).

It will be necessary for Queensland Health to bring together the relevant stakeholders including representatives from QAS and from Queensland Health executive (medical and nursing) and patient flow to develop the framework further into a working policy that can be implemented across all hospitals. Successful implementation of the recommendation package will be dependent on this process being completed.

RECOMMENDATION 3

That Queensland Health review the current ED capacity escalation response based on the framework outlined **in Appendix B** and establish a mechanism to ensure that it is a mandatory requirement for each Hospital and Health Service to implement by 1 January 2013.

SAPhTE AND ECHO

The *SAPhTE* tool is a matrix with sets of criteria arranged under five key aspects that have the greatest potential to effect optimum ED functioning.[11] The matrix quantifies staffing levels (S), patient acuity of those waiting to be seen (A), physical department capacity (Ph), transfers of inpatients to hospital beds (T) and the working environment (E). *SAPhTE* is the primary tool used in Queensland EDs to measure the relative capacity of the ED. The quantum score is visible both within hospitals and across the system through the Emergency Capacity Hospital Overview (ECHO) reporting system.

The ECHO application provides an overview of ED capacity, based on automatically recorded ED characteristics extracted from the Emergency Department Information System (EDIS) and manually recorded *SAPhTE* data elements.

The MEDAI project identified a number of shortcomings associated with the use of both the *SAPhTE* tool and ECHO application as a means of predicting the relative 'busyness' of an ED.

The key shortcomings of the *SAPhTE* score included:

- The *SAPhTE* scoring system has never been subject to a rigorous validation process and therefore is not well-accepted by ED clinicians;
- The *SAPhTE* scoring system incorporates subjective factors that may be influenced by the view of individual clinicians;
- The *SAPhTE* score cannot be translated for comparison across different EDs;
- Whilst there is value in observing trends in the *SAPhTE* score over time, the value of interpretation of a single score in isolation is uncertain.

MEDAI consider it is necessary to have some mechanism to measure ED capacity within each hospital to ensure an ability to monitor trends over time and to retrospectively contextualise the working environment within the ED at any given time. Due to the highlighted shortcomings of the *SAPhTE* score outlined above, it is felt that in its current form, visibility of the score across the hospital network through the ECHO reporting system does not add value to system wide decision making and performance. There was agreement that in the short term, the use of this score be restricted to internal hospital capacity related processes. There was also consensus that Queensland Health considers the role and validity of *SAPhTE* (or an alternate scoring system) within the review of the hospital wide escalation policy to address peak ED demand.

The key shortcomings of ECHO included:

- There is a reliance on manual data entry to generate an ECHO score;
- There is concern that there is a keen motivation to update the score to demonstrate extreme capacity situations but the potential for considerable lag-time in downgrading the score when capacity improves; and
- It is impossible to draw comparisons between hospital EDs when the data entered into the system is often out-of-date.

There was concern raised that inappropriate attention focused on interpretation of *SAPhTE* and ECHO scores across EDs was contributing to poor relationships between adjacent EDs. There was also speculation that in an ideal environment with equitable, real-time QAS load share, there would be no necessity for adjacent hospitals to review each other's status on the presumption that at any given time, workload would be evenly distributed across the hospital network. This was supported by anecdotal reports from clinicians in NSW EDs where *bypass* has been banned, ambulance load share is coordinated and monitoring of adjacent ED capacity status has been removed.

RECOMMENDATION 4

That Queensland Health reviews the role of the Emergency Capacity Hospital Overview (ECHO) and internal ED capacity (*SAPhTE*) scores. This review should consider:

- Removal of visibility of these scores across EDs;
- The requirement for a validated hospital and ED capacity measurement tool.

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11 Degan, J. and Negus, P. The SAPhTE Study. *Austral Emerg Nurs J.* 2009; 12:16–20

PATIENT FLOW MANAGEMENT SYSTEMS

Since the inception of the *Queensland Health Patient Flow Strategy* in 2010, it is evident that there have been significant improvements made across metropolitan hospitals with regard to the management of patient flow from a systems perspective. Queensland Health has maintained a rigorous focus on providing tools that assist Health Service Districts in ensuring an optimal approach to the management of care through the acute hospital system.

The commitment by the current government during the recent election campaign, *to act to improve access for Queensland families to health care by increasing staffing on weekends to ensure treatment and discharge without unnecessary delays,* is an example of patient flow policy direction that must be driven throughout the health system.

There is evidence that a number of Health Service Districts have taken a proactive approach to implementing more efficient and innovative ways of managing patient care pathways. Some key initiatives that have been adopted and which have shown to have improved the flow of patients through the hospital system, without compromising the quality or safety of the care being provided includes:

Predictive Bed Management Tools – can be utilised to support initiatives to better balance demand for hospital services over time. The *Patient Admission Prediction Tool* (PAPT) developed by CSIRO in conjunction with Queensland Health provides an ability to use historical activity data to predict ED demand for inpatient beds with a high degree of accuracy. Based on the presumption that the inpatient load from an ED can be predicted in advance, hospital managers should incorporate this information into balancing non-emergency hospital activity within the predicted capacity of the hospital at any given time. Used proactively, these tools should allow hospitals to redistribute the non-emergency workload over the working week and avoid inappropriate peaks and troughs in activity to ensure that hospitals do not allow activity to exceed capacity. The improved efficiency generated by this balancing of demand promises to allow hospitals to actually increase their total activity.

Patient Flow Management Information Systems – provide clinicians and hospital mangers with a detailed up to date status of hospital capacity. They can map out occupancy across the hospital and track the patient status allowing prediction of discharges and upcoming occupancy status. Used in conjunction with predictive bed management tools described above, they dramatically increase real-time proactive management of capacity within hospitals. Having a system that integrates seamlessly across all hospitals is necessary. These systems exist in both NSW and Victoria and provide a superior ability to monitor overall capacity both within and across hospitals. Queensland Health has developed a patient flow management information system and through its role as System Manager should ensure this is introduced across all hospitals in the state.

The Electronic Patient Journey Board (EPJB) – is a visual tool that can be utilised within clinical areas using real time information from a patient flow management system to assist with the management of patient flow. This can improve clinical hand-over, improve discharge planning and potentially reduce patient length of stay. A total of 50 EPJB have been implemented in wards at 14 hospitals across Queensland with many tangible improvements already being realised. Again, Queensland Health through its role as System Manager should ensure this is introduced by each HHS into all hospital clinical areas.

Criteria Led Discharge – enables clinicians other than medical specialists, with the necessary knowledge, skills and competencies, to review patients and initiate discharge supported by criteria, policies and procedures, which have multidisciplinary agreement. When patient discharge processes are well managed and expected discharge dates are communicated using patient flow management tools and EPJBs, there is an opportunity for significant efficiency and capacity gains. Where Criteria Led Discharge has been adopted, there is evidence of improvement in discharge processes resulting in reduced length of stay.

Clinical Services Redesign – is a methodology that allows front-line workers to identify system and process barriers to efficient patient flow, identify or design suitable local solutions, and implement change to the systems that support quality care delivery. Across Queensland the Clinical Services Redesign Program has been working with local teams of front-line staff, supported by external experts in redesign methodology and change management. Projects are underway in most major public hospitals to look at the entire patient journey from arrival to discharge with the intent to drive significant improvements in both the patient experience and overall patient flow.

In the coming year major projects are planned in six key sites in addition to a 'macro' project across 10 major hospitals to improve NEAT performance. In early 2013 a Queensland Redesign School will be established to further enhance the improvement and change skills of the Queensland Health workforce to give clinicians and other hospital staff, those who know best the local problems, the skills to drive change in the system and processes that support clinical care.

Similar programs exist in the other states and territories and projects both in Queensland and interstate have shown 10–40% improvements in acute length of stay, 10–15% improvements in NEAT performance and significant improvements in ambulance *bypass* rates.

RECOMMENDATION 5

That Queensland Health expects maximal patient flow and bed management strategies as normal business practice within all Queensland public hospitals. Each Hospital and Health Service must demonstrate:

• Active use of predictive bed management tools to optimise capacity by balancing emergency and elective demand over a seven day week;

• Introduction of patient flow management IT systems that have seamless state-wide integration.

KEY FINDING:

Ambulance diversion or bypass is an unacceptable mechanism for Queensland Health to manage ED demand.

Ambulance diversion, often referred to as ambulance *bypass*, is the net outcome of an overcrowded and stressed ED, typically within a hospital experiencing a high level of demand for inpatient beds. It is usually pre-empted by extended delays in ED patients accessing inpatient beds (*Access Block*); extended waiting times for treatment within the ED; and ambulances queuing with delay in access for their patients to ED care.

Ambulance diversion is a mechanism commonly used by hospitals to redirect demand away from a particular facility to another facility believed to have greater capacity to accept ambulances and provide safe and timely treatment for their patients. Fatovich[12] describes ambulance *bypass* as "a situation whereby an ED instructs the ambulance service to divert ambulances elsewhere, and hence *bypass* the nearest ED". The rationale for this is that it is considered unsafe by ED clinical staff for more patients to attend and that it is safer for the patient to be redirected to an alternate facility. The decision to divert ambulances cases however may not take into consideration the capacity at alternate facilities or the clinical appropriateness for that patient to be redirected elsewhere. ED *bypass*, is not meant to apply to critically ill or injured patients.

Ambulance diversion has been adopted in many Queensland public hospitals as an increasingly frequent mitigation strategy to manage incoming demand. Figure 4 below shows the increasing prevalence of ambulance diversion in our major metropolitan hospitals since 2009.
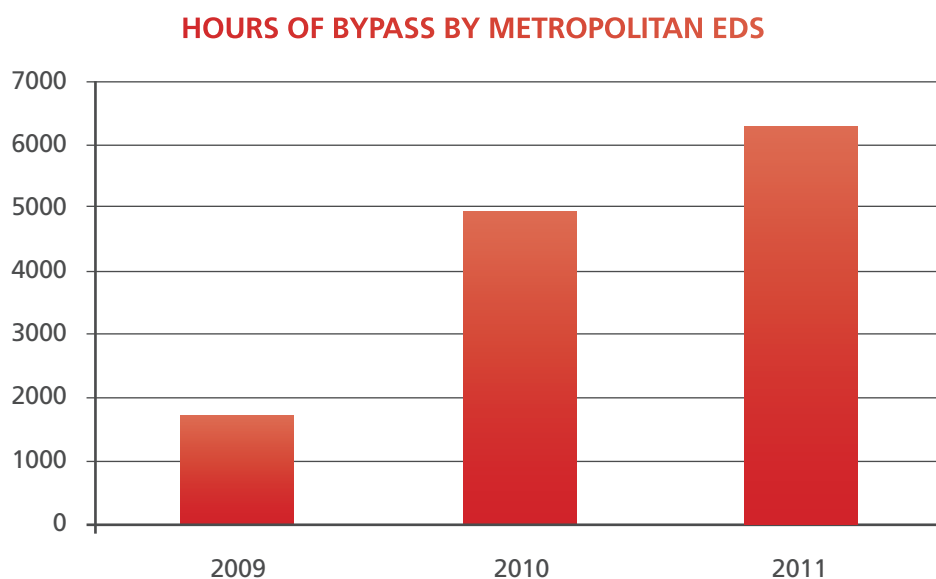
HOURS OF BYPASS BY METROPOLITAN EDS

Figure 4: Number of hours spent on Ambulance Bypass 2009–2011
Source: Emergency Capacity Hospital Overview (ECHO) systems

Total number of hours spent on *bypass* across these 14 metropolitan hospitals has risen from 1,655 hours in 2009 to 6,156 hours in 2011, a 270% increase over three years.

Data also demonstrates that on average, ambulance patients are travelling longer distances and time periods to get to hospital. This is a likely result of extended journeys due to ambulances having to divert around EDs on *bypass* to reach a more distant ED that can accommodate their patient.

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12 Fatovich, D. and Hirsch, R. Entry overload, ED overcrowding and ambulance bypass. *Emerg Med J* 2003; 20:406–409

Used as a mechanism for managing demand at an individual facility, ambulance diversion may well be a plausible solution; however from a wider systems perspective, the diversion of ambulances between hospitals reflects fragmentation and a lack of coordination. This can create a chaotic and unsafe system-wide environment, especially at times where multiple facilities within a geographical area are on *bypass* at the same time.

From a hospital perspective, there is considerable debate as to the precursor by which hospitals place themselves on *bypass*. Given this, it is extremely difficult to ascertain, with any degree of scientific validity, as to whether there is any consistency as to the how and why EDs go on *bypass*. Anecdotal evidence collected through the process suggests that there is only limited consistency in the application of *bypass* criteria, particularly across the key departments in the southeast corner.

From an emergency care systems perspective, the calling of *bypass* at an individual facility can sometimes result in a systems snowballing effect where other EDs taking the overflow from the original hospital become overcrowded and ultimately forced to call *bypass* in their own right.

This snowballing effect can result in many EDs being on *bypass* at the same time with a potentially dangerous situation for patients requiring emergent care. These instances of multiple *bypass* are increasingly common in southeast Queensland. There was a unanimous view that any single instance was simply unacceptable and evidence of a health system truly struggling to cope with the service demands being placed on it.

Ambulance diversion also has a significant impact on the QAS. Significant QAS resources can be wasted in the process of transporting patients between different facilities; sometimes having to travel large distances to the nearest hospital not on *bypass*. This in turn has an effect on the QAS's ability to meet key performance indicators relating to ambulance response times, which may at times, compromise the clinical needs of patients requiring urgent ambulance transportation and/or paramedic care.

Most significantly however is the effect that *bypass* can have on the emergency care systems to appropriately meet the expectations of Queenslanders requiring emergency care. Delayed QAS response times, as outlined above, is one of many impacts that *bypass* can have on the clinical needs of a patient requiring urgent medical attention. Others include:

- Delayed access to specialist emergency medical resuscitative care can have a serious negative impact on the resultant clinical outcomes of the patient;
- The efficiency and adequacy of medical care may be compromised when patients are transported to a hospital with no prior records of their previous complex medical history and where they cannot access their usual treating clinicians, resulting in significant delays and duplication; and
- The movement of patients away from the nearest (or most appropriate) hospital can have a multitude of social impacts for patients especially when family or carer supports are inadvertently isolated.

Notably, the introduction of bans on the utilisation of ambulance *bypass* or diversion within various US and Canadian health jurisdictions has seen no negative impact on demand for services within individual EDs.[13] In NSW a ban was introduced on the activation of ambulance *bypass* by hospitals. Clinical staff within the EDs similarly report no increase in demand by QAS on the individual EDs. Matched with a transparent and accountable ambulance load share system, NSW ED clinicians feel strongly that the inflow of ambulance patients into the ED is more balanced over time and much easier to manage than the artificial surges associated with an environment where *bypass* is used.

MEDAI deliberations were based on the premise that no EDs used *bypass* as a mechanism for managing increased workloads resulting from short-term occurrences of surge and that ED resourcing in Queensland hospitals was generally sufficient to absorb sporadic periods of 'busyness'.

Ultimately it was determined by MEDAI that from a community and patient perspective, ambulance diversion or *bypass* is an unacceptable mechanism for managing demand pressure in the context of systems-approach for managing demand. There was unanimous agreement that immediate steps should be taken to eliminate the use of ambulance *bypass* in Queensland public hospitals.

RECOMMENDATION 6

That Queensland Health supports a policy position that ambulance '*bypass*' is an unacceptable mechanism for managing ED demand and that by 1 January 2013, no Queensland hospital will have the authority to divert ambulances to another hospital.

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13 McLeod, B., Zaver, F., et al. Matching capacity to demand: A regional dashboard reduces ambulance avoidance and improves accessibility of receiving hospitals. *Acad Emerg Med* 2012; 17(12):1383–1389

KEY FINDING:

QAS load share distribution (i.e. decisions around which hospitals ambulances transport patient to) requires increased central coordination and accountability.

When analysed over longer time periods (monthly / yearly) it appears that current distribution of ambulance load across the metropolitan hospital system is well balanced, however MEDAI have found it very difficult to analyse the distribution of ambulance load at a micro (hourly / daily) level. MEDAI agree that the current model, whereby ambulance *bypass* is initiated frequently by hospital EDs, leads to dysfunction and inefficiency at the least, and on occasion adverse patient outcomes.

The QAS does have some formal and also informal load sharing strategies to encourage equitable distribution of patients being transported by QAS to Queensland public hospital EDs. Whilst these arrangements frequently work well at a local level there are however limited cooperative arrangements around a coordinated load share strategy at a system level.

The issue is complicated by the lack of correlation between QAS and Queensland Health Service District boundaries. Co-ordination between adjacent QAS communication centres has the same potential to lead to confusion as the siloed ED environment and as a result the distribution of patients may be suboptimal.

QAS have well established, accountable processes for dispatching paramedic crews to respond to community calls. Paramedics have very high levels of training and provide an increasingly complex level of medical support on scene. The decision to transfer a patient to a specific ED however appears less tightly regulated and allows potential scope for suboptimal distribution.

Results of the MEDAI QAS Paramedic Opinion Survey identified a variety of reasons for decision to transport a patient to a specific ED. Reasons identified included:

- Clinical need of the patient and prior episodes of care at a specific hospital;
- Services available at the hospital;
- Proximity of the ED to the current location; and
- Current workload within the adjacent EDs based on experience and radio reports.

There were however a number of more perverse reasons identified including:

- Time of day and relationship to shift completion time or meal break;
- Positive (or negative) working relationship with particular EDs; and
- Patient decision.

This may potentially result in some EDs receiving a disproportionate share of patients presenting by QAS and certainly contributes to unnecessary disharmony between adjacent EDs and between EDs and ambulance paramedics.

There is consensus across QAS and Queensland Health around a distribution matrix for some limited clinical conditions. These limited conditions are:

- Major trauma – dedicated major trauma centre (i.e. RBWH / PAH / GCH);
- Acute Myocardial Infarct – hospital with cardiac catheter lab service;
- Obstetric patients (>24 weeks gestation) – hospital with an obstetric service (i.e. not PAH); and
- Paediatric patients – hospital with a paediatric service (i.e. Not RBWH).

Acute stroke with potential for thrombolysis is likely to be added to this list in the near future.

There is also consensus that the clinical condition of a patient and the previous relationship with a specific hospital (relevant to that condition) should be a primary consideration. For example it is generally appropriate to transport a patient with a post-operative complication to the hospital where the surgical procedure was performed as the first choice.

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MEDAI strongly support the principle that apart from those clearly prescribed criteria above, that all EDs should have the capacity to provide emergency medical care and complex multi-factor distribution matrices should not be considered. As such all other patients should be transported to the closest appropriate ED based on two potential confounding factors:

• The real time capacity for ambulance offload within that ED; and

• QAS resource distribution and response time capability.

Real time capacity for ambulance access into each ED is currently not available to QAS. There is an ability to note the time of arrival at hospital and then the time of departure. During the period of time between these events, the status of the paramedic crew is not known in real time. It is not possible for QAS to be accurately aware of whether their crews are waiting to offload a patient, and therefore unavailable to be tasked for a new job, or whether this process has been completed and the crew are completing administrative tasks but free to respond to a new job if required.

The decision to actively distribute ambulance load based on ED capacity must involve access to real time information on the status of crews at hospital. QAS will need to develop an IT solution to allow capture and display of the Patient Off Stretcher Time (POST) in real time.

QAS resource distribution has a significant impact on the ability to mount a response to a community call. During periods of peak demand, if there are delays in ambulance offload at EDs, there can be large areas of the metropolitan region with no readily available ambulance resource to respond to a time critical call. There may be times when strategic redistribution of resources may override the normal disposition decision.

QAS must commit to ensuring a transparent load share system. The expectation that all paramedic crews communicate with operation supervisors around the intended destination is potentially cumbersome and likely unnecessary. In all cases where a patient is not transported to the closest ED there must be documentation of the specific reason for this decision to allow audit. There should also be proactive intervention by the QAS communication supervisors around distribution based on real time ED capacity status and ambulance resource distribution as outlined above. QAS communication supervisors will need to ensure paramedic crews are provided adequate instruction around destination to ensure distribution is appropriate. Monitoring of the success of this QAS driven load share should occur at the level of the Emergency Services Management Committee (ESMC), the establishment of which is recommended within this report.

RECOMMENDATION 7

The QAS is responsible for ambulance load share into EDs. The distribution framework must take into account the following decision hierarchy:

• Specific mutually agreed criteria relevant to the anticipated clinical needs of the patient;

• Proximity of the patient to the receiving hospital;

• Real time capacity of the receiving hospital;

• QAS resource distribution and response capability.

The provision of timely and accurate data from QAS to Queensland Health is necessary to allow audit of QAS distribution with an emphasis on delivering the right patient to the right hospital at the right time, and to allow review of each ED contribution to overall ambulance load.

KEY FINDING:

Triage and Patient off Stretcher Time (POST) care varies between hospitals.

The current Queensland Health target/benchmark for Patient off Stretcher Time (POST) is 90% of patients should be transferred off stretcher within 30 minutes. Previously this target was 15 minutes. It is clear that performance around the 30 minute target has deteriorated over recent years.

It is essential to acknowledge that over the last 10 years there have been dramatic advances in the capability and skill-mix of QAS paramedics. Due to the complexity of pre-hospital care provided, sufficient time must be available to facilitate the transition of patient care from QAS paramedics, through the ED triage process and then formal clinical handover to clinical staff within the ED.

There is limited published data to validate the selection of 30 minutes as an appropriate POST. Analysis of local data (unpublished) does suggest however that the previously favoured 15-minute POST target is influenced significantly by ambulance arrivals meaning that performance at this time can be affected significantly by normal business surges in ambulance arrival into the ED. The 30-minute target is considered more appropriate because the greatest factor impacting on performance at this time is hospital inpatient bed *access block* and it is a more valid measure of the hospital performance.

Whilst any POST exceeding 30 minutes is unacceptable, both Queensland Health and QAS agree that transfer of the patient should occur within the shortest possible time frame.

Currently POST is measured using QAS data. This data fails to capture the time from QAS arrival until completion of triage and as such does not measure delays that may occur at this point. ED staff cannot assume clinical responsibility for patients until they are aware of their arrival. Additionally delays between QAS arrival and triage have the potential to impact on the ability of Queensland Health to meet the POST target. The MEDAI Working Group examined the interval between QAS time of arrival and EDIS triage time (Time to Triage) to determine the accuracy of the QAS triage time and whether the existing POST target is appropriate.

A pilot study was undertaken to quantify Time to Triage. Analysis revealed that 91% of QAS arrivals are triaged within 15 minutes with an average Time to Triage for MEDAI sites of three minutes. This is an excellent result. It should be noted that two MEDAI facilities were identified as significant outliers with an average Time to Triage of 14 minutes and 10 minutes respectively suggesting an opportunity to address performance issues at these sites.
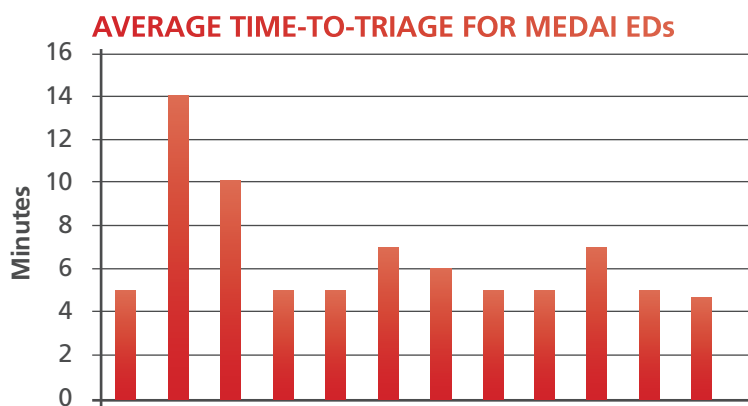

AVERAGE TIME-TO-TRIAGE FOR MEDAI EDs

Figure 5: Time to triage by hospital

Analysis of time to triage should be a component of any review of poor POST performance. If an ED has poor POST performance and poor time to triage performance it will direct attention towards improving the efficiency of managing QAS access through the triage process. If the time to triage is however satisfactory it will suggest that the delays in ambulance offload are related to internal ED overcrowding.

During the triage process it is not uncommon for an assessment to be made by the triage nurse that a patient transported into the ED by ambulance would be clinically appropriate to be transferred to the waiting room awaiting formal assessment. It is however also recognised that the highest risk patient population within an ED are those that are still waiting to be seen and assessed by appropriately skilled clinical staff. MEDAI surveys suggest that opportunities to transfer these appropriate patients into the waiting room are not maximised due to concerns around the risk of placing a patient who has supervision and support into an environment that has none.

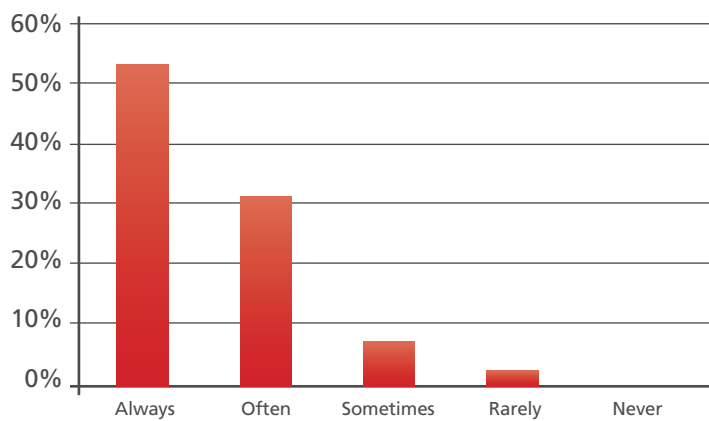### STAFF THAT TRIAGE QAS PATIENTS TO THE WAITING ROOM WHEN APPROPRIATE

Figure 6: Triage of suitable QAS patients into the waiting room (MEDAI Staff Survey)

Various models exist in other jurisdictions to address the risk associated with ED waiting room patients. A nursing sub-group of the MEDAI Operational Working Group was tasked with exploring opportunities to manage this risk and reduce POST by facilitating transfer of appropriate QAS patients into the waiting room. Specific recommendations of this group are outlined in **Appendix C**.

Whilst Clinical Initiative Nurse (CIN) type roles have already been implemented in an ad hoc basis in several Metropolitan EDs, MEDAI supports the introduction of a formalised CIN role, based on the model currently implemented in NSW, into all Queensland EDs. This new role will require a funding commitment from HHS Boards to ensure it is implemented across all EDs.

RECOMMENDATION 8

Triage must occur on arrival.
- Analysis of time-to-triage is a necessary component of any review into POST performance;
- POST should be reported as both 15 and 30 minutes;
- Appropriate ambulance patients should be transferred to the waiting room under the observation of the Clinical Initiative Nurse.

RECOMMENDATION 9

That Queensland Health introduce dedicated senior level Clinical Initiative Nurses to the waiting room of all major EDs to assist in mitigating the risk associated with those patients waiting to be seen.

KEY FINDING:

The roles and responsibilities for transfer of patients between QAS and Queensland Health staff is not clearly defined and/or understood.

As a result of increasing demand on Queensland Health EDs, an increase in patients arriving by QAS and an increase in delay in transferring patients from QAS stretchers into ED trolleys, a Patient off Stretcher Time (POST) Policy and Implementation Standard were developed and implemented in December 2010. These documents outlined the minimum Queensland Health and QAS requirements and individual role, responsibilities and accountabilities in the transfer of patients from the care of the QAS to a Queensland Health ED.

The MEDAI Operational Working Group reviewed the POST Policy and Implementation Standard and acknowledged that these documents did not provide sufficient information regarding role clarity and responsibilities of Queensland Health and QAS during the transfer of patient care.

To enable the identification of the impact of delay in transfer off stretcher, the level of care currently provided by Queensland Health and QAS and the level of care that should be provided, a Queensland Health staff and QAS paramedic opinion survey was undertaken as part of the project. There was significant disparity both within and between QAS and Queensland Health staff regarding:

- The most appropriate location and available resources for paramedic crews supporting patients waiting to transfer off stretcher into ED care;
- The appropriate roles and responsibilities of each during the transition of care in the ED; and
- The role and responsibility of the QAS Hospital Liaison Officer (HLO) when present.

MEDAI feel strongly that it be recognised that following arrival and triage at hospital, the responsibility for overriding care of all patients lies with Queensland Health clinical staff. With this in mind, although there is no literature or data around the outcomes for patients who are returned to the back of an ambulance to await offload, it was agreed by the Operational Working Group that it was inappropriate for patients to return to the back of an ambulance vehicle after triage while awaiting an available treatment location within the ED.

There is an explicit expectation that except in the case where both QAS and Queensland Health staff agree a patient is suitable for the waiting room, the QAS paramedics will remain with the patient to provide supportive care until the patient can be offloaded into a dedicated ED treatment space. There are well-documented cases of adverse outcomes, including a well publicised death at Westmead Hospital (NSW) in 2009, related to the development of a holding area for ambulance patients to be 'dropped off' under the supervision of ED clinical staff until an appropriate treatment space is available. This is absolutely opposed by MEDAI.

Survey results indicate that there is significant potential to improve cross-jurisdictional awareness of role responsibility and scope of practice between QAS paramedics and Queensland Health ED clinical staff. It is expected that a degree of disharmony between staff of each service is related to lack of clarity around the roles and responsibilities. A review of the current POST policy with a specific focus on clarity around the necessary processes to support timely transfer off stretcher as well as role and responsibility delineation is required. Incorporation of education modules on respective *scope of practice* into mandatory training for QAS paramedics and Queensland Health triage nursing staff should occur.

RECOMMENDATION 10

No patient should return to the back of an ambulance after triage. Hospitals must provide a suitable area within the ED for QAS crews to support patients who have been triaged and are awaiting transfer off stretcher to a dedicated treatment space. This location must be:

- in visible proximity to clinical ED staff;
- discrete from the ED waiting room.

RECOMMENDATION 11

That Queensland Health and QAS introduce formal education modules into respective mandatory training to ensure QAS paramedics and Queensland Health triage staff have a clear understanding of each other's role and scope of practice.

RECOMMENDATION 12

That a Patient off Stretcher Time (POST) Policy, directed at ensuring the time from arrival to clinical handover from QAS to the hospital is less than 30 minutes, be reviewed and implemented as a mandatory directive from Queensland Health by 1 January 2013. This policy must reflect:

• Queensland Health responsibility for overall patient care from the time of triage;

• QAS responsibility for supportive care within the approved scope of practice.

THE QAS HOSPITAL LIAISON OFFICER

QAS introduced the Hospital Liaison Officer (HLO) role into key major hospitals that were experiencing significant access difficulties during peak service demand. The intention of the HLO role is to:

• Facilitate interaction between QAS and Queensland Health staff through the triage process on arrival at hospital; and

• Provide supervision of ambulance paramedics, and advocate for efficient, timely and appropriate turn around cycle.

• This includes the delivery of an open communication flow to all stakeholders.

Results from the clinical staff opinion survey and the ED site visits, identified there is a lack of consistency in relation to the roles and responsibilities of the HLO within each ED. There is support from Queensland Health clinical staff for the continuation of this role but a sense that the contribution of this valuable resource can be further maximised.

The HLO role should adopt a wide collaborative communication model that engages key hospitals and affected stakeholders, focusing on a global operational perspective.

RECOMMENDATION 13

That QAS review the role of the QAS Hospital Liaison Officer (HLO), to optimise its contribution in the environment created by implementation of these recommendations.

KEY FINDING:

Existing processes for inter-hospital transfers results in the inappropriate use of EDs.

It is standard practice in many hospitals for all inter-hospital transfers to be directed to the ED as the port of entry into the hospital. Anecdotally this practice has been driven by prior critical adverse incidents occurring with patients transferred directly to an inpatient ward and not being reviewed by clinical staff in an appropriately timely fashion. The ED is seen as the hospital-wide safety net for these patients.

Large proportions of these patients are clinically stable and have been transferred for sub-specialty care. They do not require or receive any emergency medicine care. At times of peak hospital capacity, or if the appropriate inpatient bed is not available, these patients are housed in the ED awaiting transfer to the ward. This typically occurs at the same time as ED overcrowding and ambulance ramping where acutely unwell patients cannot be assessed because of inability to access an ED assessment and treatment space.

Patients that do not require specialist emergency medical care should not occupy assessment and treatment spaces within an overcrowded and ramped ED whilst high risk unseen patients are unable to access acute care.

Hospitals must develop appropriate strategies to ensure interhospital transfers are managed in an alternate manner and that only those that require acute specialist emergency medical care, as determined by the senior ED clinician on duty at that time, transit through the ED.

RECOMMENDATION 14

Inter-hospital transfers not requiring specialist emergency medical care should not transit through the ED. A policy for this is to be developed and implemented as a mandatory directive from Queensland Health by 1 January 2013.

KEY FINDING:

There is inadequate integration between QAS and Queensland Health in the planning for and delivery of a seamless emergency healthcare system.

The provision of an effective emergency care system across metropolitan hospitals requires a significant level of integration not only within each organisation but also between the QAS and Queensland Health. This includes a commitment and willingness on behalf of both organisations to provide a transparent representation of the key issues affecting the performance in relation to access to ED services.

There are limited channels within the existing clinical communication structures within Queensland Health to facilitate better communication between hospitals at a more senior level. Queensland Health has more recently recognised this as an issue and has held a number of forums involving members of the Statewide General Medicine and Emergency Department Clinical Networks. These forums have been viewed as being useful in term of identifying systems-wide issues and potential solutions, rather than a single focus on the provision of medical or emergency services in isolation to one another. QAS is not represented at these forums.

As mentioned previously, the MEDAI project has provided an opportunity for key stakeholders from QAS and Queensland Health to openly discuss and debate; and subsequently develop solutions to a broad range of issues impacting on access to emergency care for Queenslanders. It is recognised that there are currently forums, such as the Statewide Emergency Department Network, where QAS and Queensland Health have been able to discuss key operational issues. The Statewide Emergency Department Network and the local area emergency networks are effective forums for attaining clinician input into the development of strategies that address operational and clinical issues. There has however not been an opportunity to develop the broader system-wide reforms that are needed and these forums have been limited in their capacity for engaging other necessary key stakeholder groups in relation to improving emergency access by taking a systems or whole-of hospital perspective. An opportunity to have the issues addressed at the necessary senior level has been enabled through the MEDAI project.

Improving the coordination and integration of the QAS and Queensland public EDs is widely viewed as being a key element in the introduction of reform aimed at improving access to ED. However there are advantages with accountability and service provision with having the two organisations as separate entities

Whilst the scope of the MEDAI review was to address access to EDs in metropolitan southeast Queensland, the issues affecting ED access are similar throughout the state. MEDAI support that the recommendations within this report be considered for implementation in their entirety throughout all EDs in Queensland

MEDAI recommend the establishment of a high-level Emergency Services Management Committee (ESMC), reporting to the Minister for Health and Minister for Community Safety, to assume responsibility for contributing to policy direction at a government level, enabling better coordination and integration in improving access to emergency care in Queensland.

To ensure the opportunity to contribute to system wide policy direction the ESMC should have broad representation from each of key stakeholders groups involved in the delivery of emergency services:

- The committee should be jointly chaired by senior representation from Queensland Health (Director General or delegate) and the QAS (Commissioner or delegate);
- There must be adequate representation within EMSC to ensure inclusion of necessary stakeholders with representation from each stakeholder at an appropriate level to take responsibility for actions arising;
- Representation must include at least (but is not limited to):
  - Chair, State-wide Emergency Department Network;
  - Chair State-wide General Medicine and Surgery Clinical Networks;
  - Chair Statewide Intensive Care Clinical Network;
  - Chair Statewide Trauma Network;
  - Public hospital executive management (medical and nursing);
  - Queensland Ambulance Service;
  - Australasian College of Emergency Medicine (ACEM);
  - College of Emergency Nursing Australia (CENA).

It is inevitable that with the introduction of system changes there will be occasional challenges to delivery of services at an operational level. In some regions there is an active Queensland Emergency Medical Systems (QEMS) Committee where local hospital and QAS representatives meet to discuss operational issues. This is however not standard throughout Queensland and the statewide Queensland Emergency Medical Systems Advisory Council (QEMSAC) was disbanded a number of years ago. As a result there is no central oversight of operational issues within and between contributors to the emergency medical system. It is recommended that the co-chairs of the EMSC be responsible for developing an appropriate mechanism to address this.

RECOMMENDATION 15

The establishment of a high-level Emergency Services Management Committee (ESMC) is required to provide policy advice to the Minister on issues affecting consumer access to (and delivery of) public hospital emergency services. The ESMC:

• Must have the breadth of membership to represent key stakeholders and the level of membership to take responsibility for implementation;

• Should be co-chaired by the Queensland Health Director General and the QAS Commissioner and meet at least quarterly.

In addition to the strategic agenda, the co-chairs will be responsible for leadership around operational issues.

The initial mandate of this committee will be to monitor implementation the recommendations of the review in their entirety across the state, by 1 January 2013.

Metropolitan Emergency Department Access Initiative

APPENDIX A

MEDAI TERMS OF REFERENCE

The Metropolitan Emergency Department Access Initiative (MEDAI) was established to identify a range of initiatives to enhance the interface between Queensland public hospitals and the Queensland Ambulance Service (QAS) to improve consumer access to Emergency Department (ED) services in metropolitan hospitals.

The MEDAI project involved the establishment of a Director and two advisory committees:

• The Metropolitan ED Access Strategic Committee (the Strategic Committee); and
• The Metropolitan ED Access Operational Working Group (the Working Group).

The project included the following key focus areas:

• Engagement of pre-hospital and ED clinicians to define the common obstacles to timely and equitable access to care;
• Engagement of South East Queensland metropolitan hospitals to develop models of service delivery that foster collaborative working relationships and reduce the siloed approach to the delivery of patient care with a specific focus on the QAS / ED interface;
• Engagement of key stakeholders to clarify and obtain consensus on the responsibilities of Queensland Health and QAS with respect to access to ED care and in collaboration with QAS, review the current Queensland Health Patient Off-Stretcher Time (POST) Policy and provide recommendations to enhance the effectiveness and applicability of this policy;
• Review of service delivery models that have been proven to enhance the interface between patient transport/ambulance services and public emergency departments resulting in improved emergency department access and experiences for consumers; and examine their applicability in the Queensland context.

SCOPE OF MEDAI

The scope of the MEDAI project included all metropolitan public hospitals in the southeast corner of Queensland and related interfaces with the QAS. Hospitals within scope included:

• The Gold Coast Hospital (including the Robina Hospital);
• Logan Hospital;
• Queen Elizabeth II Hospital;
• The Princess Alexandra Hospital;
• Redlands Hospital;
• Mater Public Hospitals;
• The Royal Brisbane and Women's Hospital;
• The Royal Children's Hospital;
• The Prince Charles Hospital;
• Caboolture Hospital;
• Redcliffe Hospital;
• Ipswich Hospital; and
• Toowoomba Hospital.

Whilst the MEDAI project focused on issues relating to the interface between QAS and the hospitals listed above, it has been acknowledged that the recommendations contained within this report have a broader application and that implementation should be extended across the State.

MEDAI MEMBERSHIP

The **Strategic Advisory Committee** was established to provide strategic oversight to MEDAI and through the Director, provide advice to the Minister for Health on actions that can be undertaken to improve consumer access to EDs and reduce avoidable delays in transfer of patients from the Queensland Ambulance Service to Queensland Health EDs. Membership included:

- Dr Tony O'Connell, Director-General, Queensland Health;
- Mr Russel Bowles ASM, Commissioner, Queensland Ambulance Service;
- Dr Anthony Bell, Chair, Statewide Emergency Department Clinical Network and Director Emergency Medicine, QEII Hospital;
- Mr Stephen Callaway, Deputy Chair, Statewide Emergency Department Clinical Network;
- Dr Nick Buckmaster, Chair, Statewide General Medicine Clinical Network;
- Dr James Lind, Acting Director, Patient Access and Flow Unit, Gold Coast Health Service District;
- Dr James Collier, Deputy Director, Emergency Medicine, Princess Alexandra Hospital;
- Ms Beth Mohle, Secretary, Queensland Nurses Union;
- Mr Nev Swan, Acting Secretary, United Voice;
- Ms Jeanette Temperley, Coordinator, Ambulance Section, United Voice.

The Operational **Working Group** was established to provide support and guidance to the Director, MEDAI by representing the views and experiences of frontline practitioners involved in providing emergency care. Membership included:

- Dr Michael Cleary, Deputy Director-General, Policy Strategy and Resourcing Division, Queensland Health;
- Dr David Green, Director Emergency Medicine, Gold Coast Hospital;
- Dr Bill Lukin, Deputy-Director Emergency Medicine, Royal Brisbane and Women's Hospital;
- Dr Andrew Staib, Deputy Director Emergency Medicine, Princess Alexandra Hospital;
- Dr Stuart Young, Director of Emergency Medicine, Logan Hospital;
- Dr Daniel Bodnar, Staff Specialist Emergency Medicine, Redcliffe and Royal Brisbane and Women's Hospitals and Acting Medical Director, QAS;
- Dr Stephen Rashford, Medical Director, QAS;
- Dr Lizbeth Jordan, Deputy Director of Medical Services, Princess Alexandra Hospital;
- Ms Sally-Anne Jones, A/Assistant Nursing Director Emergency Medicine, Royal Brisbane and Women's Hospital and President, Queensland Nurses Union;
- Ms Melissa Heather, Nurse Unit Manager Emergency Department, Ipswich Hospital;
- Ms Julie Finucane, Assistant Nursing Director, QEII Hospital;
- Ms Julie Gard, Registered Nurse Emergency Department, Princess Alexandra Hospital;
- Ms Delia O'Brien, Clinical Nurse, Emergency Department, Redcliffe Hospital;
- Mr Tony King, Director of Operations, Office of the Deputy Commissioner, QAS;
- Mr Craig Emery, Director of Operations, North Coast Region, QAS;
- Mr Craig Crawford, Advanced Care Paramedic, United Voice;
- Mr Michael Freeman, Advanced Care Paramedic, United Voice;
- Mr Kroy Day, Advanced Care Paramedic, United Voice; and
- Mr Peter Boyd, Emergency Medical Dispatcher, United Voice.

Dedicated operational support was provided to the Director MEDAI by:

- Ms Eleanor Hammond, Registered Nurse, Princess Alexandra Hospital; and
- Mr Alan Mountford, Advanced Care Paramedic – Hospital Liaison, United Voice.

The Centre for Healthcare Improvement, Queensland Health, provided business and secretariat support functions.

REVIEW METHODOLOGY

The Operational Working Group (OWG) convened fortnightly and the Strategic Advisory Committee (SAC) convened monthly during the project.

Dr David Rosengren completed an initial tour of the EDs within the scope of MEDAI to meet with key QAS, ED and hospital executive personnel, brief them on the project and seek initial feedback.

A formal survey of each ED was undertaken to accurately capture local opinion and processes in relation to ramping. An interview guide was developed by the OWG and used to interview the Nurse Unit Manager and Director of Emergency Medicine (or proxy) of each ED. Visits were conducted by Eleanor Hammond, Alan Mountford and Dr David Rosengren, with the support of Stephen Aitchison and Kylie Lindsay (Access Improvement Service), between December 2011 and February 2012.

Formal surveys were developed to obtain the opinions of staff who deal with ramping at a grass roots level on a regular basis. Two staff surveys were developed by the project officers, with the guidance of the relevant OWG focus groups, for both hospital and QAS staff respectively. Survey questions were aligned to enable the comparison of opinions from different staffing groups. SurveyMonkey® was used to distribute both surveys. Responses for the hospital survey numbered 277 with 113 for the paramedic survey. Results were analysed using SurveyMonkey® and manual thematic analysis.

With the support of project officers from Ernst and Young, the OWG undertook a process mapping exercise to analyse barriers, issues and impacts along the journey from the time a QAS call is received through to arrival at the ED and transfer of care to Queensland Health staff.

Results of survey and process mapping exercises identified inconsistencies between sites in processes relating to the time period between the time of ambulance arrival and hospital triage. An analysis of Time to triage was undertaken using CSIROs Heath Data Integration (HDI) technology to merge QAS electronic Ambulance Reporting Form (eARF) and Queensland Health Emergency Department Information Systems (EDIS) patient records.

In addition to visits to the participating MEDAI sites, the MEDAI Director visited hospitals and ambulance services in New South Wales and Victoria to examine how delays to ambulance off load are being managed in these areas.

- On January 23, 2012 Dr David Rosengren, Mr Jason Currie (QH) and Mr Tony King (QAS) visited NSW to meet with representatives of NSW Health and NSW Ambulance. They also visited both Royal North Shore and St George Hospitals to meet ED clinicians and hospital management representatives.
- On February 20, 2012 Dr David Rosengren, Dr Bill Lukin (QH) and Mr Tony King (QAS) visited Victoria to meet with representatives of Victorian Ambulance. They also visited both The Austin and Royal Melbourne Hospitals to meet ED clinicians and hospital management representatives.

Consultation also occurred with ED clinicians in WA via phone and email correspondence.

Other stakeholders consulted by Dr David Rosengren throughout the project included:

- Retrieval Services Queensland (RSQ);
- Australian Medical Association Queensland (AMAQ);
- Directors of Medical Services Advisory Committee (DOMSAC); and
- Together Queensland.

Dr David Rosengren revisited all participating MEDAI hospitals at the completion of the MEDAI project to consult with ED and hospital executive staff and seek direct feedback on the project findings and the recommendations outlined in this report.

Metropolitan Emergency Department Access Initiative

APPENDIX B

model business rules for review of
hospital emergency access escalation

MODEL BUSINESS RULES FOR REVIEW OF HOSPITAL EMERGENCY ACCESS ESCALATION

INTRODUCTION

The Metropolitan Emergency Department Access Initiative (MEDAI) was formed to investigate the issue of prolonged ambulance Patient Off-Stretcher Times (POST) throughout southeast Queensland Emergency Departments (ED) and to develop potential solutions to this widespread problem. The lack of apparent effectiveness and absence of accountability for implementation of local hospital escalation in response to ED overcrowding was identified as a critical issue for consideration as part of the review process.

BACKGROUND

The Queensland Health Model Business Rules for Management of Hospital Emergency Care Escalation (Escalation Rules) were developed in 2010 by the Queensland Health Access Improvement Service (AIS) and provide guidelines for Emergency Department (ED) and hospital management staff during periods of elevated demand in EDs. The Escalation Rules recommend the development of locally appropriate escalation policies. They are not mandatory.

Results from the MEDAI Process Interviews and Staff Opinion Survey indicated a strong perception that the Escalation Rules are impractical, not followed consistently, and that few hospitals have locally relevant policies in place.

METHODOLOGY

A sub-committee was convened, consisting of Dr Andrew Staib, (Deputy Director, Emergency Medicine, Princess Alexandra Hospital), Dr Bill Lukin (Deputy Director, Emergency Medicine, Royal Brisbane and Women's Hospital) and Dr Lizbeth Jordan (Deputy Director of Medical Services, Princess Alexandra Hospital). Additional input was provided by Ms Katrina Kalmar (Patients Flow Coordinator, Royal Brisbane and Women's Hospital).

Discussion with ED, inpatient medical and surgical and hospital management staff was conducted to determine the major drawbacks of the Escalation Rules and to identify reasons for the inconsistencies in application. A framework for the revision of the Escalation Rules was produced and the resulting report was developed following extensive discussion within the MEDAI Operational Working Group.

IDENTIFIED PROBLEMS WITH ESCALATION RULES

- The current Escalation Rules appear to be poorly understood by users at all levels for the following reasons:
  - There are too many levels within the Escalation Rules, leading to confusion ("Functioning", "At Capacity", "Over Capacity", Extreme Capacity", "*Bypass*");
  - The thresholds for each level are subjective, leading to wide variation between hospitals and individual users; and
  - There are no clear directions for Queensland Ambulance Service (QAS) operations until *bypass* is reached.
- The outlined actions for each individual are too specific and not locally tailored. Many actions are obvious and part of usual daily practice, making their statement unnecessary and compromising the impact of the Escalation Rules.
  - The set-point is no longer relevant for current demand:
  - Most hospitals operate at excessive capacity for long periods every day;
  - Disaster-like responses only work if implemented rarely. Daily use leads to an erosion of impact; and
  - In the current bed supply/demand environment, hospital executives would need to spend a large proportion of time personally conducting ward rounds and bed meetings. This is an unrealistic and ineffective use of time and compromises the uptake of the Escalation Rules.

ED capacity has a major impact on the QAS ability to deliver services to the community. The Escalation Rules are not linked to the QAS Operational Plan. The only clear implication for QAS is once the situation has already become unmanageable and *bypass* has been enacted.

RECOMMENDATIONS FOR REVISED ESCALATION RULES

Revised Escalation Rules require wide consultations with relevant key stakeholders with consensus on stated actions by responsible areas.

There is an expectation that optimisation of patient flow and bed management is usual practice in all facilities at all times.

A revised policy requires:

- Fewer levels with clear, objective thresholds between each;
- Avoidance of the capacity level terminology contained in the current Escalation Rules to avoid further confusion;
- Distinction between temporary (but manageable) surge and an overwhelming disaster-like state of elevated activity with no short term foreseeable resolution;
- Linkage to realistic actions and responses within the control of the responsible people;
- The ability to be adapted by individual facilities to fit local needs and resources; and
- That each facility predefines its response to increased demand to ensure the ability to audit activation and effectiveness of the response.

The QAS needs to be considered an important client stakeholder:

- The effectiveness of Queensland Health capacity mitigation strategies directly affect QAS service objectives;
- QAS operational managers need to have a broad understanding of the Escalation Rules;
- Queensland Health and QAS should jointly review specific operational strategies at a local facility/regional level to allow design of locally appropriate arrangements to minimise the impact on QAS service capability; and
- QAS need empowerment to activate pre-emptive criteria-led Queensland Health response if service capability is significantly compromised by prolonged hospital Patient Off Stretcher Time (POST).

Revised Escalation Rules must explicitly recognise that practitioners who continue to work in this environment of elevated demand have limited capacity to mitigate the risk of an unsafe environment:

- There should be an understanding of the *individual* versus *population* risk, when normal standards of care for an individual may be compromised to maintain safety and service to the overall community; and
- This recognition of staff members managing risk is equally applicable to the hospital executive, ED clinicians and the wider hospital.

THREE-STAGE ESCALATION PROCESS

LEVEL ONE

- Should contain locally appropriate processes for optimal bed management BUT with the expectation that this is optimised normal business practice.
  - Use of best available bed prediction tools to manage and balance the demands for emergency and elective admissions; and
  - Prospective management of elective bed bookings.
- Clear mechanisms of communication between key stakeholders (Hospital executive, bed management, ED, QAS) about variations in demand and supply:
  - To ensure awareness of escalating demand or reduction of ED flow; and
  - To enable action before prolonged ambulance ramping or ED overcrowding compromises emergency care or QAS service provision.

QAS CONSIDERATIONS – LEVEL ONE

- Every POST greater than 30 minutes has a direct impact on the approved QAS operational service delivery model. Predictable and demonstrable effects on QAS response capability are associated with such delays.
- Some ambulance queuing may occur, but should be short lived, and not significantly compromise the safety of patients.
- The QAS Hospital Liaison Officer (or duly authorised supervisor) is required to advocate the QAS position and report the status of operational readiness to the Regional Operations Supervisor (ROS).

LEVEL TWO

Defined by prolonged delay in patient off-stretcher time (POST), or inability to offload a patient who is deemed by senior ED clinicians to be unsafe to remain on a QAS stretcher awaiting offload into an allocated ED treatment space.

- Responses should include predefined locally appropriate strategies to maintain service continuity outside of normal operations.
  - Examples may include: additional staffing, opening of closed beds, prolonged use of flex beds, reallocation of beds from elective to emergency patients, early discharge of inpatients, transfer of stable inpatients to other facilities.
- Explicit recognition that practitioners may be operating outside their scope of practice.
- Activation of this status must prompt a local review of the circumstances leading to this response.

QAS CONSIDERATIONS – LEVEL TWO

- Failure to resolve extended POST requires QAS to mitigate risk by prioritising deployment of resources to areas of high demand. Additional supervision and decision making regarding optimal response matrix guidelines are required to augment capacity.
- During "level two" capacity QAS are operating inefficiently and the provision of services to the community are prioritised in an attempt to maintain a "next emergency response".
- The Regional Operations Supervisor (ROS) is required to oversee QAS deployment decisions, advocating for patients, staff and the organisation.
- The Regional Operations Supervisor (ROS) must escalate to a nominated authorised local Queensland Health executive member to negotiate release of QAS assets.
- The inability to resolve this circumstance will require escalation.

LEVEL THREE

The hospital has undertaken all measures within its control to maintain emergency access, yet there remain restrictions to access.

A level three response will only be effective if utilised on rare occasions.

- The situation requires disaster-like cross-jurisdictional measures to restore safe access to emergency care.
- Responses at this stage should be ultimately coordinated by, and accountable to, Queensland Health centrally in its role as System Manager, as in other disaster scenarios.
  - Specific responses at this stage may include temporary closure of a hospital to ambulances, suspension of semi-elective services and commissioning of extra resources.
  - These responses should be predetermined and defined by Queensland Health.
- This level should be able to be activated in any of three ways:
  - By hospital executive when local measures have been exhausted;
  - By individual senior ED clinicians in exceptional circumstances, with or without an adequate local hospital response; and
  - By QAS when delayed POST is leading to a significant, demonstrable reduction in ability to provide essential community response.
- Escalation to this level mandates a formalised, bipartisan, post-event audit, that must be coordinated centrally by Queensland Health, and include accountable Queensland Health District and QAS Regional representation. It must include analysis of the circumstances leading to the activation and the effectiveness of the response.

QAS CONSIDERATIONS – LEVEL THREE

- The failure to release QAS resources during level two escalation will inevitably result in QAS being unable to deliver emergent pre-hospital care to the community.
- Characterised by QAS being unable to meet demand for service (requests for service will remain pending until such time as resources are released). QAS will take all measures to and make all representations within its capability to optimise patient safety.
- The Regional Director, Operations, will initiate a formal incident management response to ensure QAS resources are appropriately prioritised. This will include the allocation of pending code one emergencies to ambulance units "at hospital". Queensland Health will be required to release crews to undertake these emergency response tasks.
- The Regional Director, Operations, is required to inform the authorised decision maker at the facility and/or district level.

CONCLUSION

- The current escalation Business Rules are impractical, poorly understood by users and therefore erratically applied.
- To ensure uptake by key stakeholders the escalation response requires fewer levels with clear delineation between levels.
- Three levels have been proposed with the final level triggering a disaster level response.
- The Escalation Rules must be auditable with levels two and three requiring formal review.
- The impact of ED functioning on QAS service delivery and community safety must be acknowledged and the QAS must have representation in the development and management of Escalation Rules.

Metropolitan Emergency Department Access Initiative

APPENDIX C

MEDAI clinical initiatives nurse report

MEDAI CLINICAL INITIATIVES NURSE REPORT

INTRODUCTION

The Metropolitan Emergency Department Access Initiative (MEDAI) was formed to investigate the issue of ambulance ramping throughout southeast Queensland Emergency Departments (ED) and to develop potential solutions to this widespread problem. The New South Wales (NSW) Clinical Initiatives Nurse (CIN) role was identified as potentially able to assist in the management of risk associated with patients in the waiting room and to support offload of suitable ambulance patients into the waiting room by improving safety and care in this area.

BACKGROUND

The CIN was first introduced in NSW EDs in 2002 [1]. The role was reviewed under the Garling Report in 2009 [2] and found to be vital to patient care in ED waiting rooms. As a recommendation of this report the role was expanded to all NSW EDs seeing over 25,000 presentations in 2007–2008. In 2010 the role was again reviewed as part of a NSW Clinical Services Redesign Program [3] and subsequently standardised across the state.

An educational program [4] has been developed by NSW Health for nurses wishing to undertake the CIN role to ensure they are adequately prepared for this position.

The CIN role has been independently reviewed and supported [5]. It has been found to assist in the reduction of Did Not Wait (DNW) patients as well as providing career options for nurses. No research could be found on the effects of the role on enabling patients to be removed from ambulance stretchers.

In NSW the CIN role has three main purposes:

- To maintain a nursing presence in the waiting room to facilitate a safe environment;
- To provide ongoing communication to patients and families regarding their care, waiting times and ED processes; and
- To provide assessment of patients with the aim of initiating, escalating and expediting care.

THE CIN ROLE IN QUEENSLAND AT PRESENT

The MEDAI nursing sub-group met to explore the CIN role and to determine if it has a place in assisting with the reduction of Patient Off Stretcher Times (POST) in Queensland EDs.

CIN type roles have already been implemented on an ad hoc basis in several EDs around Queensland. These roles appear diverse and dependent on the needs of the individual department or the availability of staff or funding.

RESULTS OF STAFF OPINION SURVEY ON AMBULANCE RAMPING

- Only 50% of staff surveyed reported that appropriate QAS patients were always triaged to the waiting room.
- The greatest contributing reason for failing to triage appropriate QAS patients to the waiting room was the lack of adequate staff and supervision in this area.

A CIN may assist in addressing some of the main issues that concern staff in placing patients in the waiting room post triage and therefore improve access to this area by patients arriving by ambulance.

REASONS GIVEN FOR NOT TRIAGING QAS PATIENTS TO THE WAITING ROOM
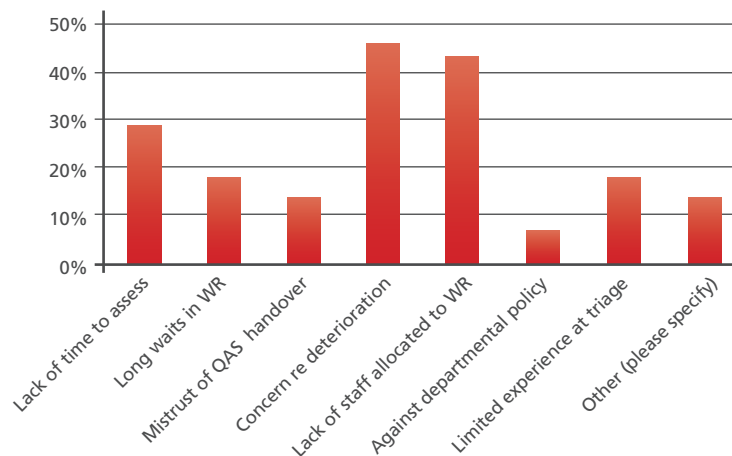
RECOMMENDATIONS FOR A FUTURE CIN ROLE IN QUEENSLAND EDs

That Queensland Health, as system manager, support the mandatory implementation of senior level Clinical Initiative Nurses into all EDs by 1 January 2013, with clearly defined role descriptions, which aim to facilitate a better transition of care for patients from arrival to triage and subsequent treatment.

That QH task the Statewide ED Clinical Network to develop a framework for this role taking into consideration the following:

• The role must be funded over and above existing Business Practice Frameworks (BPFs).

• That the CIN role is a dedicated role available for at least 16 hours/day, 7 days/week and protected from redeployment.

• That the role must be at Nurse Grade 6 level.

• That the Clinical Initiatives Nurse title be maintained.

• That the learning package be adopted from the NSW program, the implementation to be strategic so as not to impact heavily on the workloads of ED Nurse Educators.

• That Key Performance Indicators (KPI) be developed to measure outcomes of implementation.

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