Auditor-General of Queensland

Report to Parliament No. 5 for 2009

Management of patient flow through Queensland hospitals

A Performance Management Systems Audit

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QUEENSLAND

Prepared under Part 3 Division 3 of the
Auditor-General Act 2009

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Auditor-General of Queensland

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The Honourable J Mickel MP
Speaker of the Legislative Assembly
Parliament House
BRISBANE QLD 4000

Dear Mr Speaker

This report is prepared under Part 3 Division 3 of the *Auditor-General Act 2009*, and is on managing patient flow through Queensland hospitals. It is the fifth in the series of Auditor-General's Reports to Parliament for 2009.

In accordance with s.37 of the Act, would you please arrange for the report to be tabled in the Legislative Assembly.

Yours sincerely

Glenn Poole
Auditor-General

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1 Executive summary

1.1 Audit overview

Over the next 15 years the Department of Health (Health) predicts that the number of hospitalisations will double due to the increasing population and burden of chronic disease.[1] Managing this increase in demand is not just about providing additional resources, such as more beds, buildings and staff. Health services globally are looking at how they can reduce inefficiencies in systems to improve the smooth and timely flow of patients through hospital departments. This relatively new concept of patient flow has become increasingly recognised as important to help address the imbalance between hospital patient demand and capacity.

The objective of this audit was to determine whether suitable systems are operating across Queensland's public hospitals to ensure the efficient and effective management of patient flow including admission to, and discharge from hospital. The audit focused on the Queensland public hospital system with regard to inpatient flow, including its interaction with external health service providers, and the role of district and Health corporate offices. The audit did not specifically examine the ambulance service, emergency department systems or waiting lists. A full list of audit scope exclusions can be found in section 2.3.

1.2 Audit opinion

Health have recognised the importance of efficient patient flow, and have introduced a number of initiatives to improve hospital systems. Increased action is required to ensure these initiatives are implemented consistently across the state. In addition, the performance management system in place at Health requires further development to enable management to fully assess whether hospital patient flow processes across Health are efficient and effective.

Audit found that:

- while some statewide policies and frameworks have been provided to hospitals on patient flow, implementation by districts and hospitals has not been fully monitored at a corporate level
- while there are some mechanisms to identify and communicate proven initiatives and better practice across the state, some of the hospitals visited by audit were unaware of the positive initiatives being implemented at other hospitals
- Health has systems in place to measure a number of aspects of hospital performance and has been recognised as best practice in some areas

[1] Department of Health, *Queensland Statewide Health Services Plan 2007-12*.

- there is no comprehensive suite of performance measures for inpatient flow and interaction with external health service providers that are used and monitored consistently across the state.

While hospitals can develop and implement solutions individually to address patient flow challenges, maximum efficiency can be gained when Health takes a coordinated and holistic approach to improving systems and processes through sharing examples of better practice. A whole of system approach to address patient flow issues will reduce the ripple effect on patient care, such as ambulance waiting times and hospital capacity.

1.3 Key findings

Increasing demand pressures necessitate an increased focus on the most efficient use of resources. Health will need to provide strong governance through direction, coordination and support, and improve inpatient flow and performance measurement and reporting systems to ensure better practice is achieved consistently throughout the organisation.

Direction, coordination and support

There are a number of statewide frameworks that provide general guidance and minimum standards to facilitate patient flow through hospitals. However, audit found that application of these frameworks has not been fully monitored.

Although each district and hospital has its own population needs and service capabilities, efficiencies can be gained through statewide policies and procedures that provide guidance on specific processes to achieve effective inpatient flow. Statewide policies and procedures have been developed to address some, but not all aspects of patient flow.

A number of corporate initiatives have been developed to improve patient flow and interaction with external health service providers. However, initiatives were developed by a number of divisions within corporate, with little evidence of coordination to ensure all Health's processes are considered systematically and duplication is minimised. Additionally, many of these initiatives are relatively recent and have not yet been fully implemented or evaluated.

A number of local inpatient flow initiatives were identified at districts and hospitals visited. Although there were some corporate systems to formally identify and share the benefits and learnings from these initiatives across the state, some of the hospitals visited were unaware of the positive initiatives being implemented at other hospitals.

Patient flow through the hospital

Patient flow concepts and processes were observed at all six hospitals visited. Audit noted that the quality and application of practices varied across each hospital. Examples of positive initiatives and better practice are provided throughout this report.

The admission and discharge policies and procedures implemented by the hospitals audited were inconsistent between hospitals and did not always comply with corporate guidance.

Only three of the six hospitals visited had documented bed management policies and procedures. This may result in inconsistent bed management practices, especially where there is more than one bed manager. Relying on the knowledge and skills of individual staff members increases the risk of inefficient inpatient flow and prevents effective succession planning.

The capture of patient information on admission was adequate, however discharge planning did not always commence at the point of admission.

Initiatives which contribute to efficient patient discharge, including discharge plans, discharge coordinators and multi-disciplinary approaches, were observed in some hospitals visited. Audit noted the following barriers to timely patient discharge including insufficient discharge planning, not recording and updating estimated discharge dates, and limited out-of-hours discharges.

Systems for interacting with external health service providers are mostly adequate.

Other system-wide approaches which support an efficient inpatient journey include records management, monitoring of skill mix and staff training. The audit found that:

- manual clinical records management systems can contribute to delays - it is understood Health is examining options for managing records electronically
- there was no hospital-wide monitoring, analysis or reporting of the appropriateness of staff skill mix throughout hospitals and its impact on patient flow
- while most staff appeared to have general patient flow skills and knowledge, they may benefit from a better understanding of patient flow processes through regular training for all staff involved in the patient journey.

Performance measurement and reporting

Health has processes in place to monitor some aspects of hospital performance. However, there was no clear, consistent and well coordinated mechanism to guide performance monitoring and reporting across hospitals, districts and corporate for inpatient flow and interaction with external health service providers.

It is acknowledged that the Performance and Development Division has recently been established to develop an integrated governance and accountability framework, including performance measurement and reporting. However, at the time of the audit, this framework had not been developed.

While Health monitors some patient flow outcome measures such as access block (time delays in admitting patients from the emergency department to hospital wards), a comprehensive suite of outcome measures was not consistently used or analysed by district or corporate management.

A range of process measures for patient flow and interaction with external health service providers are used by individual hospitals, however their use was inconsistent across the state. This limits the ability to monitor and benchmark performance to identify both patient flow breakdowns and better practice.

Health has established balancing measures to ensure patient flow initiatives do not adversely affect patient safety and quality.

1.4 Recommendations

Direction, coordination and support

It is recommended that Health:

1. **monitor compliance with implemented patient flow frameworks, policies and procedures and take action to address non-compliance with approved policies**
2. **create greater consistencies and efficiencies by further developing systems to:**
   - **identify localised better practice on patient flow**
   - **assess whether identified better practice can be utilised more broadly across hospitals**
   - **communicate and implement relevant better practice.**

Patient flow through the hospital

It is recommended that Health:

3. **improve patient flow systems to reduce bottlenecks and delays, through:**
   - **reviewing discharge planning at all hospitals from point of admission, including the recording and regular updating of expected discharge dates to ensure consistency with policy and to further develop processes within relevant hospitals**
   - **investigating and developing, in conjunction with hospitals, systems which manage bed allocation and provide real time data that is readily available to staff to assist in bed management**
   - **ensuring that a system to monitor the staff skill mix is operating within individual hospitals to ensure rostering issues impacting on patient flow and out of hours discharge are promptly brought to the attention of management for appropriate remedial action**
   - **continue to deliver ongoing formal training on patient flow concepts and processes to all relevant staff.**

Performance measurement and reporting

It is recommended that Health:

4. **develop a suite of performance indicators for all aspects of patient flow and interaction with external health service providers to be reported against consistently by all hospitals and actively monitored by an identified corporate area.**

1.5 Department of Health response

The Director-General, in his response dated 16 July 2009 stated:

'The current challenge for the Queensland health system is to improve the delivery of health care while containing costs and maintaining quality of care. As a result, health care, including care in hospitals, has changed and will continue to change. As this change occurs, there is a need to create flexibility in the system to manage uncertainty and to use resources effectively, while maintaining the capacity to cope with variation in demand for services.

I note your acknowledgement of Queensland Heath's recognition of the importance of efficient patient flow mechanisms, in particular, the existence of effective localised initiatives in Health Service Districts. Queensland's performance on patient throughput is amongst the very best in the nation. This has been confirmed through two separate reports which found that Queensland Health currently ranks first in terms of average length of stay for six of the top 20 high volume Diagnostic Related Group's and is consistently ranged in the top three for all 20 when compared with other states and territories.[2] *Queensland Health has also consistently produced the shortest median waiting time for elective surgery.*[3]

In 2008, a number of fundamental organisational reforms were made that have a direct bearing on the Queensland Audit Office audit findings. During the transition phase of these significant changes (1 September 2008 – 31 January 2009), Queensland Health identified a number of opportunities for improvement some of which have a direct impact on patient throughput in our hospitals. These changes were as follows:

1. *In September 2008, a consolidation of Health Service Districts was undertaken reducing the number from 20 to 15. From a patient flow perspective, this led to a more appropriate configuration for developing service delivery models across the care continuum and reduced the layers of management making the District Chief Executive Officer's (DCEO's) directly accountable to the Direct-General for implementation of Queensland Health policies.*
2. *At the same time, the three Area Health Services were abolished removing one level of complexity in the policy development and implementation process. The three Area Health Services were the responsible corporate bodies for patient flow policy process implementation and monitoring. Unsurprisingly, there were different policies and practices across the three Areas.*
3. *The changes in Districts both in number and structure necessitated new governance and accountability processes to be developed and implemented during the transition phase, which covered much of the audit period.*

[2] *Australian hospital statistics 2007-08*, Australian Institute of Health and Welfare, Canberra, June 2009.
[3] *The state of our public hospitals June 2009 Report*, Department of Health and Ageing.

The following fundamental reforms, which support consistent statewide delivery and monitoring of initiatives, including patient flow improvements, were then adopted:

1. *The Performance and Accountability Division (PandA) was established in late 2008 to strengthen accountability and governance frameworks across Queensland Health to ensure alignment to the objectives of Queensland Health and to establish clear lines of accountability. The continuing work of PandA is to develop and communicate a performance and accountability framework at both District and Corporate level.*
2. *Establishment of the Integrated Policy and Planning Executive Committee to guide and support development of formal mechanisms and initiatives which enable integration, coordination and endorsement of statewide policy development and implementation within Queensland Health.*
3. *Queensland Health has produced a framework for the development of policy and associated documents across Queensland Health, inclusive of strategic, operational and clinical policy. The aim of this work is to ensure a consistent approach to the development and management of policy, strengthen accountability, ensure regular monitoring and review and periodic evaluation of the effectiveness of any policy in achieving its intended outcome.*
4. *The Centre for Healthcare Improvement's operation plan for the Hospital Access Unit, entitled Access to Care Plan 2009-2012, ensures that Queensland Health delivers on the Queensland Government commitment to have the shortest public hospital waiting times in Australia. Implementation of this plan will enhance patient flow improvement activities across the major hospitals. The four initiatives that underpin the Access to Care Plan are:*
   - *faster Emergency Care in Queensland Public Hospitals*
   - *reducing the wait for surgery*
   - *improving Specialist Outpatient Services*
   - *expand Intensive Care Unit's.*
5. *At a senior management level, since the dissolution of the Area Health Services, there are monthly DCEO forums that provide opportunities to share and develop collaborations on best practice improvement. An example of this is the "emergency patient access collaborative".*
6. *The Demand Management Steering Committee was established in November 2008. It has developed a multi-strategy multiphase program addressing many aspects of patient flow. The first phase is focused on acute care hospital substitution services and subsequent phases will include strategies on diversionary (avoidance) programs, post acute care, and preventative care services.*
7. *Prior to the audit period, Queensland Health has recognised that arrangements with external health service providers could be enhanced. As such a pilot on service provision for transition care was commissioned in December 2008. The Register of Approved Service Providers will be available for use by Health Service District (HSD) transition care teams from August 2009 and will be communicated to HSD's through an improved web presence. If the transition care model of service procurement proves successful, it will be applied to other service areas.*

In recognition that the above reforms had been commenced prior to the audit period, I request that these initiatives be specifically referred to in the final report.

In response to the Auditor-General's specific recommendations, Queensland Health at corporate, district and hospital levels will continue to:

- *develop statewide frameworks, policies and procedures to ensure a coordinated and standardised approach to patient flow*
- *monitor implementation of process use and develop appropriate escalation strategy for non-compliance*
- *identify local better practice and assess them for broader application*
- *develop a communication process to disseminate better practice*
- *review current discharge planning processes and where necessary, develop additional standardised procedures and documentation to improve coordination and consistency*
- *progress work on procuring appropriate off the shelf or current local in-house systems that manage bed allocation and develop an implementation strategy*
- *establish statewide rostering and skill mix guidelines that match the requirements for effective patient flow and discharge planning*
- *further develop and maintain a patient flow system improvement toolkit*
- *work on major flow process projects and provide a statewide forum to train key staff*
- *develop management process indicators to ensure that there is a consistent approach*
- *develop a minimum data set for comparisons for performance; and*
- *review performance, disseminate information on better practice and provide active intervention to support sub-optimal performance.*

Also, as discussed I request the following measures to ensure full transparency and accountability in implementing your recommendations:

- *quarterly meetings between senior officers of our respective agencies to report on and monitor Queensland Health's progress towards full implementation*
- *a formal Audit Office review in twelve months of Queensland Health's progress towards full implementation of your recommendations.'*

Auditor-General's additional comment

I acknowledge the department's commitment to implement the recommendations in the report. I agree to undertake early follow-up audit processes as the department develops and implements the specific actions required to address these recommendations.

2 Audit focus

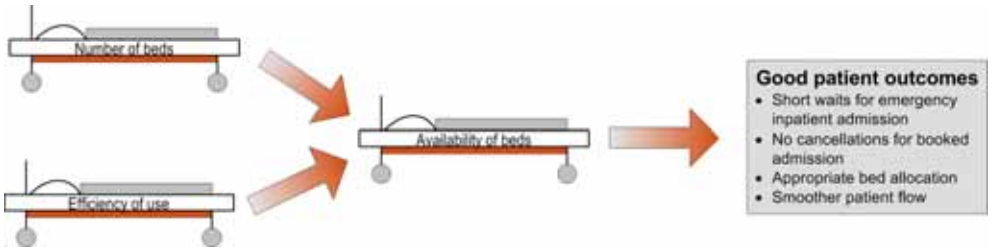
2.1 Reasons for audit

The Queensland health system is experiencing significant increases and changes in demand for acute public hospital services. There has been an approximate 18 per cent increase in patient admissions to Queensland public hospitals over the past ten years.[4] The number of acute public hospital beds available within Queensland have increased over the same ten year period by approximately four per cent.[5]

The provision of new acute care beds to relieve existing hospitals of the growing demand is reliant on building infrastructure which is a lengthy and costly process. The development and implementation of new models of care to better manage demand can also take quite some time to achieve results. As a consequence, it is vital that there are effective and efficient systems for managing patient flow to maximise each hospital's ability to meet demand.

Figure 2A illustrates that good patient outcomes are achieved with the right balance of resources and systems.

Figure 2A : Good patient outcomes



Source: Audit Commission, *Bed Management, Review of national findings*, 2003.

2.2 Audit objective

The audit objective was to determine whether suitable systems are operating to ensure the efficient and effective management of patient flow including admission to, and discharge from hospital.

2.3 Audit scope

The audit focused on the Queensland public hospital system with regard to inpatient flow, including its interaction with external health service providers, and the role of district and Health corporate offices.

[4] Data Source: Department of Health, *Summary of acute public hospital activity – 1994/1995 to 2007/2008.*
[5] Data Source: Department of Health, *Summary of acute public hospital activity – 1994/1995 to 2007/2008.*

The audit did not specifically examine prevention and early intervention programs, the ambulance service, emergency department systems, waiting lists, elective surgery, external health service providers, post-discharge patient care, or funding models.

Criteria

The audit assessed whether Health has:

- an appropriate admission process
- appropriate systems to facilitate patient flow
- adequate systems for patient discharge
- in relation to inpatient throughput, adequate systems for performance measurement and reporting
- an effective system to identify and interact with external health service providers
- in relation to interaction with external health service providers, adequate systems for performance measurement and reporting.

Fieldwork

Audit fieldwork was conducted from November 2008 to March 2009, at Health's corporate office in Brisbane, and the following health service districts and hospitals:

- Metro North district office
  - Royal Brisbane and Women's Hospital (RBWH)
  - The Prince Charles Hospital (TPCH)
- Gold Coast district office
  - Gold Coast Hospital (GCH)
- Townsville district office
  - The Townsville Hospital (TTH)
  - Charters Towers Multi Purpose Health Service (hospital)
- Mt Isa district office
  - Mt Isa Hospital.

A map of health service districts is provided at Figure 7A.

2.4 Audit procedures

The audit examined:

- literature and audit reports, including publications from Australian and international jurisdictions
- systems and processes for managing inpatient admission, patient flow, discharge and interaction with external health service providers
- the role of districts and the Queensland Health corporate office
- monitoring and reporting systems.

2.5 PMS audit approach

The legislative basis for this audit is Section 38 of the *Auditor-General Act 2009* (A-G Act). A performance management systems (PMS) audit is an independent examination which includes determining whether an entity or part of an entity's activities have performance management systems in place to enable management to assess whether its objectives are being achieved economically, efficiently and effectively. While a PMS audit will not review or comment on government policy, it may extend to include a focus on the entity's performance measures and whether in the Auditor-General's opinion, the performance measures are relevant, purposeful and fairly represent the entity's performance.

The intent of a PMS audit is to provide independent assurance to the parliament, and to act as a catalyst for adding value to the quality of public administration by assisting entities in the discharge of their governance obligations. A PMS audit has a focus on ascertaining whether the systems and controls used by management to monitor and measure performance, assist the entity in meeting its stewardship responsibilities.

The statutory office of the Auditor-General, as the external auditor for the parliament, is established pursuant to the A-G Act. While the Auditor-General takes note of the entity's perspective, the scope of a public sector audit is at the sole discretion of the Auditor-General as the A-G Act prescribes that the Auditor-General may conduct an audit in the way the Auditor-General considers appropriate.

2.6 Related PMS audits

A concurrent audit was undertaken on health service planning systems, Report to Parliament No. 2 for 2009, Health service planning for the future. The objective of that audit was to determine whether there were adequate statewide and district planning systems in place to ensure Queensland public health services were sustainable and would support future community needs.

The audit found that there had been some progress towards implementing a department-wide service planning system, however fundamental weaknesses in current practices were identified.

Service planning can play an important role in improving systems to better manage patient flow. Creating more beds is only part of the solution to managing increasing demand, improving efficiency through effective patient flow systems is another. It is recognised that the continuing growth in demand for health services may not be fully met by increasing hospital bed numbers. Driving efficiency from the use of existing resources and the introduction of alternative models of care will be required to meet demand. Therefore Health requires effective planning processes, which critically evaluate current operations and consider how additional or alternative systems can be introduced to manage demand.

The importance of planning is based on the recognition that resources are limited. Health service planning is the process of ensuring community needs are managed using a deliberate and well thought out strategy, making the most effective use of resources. When planning and resource allocation are not well aligned, optimal outcomes may not be achieved.

3 Importance of effective patient flow

Summary

Background

This section highlights the importance of effective patient flow and provides context for the audit findings in the following sections of this report.

Key points

- Health is challenged by increasing demand pressures.
- It is important that hospitals ensure efficient use of resources through effective systems to facilitate patient flow such as:
  - admission: collecting personal and clinical information early in the patient journey to enable hospital staff to commence planning for discharge
  - bed management: coordinating the movement of patients through the hospital
  - discharge: facilitating timely discharge so that beds are made available to accommodate new patients as soon as possible
  - interaction with external health service providers: establishing agreements and maintaining effective relationships with providers to facilitate timely discharge
  - performance measurement and reporting: identifying areas for improvement, monitoring the effectiveness of initiatives and benchmarking performance.
- Although each district and hospital has its own population needs and service capabilities, efficiencies can be gained through corporate and district direction, coordination and support.

3.1 Demand and capacity

As a result of the ageing population, increasing interstate migration, and changes to the population distribution, the Queensland health system is experiencing significant increases and changes in demand. The department's own planning predicts that the number of hospitalisations will double over the next 15 years as a result of the increasing population and increasing burden of chronic disease.[6]

Several Queensland public hospitals are frequently operating at capacity, and many others operate at capacity during high demand periods such as winter. This triggers 'access block', where patients are unable to access an inpatient bed. Access block is likely to occur on a routine basis if the average hospital bed occupancy rate rises to 90 per cent or more.[7]

To address increasing demand and reduce access block, it is imperative that hospitals establish and maintain efficient and effective systems to facilitate patient flow and ensure the efficient use of resources.

3.2 Patient flow processes

Optimal care can only be achieved when patients are in the right place at the right time, with the right staff and the right information. However many patients experience long waits, delays and diversions. This is most evident and its impact more serious in emergency departments. The primary cause of overcrowding in emergency departments is the inability to transfer patients to an appropriate hospital ward (access block).

Hospital departments do not operate in isolation, but are parts of a system of care through which patients flow. As each stage of the patient journey is interconnected as illustrated in Figure 3A, there can be multiple factors which contribute to slowing patient flow and creating blockages in the system. For example, many hospitals frequently experience exit block where patients are medically ready for discharge but discharge is delayed. These delays in discharge further contribute to access block.

The way in which a patient is moved through the hospital system is referred to as patient flow. Viewing the hospital system using such a holistic approach is a relatively new concept both nationally and internationally. Research undertaken by the Institute for Healthcare Improvement (IHI) in the United States found that reducing delays depends on assessing and improving flow between and within all areas of the hospital system, and that the answer to improving patient flow *'lies in redesigning the overall, system wide work processes that create the flow problems'*. The IHI believe *'the key to improving patient flow lies in reducing process variation that impacts flow. While some variation is normal, other variation is not and should be eliminated'*.[8]

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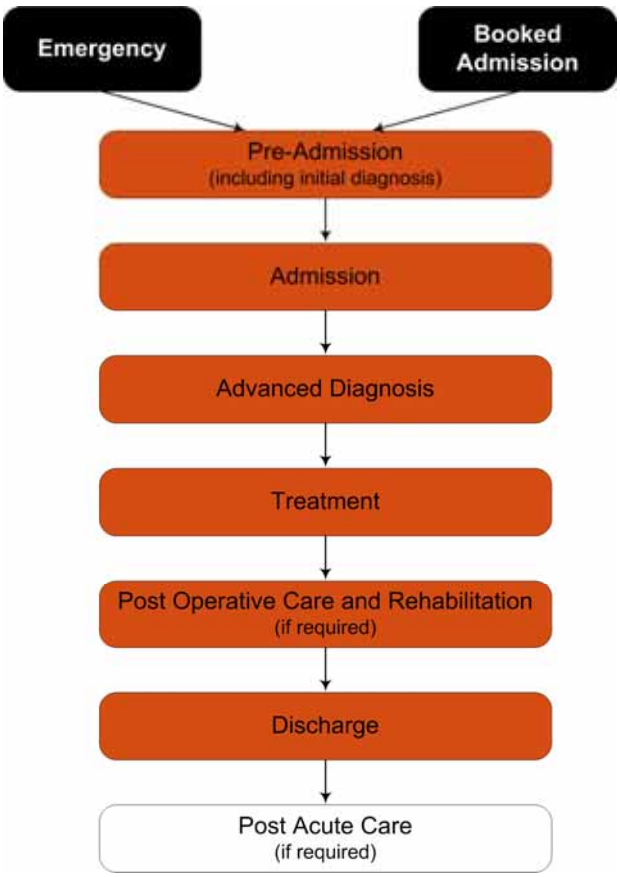
[6] Department of Health, *Queensland Statewide Health Services Plan 2007-12*.
[7] R. Forero, K. Hillman, *Access Block and Overcrowding: A Literature Review*, 2008, Simpson Centre for Health Services Research.
[8] Institute for Healthcare Improvement United States, *Optimising Patient Flow Moving Patients Smoothly Through Acute Care Settings*, Innovation Series 2003.

Figure 3A : Typical patient journey



To facilitate patient flow, hospitals require a combination of corporate and district direction, coordination and support, and effective hospital based systems for admissions, bed management, discharge, interaction with external health service providers and performance measurement and reporting.

Direction, coordination and support

Efficiencies in the movement of patients through their hospital stay can be gained through an overarching governance framework that outlines proven principles and methodologies for improving patient flow. Good governance promotes consistency across the Health system and may include:

- direction – including admissions, bed management and discharge policies and guidance to inform decisions, promote consistency and communicate expectations
- coordination – including standardised programs and initiatives that meet common needs, and agreements for service provision with external agencies or providers who deliver services across the state
- support – including mechanisms to share good practice and learnings across the department so that continual improvement can be optimally achieved in all locations.

While local procedures may need to be developed to account for differences between facilities, high level guidance and policies can provide greater efficiency and consistency across the department. They can also ensure that minimum standards that are acceptable to Health management are set. The development of robust and flexible statewide policies and standards will minimise the circumstances in which local policies need to be developed by individual hospitals.

Initiatives that meet common needs as well as agreements for service provision with statewide external health service providers can be implemented across the department. There needs to be clear corporate coordination so that opportunities for standardisation are identified and addressed comprehensively and without duplication.

Some activities cannot be standardised across the state because they need to be responsive to local needs and conditions. However, there still needs to be a mechanism for sharing practices and learnings so that continual improvement can be optimally achieved in all locations and duplication can be avoided.

Admission

Effective inpatient admission is essential for successful patient flow. Timeliness is important as delays in admitting patients to hospital wards can diminish patient health outcomes, increase length of stay (LOS), and affect inpatient flow. It is also important to commence discharge planning at the point of admission to support continuity of care, streamlining the patient journey. A formal discharge plan and checklist assist in identifying high-risk patients, facilitating a multi-disciplinary approach and integrating and communicating care needs early in the patient journey.

Bed management

Managing the flow of patients through a hospital largely depends on efficient bed management systems to coordinate the appropriate placement of patients. Effective systems provide accurate and up-to-date data on the number of beds available, planned and unplanned admissions, predicted and actual discharges and inter-hospital transfers. This data is necessary to predict and manage periods of increased demand. Systems should also have the ability to track patient movement through hospital wards at any given time and anticipate inward transfer requirements where possible.

Discharge

Effective and timely discharge reduces patient delays and provides beds for new patients, improving patient flow. Effective discharge is achieved through:

- discharge planning: ensures appropriate post discharge support is available, and re-admissions are reduced and may involve consultation with allied health services and external health service providers
- dedicated discharge coordinators: who can provide a greater focus on discharge planning and ensure discharge practices are undertaken on a consistent basis
- recording and regularly updating the expected date of discharge (EDD): focuses both the patient and staff on the necessary action for efficient discharge.

Interaction with external health service providers

Health is increasingly reliant on external health service providers to provide post acute care and relieve the demand on the hospital system. Services may include aged care support, rehabilitation and speech therapy. Understanding the external health services that are available facilitates efficient discharge. Using formal agreements and building effective systems to communicate and coordinate with external health service providers can facilitate timely discharge so that arrangements are in place prior to discharge. This may reduce patient LOS, ensure quality post-acute care and reduce re-admission.

Other processes to support the patient journey

There are a number of other system-wide approaches that support an efficient patient journey, which include records management, rostering and training:

- The documentation and management of patient clinical notes is a high risk for hospitals. Records need to be easily accessible and understandable to avoid delays in patient flow.
- Some tasks, such as authorising discharges, can only be done by qualified staff members. Therefore the right skill mix can improve patient flow by ensuring appropriate staff are available when needed. Monitoring and analysis of the impact of skill mix on patient flow may assist management to identify any rostering related impediments to patient flow.
- To facilitate patient flow, hospital staff including nurses, medical and administrative officers must have adequate knowledge and skills in the entire patient flow process. It is important that all staff receive timely and regular training on patient flow concepts and processes.

Performance measurement and reporting

Effective performance measurement and reporting:

- assists managers to identify areas for improvement and monitor the effectiveness of initiatives
- enables benchmarking of performance
- provides for transparent communication of performance information to stakeholders.

There are three types of measures recognised in the health industry which help achieve these goals for patient flow – outcome measures, process measures and balancing measures.

Outcome measures indicate whether changes made are leading to improvement. Outcome measures relevant to inpatient flow and interaction with external health service providers may include access block, length of stay, patient days, bed capacity and exit block (patients waiting for placement in external care).

Process measures help to identify which areas within a process are causing or significantly influencing outcomes. Process measures relevant to inpatient flow and interaction with external health service providers may include outliers (patients in beds not in the most appropriate ward), timeliness of recording the expected date of discharge, discharges by time of day, percentage of weekend discharges, timely completion and provision of discharge summaries as well as usage rates, quality and timeliness of external health service providers.

Balancing measures ensure that changes made to improve patient flow do not adversely affect the quality of service. Balancing measures relevant to inpatient flow and interaction with external health service providers may include re-admission rates and patient safety and quality measures.

An ideal performance monitoring and reporting system has consistent, coordinated measures and reporting pathways, clearly demonstrating alignment and linkages between all levels. While not all measures (particularly process measures) need to be actively monitored by Health senior management, they are important for hospital and district management to monitor all aspects of their patient flow performance and to identify on a timely basis any breakdown or areas requiring improvement. They are also useful for monitoring the effectiveness of any patient flow initiatives that are introduced. Further, consistent measures at the hospital level allow for benchmarking by both local and corporate areas to identify and address particular areas for improvement.

Audit findings on each of these systems are included in Sections 4, 5 and 6 of this report.

4 Direction, coordination and support

Summary

Background

Good governance promotes consistency of efficient operations across the Health system and may include:

- direction – policies and guidance
- coordination – agreements and standardised programs
- support – direct assistance and/or mechanisms to share good practice.

Key findings

- There are a number of statewide frameworks that provide general guidance and minimum standards to facilitate patient flow through hospitals. However, not all of these frameworks are mandated and audit found that application of these frameworks have not been fully monitored.
- Although each district and hospital has its own population needs and service capabilities, efficiencies can be gained through statewide policies and procedures that provide guidance on specific processes. Statewide policies and procedures have been developed to address some, but not all aspects of patient flow.
- A number of corporate initiatives have been developed to improve patient flow and interaction with external health service providers. However these initiatives are being pursued by a number of divisions within corporate, with little evidence of coordination to ensure all Health's processes are considered systematically and duplication is minimised.
- A number of local initiatives to improve patient flow were identified in districts and hospitals visited. Although there were some corporate systems to formally identify and share the benefits and learnings from these initiatives across the state, some of the hospitals visited were unaware of the positive initiatives being implemented at other hospitals.

4.1 Direction

The Clinical Services Capability Framework and the Queensland Health Continuity of Care Planning Framework are the only statewide frameworks identified by audit, that provide guidance and minimum standards to facilitate patient flow through hospitals. However, audit found that application of these frameworks have not been fully monitored.

Efficiencies in operations can be gained through corporate policies and procedures that provide guidance on specific processes to achieve effective patient flow. Statewide policies and procedures have been developed for:

- admissions
- elective surgery and outpatients (which cover admission, bed management and discharge)
- collection of admitted patient data.

No statewide policies and procedures covering bed management or inpatient discharge were identified during the audit.

Most districts visited had district-wide policies and procedures for patient flow, including admissions, bed management, discharge and inter-hospital transfers. However, the policies and procedures varied in terms of consistency, quality of content and format. Corporate guidance on policy development and management has recently been drafted, with implementation scheduled to begin in October 2009. Health predicts that the transition of existing documents to the new standards will take up to three years.

4.2 Coordination

There has been an increasing focus by Health on improving hospital systems. A number of corporate initiatives have been developed for effective patient flow and interacting with external health service providers. Initiatives are being pursued by a number of divisions within corporate, including the Clinical Practice Improvement Centre (CPIC), Reform and Development Division and various areas within Policy Branch. However, audit did not find evidence of clear coordination of initiatives between these areas.

CPIC is taking an increasing role in developing statewide patient flow programs, however initiatives are currently narrowly focused (for example on surgery only) and in trial stage at a small number of hospitals. Further information on CPIC is included in case study 1.

In early 2009 an Emergency Department and Flow Taskforce was established to focus on emergency departments and hospital wide strategies to address patient flow. The taskforce will undertake site visits to some hospitals around the state and report findings to the Health executive management team and district CEOs.

Additional corporate initiatives relating to managing patient flow include:

- Demand Management Advisory Panel: a newly developed group responsible for providing information about the best way to integrate existing programs and to identify what work is required to standardise service provision and data collection.
- Statewide Clinical Pathways: standardised, evidence-based multi-disciplinary management plans identifying appropriate sequence of clinical interventions, timeframes, milestones and expected outcomes for a patient group. To date, clinical pathways have been developed for ten diagnosis related groups.
- Winter Demand Management Strategy: a corporate guide to assist hospitals to meet increased demand with the highest possible standards of safety and quality during the colder months.
- Connecting Healthcare in Communities: an initiative to establish district partnership councils with primary health care providers across the district.
- Corporate agreements with a number of external health service providers: these agreements govern the relationship between Health and the providers and outline minimum performance standards expected of the providers. However, it was not evident to audit that these agreements are communicated effectively to districts. There was also no system in place for districts to identify additional agreements needed.

A policy project has also commenced to standardise some transition care programs, which provide post-acute care at home for patients recovering from a hospital stay. A list of pre-qualified external transition care health service providers is being established for use by districts.

Case study 1 – Clinical Practice Improvement Centre – standardising practices

CPIC aims to standardise clinical practices by identifying gaps in systems and then training staff in how to clinically redesign processes. In the past this process has been ad-hoc with only some hospitals receiving corporate support. As CPIC expands, it aims to reach more health facilities across the state.

In August 2008, CPIC initiated a project to standardise the approach to patient flow management in surgical wards across Health facilities and promote a culture of continuous improvement. The project involves assisting districts implement patient flow improvement activities through education, mentoring and developing performance measures. This project is currently being trialled at two hospitals, The Prince Charles and Ipswich hospitals. If successful, it will be rolled out in three stages over the next three years, however it is unclear at this stage how many hospitals will be part of this initiative.

Why is this better practice?

A standardised methodology for reviewing patient flow, can provide efficiency and consistency throughout the state, by eliminating the need for individual hospitals to resource the development of individual policies.

4.3 Support

There are some statewide systems to formally identify and share the benefits and learnings from local patient flow initiatives. However, audit found that some of the hospitals visited were unaware of the positive initiatives being implemented at other hospitals. This lack of communication has resulted in districts and hospitals developing their own initiatives to solve patient flow issues which may be common throughout the state.

At a senior management level, a monthly District CEO Forum has recently been established to provide an opportunity for sharing better practice initiatives. Due to the broad range of topics discussed, it will be a challenge for this forum to be effective in instigating and disseminating patient flow improvements to hospitals.

Statewide clinical networks have been established in a number of clinical streams, (for example, diabetes, dementia and intensive care), to identify areas for improvement and share knowledge and ideas. However patient flow initiatives are broader than clinical streams and require a whole of organisation approach, involving all clinical and administrative groups.

Only one of the four districts visited had a mechanism for sharing better practice across the district relating to the inpatient journey through its patient flow committee. In addition, only one hospital visited had mechanisms for sharing better practice for interaction with external health service providers, with a discharge planning website which has been made available across the department. However other districts visited were unaware of this resource.

The case study below highlights one example of positive initiatives occurring in hospitals. Other better practice examples are outlined in Section 5.

Case study 2 – Process re-design to improve patient flow in the Gold Coast Hospital

The Gold Coast Hospital (GCH) has established a lean thinking unit to undertake process re-design projects to improve patient flow. The unit was developed in response to emergency department demand pressures that regularly resulted in the hospital going on 'bypass', where ambulances were redirected to other hospitals.

A multi-disciplinary whole of system approach was taken to improve patient flow. Hospital processes were mapped including admission, bed management and discharge practices, and data was collected and analysed. As a result of the findings, processes were re-designed, implemented, and monitored. Processes introduced included:

- the development of a reference tool to assist with estimating the length of stay
- staff training to ensure expected discharge dates were communicated, recorded, monitored and updated on a timely basis
- discharging patients earlier in the day.

The project outcomes have been successful to date resulting in a significant increase in bed capacity, and a reduction in access block from 42 per cent to 17 per cent within a period of less than six months.

Why is this better practice?

Targeted system reviews and process redesign can identify system breakdowns and remedial action can improve patient flow.

Recommendations

It is recommended that the Department of Health:

1. **monitor compliance with implemented patient flow frameworks, policies and procedures and take action to address non-compliance with approved policies.**
2. **create greater consistencies and efficiencies by further developing systems to:**
   - **identify localised better practice on patient flow**
   - **assess whether identified better practice can be utilised more broadly across hospitals**
   - **communicate and implement relevant better practice.**

5 Patient flow through the hospital

Summary

Background

Ideally patients should move through the hospital system without delay, to achieve the best clinical outcomes, and save time and money. Each stage of the patient journey is interconnected and multiple factors can contribute to slowing patient flow and creating access and exit block.

Key findings

- Patient flow processes were observed at all six hospitals visited, however the quality and application of practices varied across each hospital.
- While all hospitals had admission and discharge policies and procedures, they were inconsistent and did not always comply with corporate guidance.
- Only three of the six hospitals had formal bed management policies and procedures. This may result in inconsistent bed management practices, especially where there is more than one bed manager. The absence of formal policies increases the risk of inefficient patient flow and prevents effective succession planning.
- The capture of patient information on admission was adequate, however discharge planning did not always commence at the point of admission.
- Audit noted the following barriers to timely discharge: insufficient discharge planning, not recording and updating expected discharge dates and limited out-of-hours discharges.
- Systems for interacting with external health service providers are mostly adequate.
- Manual clinical records management systems contribute to delays. It is understood Health is examining options for managing records electronically.
- There was no hospital-wide monitoring, analysis or reporting of the appropriateness of staff skill mix throughout hospitals and its impact on patient flow.
- While most staff appeared to have general patient flow skills and knowledge, they may benefit from a better understanding of patient flow processes through regular training for all staff involved in the patient journey.

5.1 Demand management strategies

Health have developed strategies to manage demand within hospitals which can assist in improving patient flow. Some of these strategies were initiated by corporate and others have been initiated by individual hospitals. Figure 5A outlines some of the demand management strategies identified at a number of the hospitals visited.

Case study 3 outlines a strategy adopted by The Townsville Hospital (TTH), to address LOS issues, which are currently being experienced by many hospitals around the state. This strategy may also assist other hospitals.

Figure 5A : Strategies adopted by hospitals visited to manage inpatient demand

Strategy	Details and benefits
Hospital-wide capacity alert plans	• Outline the responsibilities and actions required for different levels of demand. Capacity alert plans can be developed for emergency departments and/or health service lines. • Provide guidance to help manage service demand during periods of peak activity.
Fast track registrar/unit in emergency	• Provides an alternative treatment path for patients triaged as low risk. • Potentially reduces access block caused by delays in the emergency department.
Emergency capacity for hospitals (ECHO) system	• Enables senior emergency department staff, district managers and corporate executives to view live activity/capacity data for emergency departments throughout the state and provides an escalation policy to be initiated during peak periods of demand. • Prepares hospitals for an increase in demand when neighbouring hospitals are on bypass.
Statewide clinical pathways	• Evidence based multi-disciplinary management plans for a limited number of diagnoses groups. • Can assist with discharge planning, including predicting the expected discharge date.
Winter demand management strategy	• Outlines key strategies available to staff to effectively manage increases in demand during the winter months.
Extended hours of operation for some services	• Earlier opening, later closing or weekend operation for some services and service lines. • Reduces admission and discharge delays for inpatients receiving services such as radiology and pharmacy.
Transit lounges	• Can facilitate the flow of patients in and out of hospital wards. • The primary use of a transit lounge is for patients requiring minimal nursing assistance.
Nurses with extended clinical functions	• Assist in speeding up treatment and discharge of patients. • Support innovative models of care with an emphasis on a collaborative team approach.
Patient flow, bed and discharge coordinators	• Patient flow coordinators view patient flow as a whole, contribute to improvement projects and oversee both bed coordinators and discharge coordinators. • Bed coordinators prioritise and allocate patient placement • Discharge coordinators facilitate discharge and interact with external health service providers.
Patient flow committees	• Identify and take timely action to resolve patient flow issues.

5.2 Admission

Hospital admission policies and procedures

While all hospitals had policies and procedures for booked and emergency admissions, they were inconsistent and did not always comply with corporate guidance. For example, not all hospital policies and procedures clearly define the roles and responsibilities of staff and requirements to commence discharge planning.

Managing inpatient admissions

Overall, the capture of patient information at point of admission is adequate. However at two of the hospitals visited there was no system to ensure that once a patient had been assessed as requiring admission and was allocated a bed, they were physically transferred from the emergency department to a ward in a timely manner. This may further contribute to access block.

Most hospitals visited use a formal discharge plan for patient admissions, however the quality, format and use of these plans varied. There is also little evidence to confirm elements of discharge planning occur early enough in the patient journey at most of the audited hospitals.

5.3 Bed management

Hospital bed management policies and procedures

Bed management is an important factor in ensuring efficient patient flow. However, only three of the six hospitals had documented bed management policies and procedures. This may result in inconsistent bed management practices, especially where there is more than one bed manager. While skilled and knowledgeable staff members are important, the absence of agreed policies increases the risk of inefficient patient flow and prevents effective succession planning.

Managing bed allocation

Most hospitals visited had bed coordinators to allocate beds based on patients' clinical needs. Bed coordinators were predominantly nursing professionals with clinical knowledge and who are familiar with hospital processes. The main responsibilities of bed coordinators include:

- collecting information on the current bed status, for example via phone calls, ward rounds and daily bed meetings
- coordinating admission by allocating beds based on clinical needs
- liaising and communicating with relevant stakeholders.

For bed coordinators to perform their role effectively, they require a system that provides current information on planned and unplanned admissions, inter-hospital transfers, bed status and predicted and actual discharges. All hospitals visited use a paper-based bed management system, which involves continually updating the availability of beds and patient needs in order to place patients in appropriate wards. To ensure the data on bed availability was accurate and up-to-date, the bed managers regularly liaised with doctors, nurse unit managers, and allied health staff, as well as undertaking ward rounds. The reliance on various information sources makes current bed management processes labour intensive. Three of the hospitals supplemented the paper-based system with electronic bed management software, which relies on regular data entry by staff. However, software did not include functionality to manage future bookings.

Audit considers that there is an opportunity for improving communication and more responsive coordination through a system that provides real time data and bookings functionality to assist in managing beds. The department advised that it has recently investigated options to provide hospitals with a standard system to manage patient flow and bed management processes within wards.

Effective bed management information systems are also dependent on the timely and accurate reporting of the EDD, discussed further in Section 5.4.

5.4 Discharge

Hospital discharge policies and procedures

All hospitals had documented policies and procedures covering inpatient discharge, however audit noted that:

- some policies and procedures did not follow the recommendations of the Queensland Health Continuity of Care Planning Framework in relation to the EDD being recorded within 24 to 48 hours of admission
- there was a lack of systems for hospitals to monitor compliance with all elements of their policies and procedures.

Audit also noted a lack of compliance with the discharge policies. For example, in some hospitals visited staff did not consistently comply with the inter-hospital transfer procedure when making referrals. Failing to notify the emergency department of incoming patient transfers may impact on the timely delivery of care and place additional pressure on hospital staff. Further, not all hospitals had a system to monitor compliance with these requirements.

Managing acute patient discharges

It is important that patients are discharged in a timely manner to avoid exit block. There are a number of processes and initiatives which facilitate efficient patient discharge. These include discharge plans, discharge coordinators, multi-disciplinary teams, recording and regular updating of EDDs and increasing out-of-hours discharges.

Most hospitals visited used a formal discharge plan to document discharge information. However not all plans included sufficient information, such as a risk screening assessment, which identifies patients recognised as a discharge risk. Discharge risk screening increases the likelihood that issues requiring attention are identified early in order to prevent deterioration following discharge and unplanned re-admission.

The other hospital recorded discharge planning information on patients' charts, which is recorded by a number of staff at different stages in the patient journey. The lack of a formal discharge plan makes it difficult to evaluate if discharge planning is undertaken consistently throughout the hospital. Additionally, some elements may be omitted from the discharge process, which may cause discharge delays.

The majority of hospitals have introduced discharge coordinators whose role is to plan for and coordinate actions to facilitate patient discharge. An example of how this role is beneficial is outlined in case study 4 on Continuity of Care Coordinators (CCCs) at The Prince Charles Hospital (TPCH). This role involves a focused, multi-disciplinary approach for patients, particularly high-risk, high-needs patients. An example of how a multi-disciplinary approach can assist is the Townsville multi-disciplinary ward rounds, which is detailed in case study 3.

At one hospital visited there were unreliable systems in place to communicate with allied health staff. Allied health needs to be involved early in the inpatient journey to avoid delays in patients receiving treatment, longer lengths of stay and exit block.

Most hospitals visited did not record and update the EDD on a timely basis. If data is not recorded, monitored or reviewed on a timely basis it impacts on the ability to determine bed capacity, limits effective tracking of patients, and delays patient flow. Barriers to establishing the EDD were:

- lack of clarity of who is responsible for recording and updating the EDD
- inability to determine an EDD early in the patient journey
- competing work priorities.

As noted in case study 2, the lean thinking unit at the GCH has undertaken a project to improve the timeliness of EDDs being recorded in a specific ward. This initiative may also assist other hospitals.

Clinical pathways have been developed by corporate to assist in determining EDDs, however they have only been developed for ten diagnosis-related groups and are only used by some hospitals to predict EDD.

As reported in Section 5.6, appropriate staff skill mix and rostering affects many aspects of the patient journey, including discharging. One issue identified was a lack of discharges occurring out-of-hours. In many cases it was predominantly junior medical officers who were rostered out-of-hours and they were reluctant to discharge patients without first consulting senior medical officers. A second issue identified was a lack of administrative support during the same period to assist in processing discharges. One of the hospitals visited had commenced a review of medical officer rostering practices, which resulted in amending shifts to increase the number of senior staff rostered during the night.

Four of the hospitals visited had implemented transit lounges to address the impact of patient flow delays. The main purpose of a transit lounge is to accommodate patients who are awaiting discharge or transfer to another hospital allowing beds to be made available for new admissions. Audit was advised that the lounges have enabled more timely discharge. However, audit was also advised that the transit lounge facilities and/or positioning at two hospitals were not adequate and therefore the lounge was not being used to its full potential. It is understood that hospital executives are aware of these concerns and are currently working to improve these facilities.

Some patients need post-acute care assistance or aged care placement after leaving hospital. If these patients cannot access this assistance it delays their discharge. Although these programs are generally the responsibility of the federal government or private providers, Health has established some initiatives to provide post-acute care such as transition care funded assistance and created some sub-acute care facilities to relieve the burden on acute beds.

Case study 3 – Townsville multi-disciplinary ward rounds

TTH reviewed patient flow processes and identified lengthy patient stays as a hospital-wide issue. In response to the findings, they implemented weekly multi-disciplinary ward rounds in surgical wards, conducted by a team of four hospital directors.

During the ward rounds, the team of hospital directors visit each surgical ward to discuss the long stay patient report with nurse unit managers and shift coordinators. The discussions are held in close proximity to white boards which are regularly updated with long stay patient details including expected discharge dates, reasons for delays and actions to be taken. The hospital directors recommend strategies to reduce patient stay and make a record of agreed follow up action to be completed by ward staff.

After the ward rounds, causes for long stays are collated and entered into a statistical program which generates exit block trends. This information is used by the hospital's Patient Access and Redesign Steering Committee to improve patient flow.

Audit was advised that due to the success of the multi-disciplinary ward rounds in surgical wards, TTH is in the process of introducing the initiative to medical wards.

Why is this better practice?

The ward rounds successfully identify causes of long stay (greater than 14 days) and ensure appropriate and timely action is undertaken to manage long stay patients. The information collated during this process helps to gain a greater understanding of possible barriers to efficient patient flow. Weekly multi-disciplinary ward rounds could also be applied to other hospitals to address their LOS concerns.

5.5 Interacting with external health service providers

Systems for identifying and interacting with external health service providers varied between hospitals and most were adequate. Interaction is predominantly managed by hospitals with little or no direction or oversight by district and corporate offices. Health is currently introducing a number of corporate initiatives for interacting with external health service providers, such as Connecting Healthcare in the Community.

Interaction is usually through hospital discharge coordinators who work closely with external health service providers on a regular basis to facilitate the discharge of patients, particularly those with complex care needs. In most hospitals, discharge coordinators meet with a range of external health service providers to discuss the specific needs of individual patients. Depending on the patient's needs, those involved may include: domiciliary nursing services such as Blue Care, allied health professionals (social workers, speech therapists etc), home care, mental health and public and private aged care homes. Doctors may also be involved in discussions as required.

Audit found that most discharge coordinators have a sound understanding of the services available in the local area and are able to build effective working relationships with providers. For example, at two of the hospitals visited discharge coordinators held weekly meetings with a group of external health service providers to discuss individual patients' discharge needs.

Audit was advised that without the involvement of discharge coordinators, some medical officers were reluctant to discharge patients to external health service providers due to their limited knowledge of services available.

TPCH's CCCs have established systems for interacting with external health service providers to facilitate effective discharge. Their systems are outlined in case study 4.

Health has established service agreements with a number of external health service providers. However it was not evident to audit that these agreements are communicated well to districts or hospitals, nor is guidance provided on creating local level agreements. Some districts and hospitals have established their own informal and formal agreements with local providers. For example, two of the districts audited have memorandums of understanding with selected external health service providers. However, there was no evidence of district guidance to hospitals on using the agreements.

Case study 4 – Continuity of care coordinators at The Prince Charles Hospital

Processes and tools have been developed by TPCH to ensure discharge planning and interaction with external health service providers is undertaken consistently, using a multi-disciplinary approach.

The hospital has appointed CCCs to each service line to facilitate patient discharge. The CCCs role includes referring patients to external health service providers, coordinating post-discharge care, and organising funding arrangements with external health service providers.

CCCs commence discharge planning at admission using a Patient Admission Assessment and Discharge Planning Tool (PAAT) developed in house. The tool is completed with the assistance of a multi-disciplinary team. It assists in identifying those patients who require post-discharge care.

The PAAT includes provision to document discharge risk screening assessments for patients requiring post-acute care and patients over 65 years of age. Discharge risk screening tools increase the likelihood that issues requiring attention are identified early to prevent deterioration following discharge, and unplanned re-admission to hospital.

Further, CCCs have established systems to facilitate effective interaction between the hospital and external health service providers to avoid delays in patient discharge. CCCs contact external health service providers as early as possible so arrangements are in place prior to discharge. This process is reliant on CCCs obtaining a reasonably accurate expected discharge date.

Why is this better practice?

The systems established by CCCs work towards ensuring the care provided by the hospital and external health service providers is integrated and seamless. The processes used are not unique to TPCH and could be applied by most hospitals to reduce LOS and re-admission rates.

5.6 Other processes to support the patient journey

Clinical records management

Patients are likely to be seen by multiple health professionals during their period in hospital. No one person will have all the information about treatment and the changes in the patient's condition. This detail will need to be efficiently communicated between all professionals involved in the patients' treatment. This communication is undertaken in four ways: clinical notes, during multi-disciplinary ward rounds, at shift changes and by word of mouth.

Some staff reported that there are opportunities for mistakes, misinformation or delays in patient flow due to difficulties in interpreting handwriting. Also patients may be delayed due to clinical records having to be retrieved from storage or transferred from another ward or hospital. For example, one hospital visited reported that some complex case patients may have several clinical files which are not stored on hospital grounds due to space constraints.

At one of the hospitals visited, the intensive care unit (ICU) had implemented an electronic clinical record management system. Staff in this ICU reported that the electronic system had significantly improved the efficiency of their processes. However, funding following the trial was not supported corporately and due to constraints in the hospital's budget the system has not been rolled out to other service lines.

As part of Health's eHealth strategy, the department is currently implementing a statewide electronic discharge summary system which enables key information about the patient's hospital stay to be provided to the patient's General Practitioner in a timely manner. Health advised that thirty-five hospitals are currently using the application. Health has advised that the system is scheduled to be deployed to all public hospitals by June 2010.

Monitoring skill mix

Despite the importance of staff skill mix to the efficiency of patient flow, there was no consistent hospital-wide monitoring, analysis or reporting of the appropriateness of skill mix throughout hospitals audited. Additionally, there were limited corporate guidelines provided to assist hospitals undertake this process. Monitoring and regular review of skill mix and rostering issues will ensure patient flow issues that relate to rostering are brought to the attention of management.

Training

Some formal training on patient flow concepts and practices are provided as part of orientation and on-the-job training. However, no formal training is provided on external health services and audit was advised that not all medical officers are aware of the external health services available for patients to continue their care after discharge.

While most staff appeared to have general patient flow skills and knowledge, they may benefit from a better understanding of patient flow processes through regular training for all staff involved in the patient journey. Health advised it is addressing this issue through CPIC.

Recommendations

It is recommended that the Department of Health:

3. **improve patient flow systems to reduce bottlenecks and delays, through:**
   - **reviewing discharge planning at all hospitals from point of admission, including the recording and regular updating of expected discharge dates to ensure consistency with policy and to further develop processes within relevant hospitals**
   - **investigating and developing, in conjunction with hospitals, systems which manage bed allocation and provide real time data that is readily available to staff to assist in bed management**
   - **implementing a system to monitor the staff skill mix within individual hospitals to ensure rostering issues impacting on patient flow and out of hours discharge are promptly brought to the attention of management for appropriate remedial action**
   - **continue to deliver ongoing formal training on patient flow concepts and processes to all relevant staff.**

6 Performance measurement and reporting

Summary

Background

Effective performance measurement and reporting:

- assists managers to identify areas for improvement and monitor the effectiveness of initiatives
- enables benchmarking of performance
- provides for transparent communication of performance information to stakeholders.

There are three types of measures recognised in the health industry which help achieve these goals for patient flow – outcome measures, process measures and balancing measures (defined in Section 3.2).

Key findings

- Health has processes in place to monitor many aspects of hospital performance and has been recognised as best practice in some of these areas. However, there was no coordinated mechanism to guide performance monitoring and reporting across hospitals, districts and corporate for inpatient flow and interaction with external health service providers.
- While Health monitors some patient flow outcome measures such as access block, a comprehensive suite of outcome measures was not consistently used or analysed by management.
- Process measures for inpatient flow and interaction with external health service providers, were not consistently used across the organisation. This limits the ability to monitor and benchmark performance to identify areas for improvement and better practice.
- Health has established balancing measures to ensure patient flow initiatives do not adversely affect patient safety and quality.

6.1 Introduction

It is important that the department has a sound mechanism for management to determine whether patient flow systems are efficient and effective. This mechanism should include a suite of outcome, process and balancing measures, which are consistently used and monitored across the organisation, with processes for escalating issues and identifying areas of better practice. As there are numerous factors influencing patient flow, a range of appropriate measures is required to provide a complete and accurate picture.

Although it is recognised that there are currently limited comprehensive national or international measures or data sets for patient flow, Health still requires a mechanism to determine whether its systems are efficient and effective.

6.2 Monitoring and reporting mechanisms

Health has systems in place for measuring some aspects of hospital performance and has been recognised as best practice in these areas, including emergency department and patient safety measures.[9] Although these areas can impact inpatient flow, the systems were outside the scope of this audit. In terms of inpatient flow measures and interaction with external health service providers, at the time of audit there was no clear, consistent and well coordinated mechanism to guide performance monitoring and reporting across the organisation.

Performance measurement and reporting across the department is primarily monitored through district CEO performance agreements. Agreements include 20 standard key performance measures, of which one relates to inpatient flow (i.e. access block).

Corporate reports such as the Daily Emergency Department Bypass Status Report and the Quarterly District Profile Report provide some information on bed availability, waiting times and separations. However, they do not provide a complete picture of the patient journey and there was no evidence that they are considered by corporate areas involved in developing patient flow initiatives.

Performance of external health service providers is monitored through service level agreements at a corporate level, with regular performance reporting against these agreements. However, no reports were identified at the corporate level that measured usage of these services or monitored the impact of delays in patients accessing external health service providers.

At the district and hospital levels, performance monitoring and reporting of measures for inpatient flow and interaction with external health service providers was inconsistent. Health's decision support system, Panorama, provides corporately endorsed scorecard reports across a number of measures, some relating to inpatient flow, however these reports were not used in all districts visited and audit found no evidence of how the reports were used by districts to inform decisions relating to patient flow.

[9] Independent Pricing and Regulatory Tribunal NSW, *Framework for Performance Improvement in Health Final Report*. September 2008.

Each hospital visited had different reports and reporting systems for inpatient flow and interaction with external health service providers. One hospital had systems to provide some performance information, but information was not regularly reported to management. Other hospitals had comprehensive patient flow performance measures and dashboard and scorecard reports, which management and staff reviewed on a regular basis. An example of good reporting within a hospital is outlined in case study 5.

The Performance and Development Division has recently been established within Health to develop an integrated governance and accountability framework, including performance measurement and reporting which aligns with strategic priorities. However, at the time of audit, it was not clear whether this framework would include reporting requirements for a comprehensive suite of measures for monitoring inpatient flow and interaction with external health service providers.

Case study 5 – Clear and consistent performance reporting at the Royal Brisbane and Women's Hospital

A Patient Flow Unit has been established to centrally coordinate inpatient flow, including discharging practices. The unit produces weekly reports in a dashboard format on 11 key performance indicators (KPIs) such as access block, bed capacity, access to surgery, and discharges. A scorecard report is also produced providing more detailed information about the KPIs.

A traffic light system is used to highlight indicators that require attention. A summary accompanies the reports, providing a brief analysis of the data and highlighting areas of concern and other significant changes compared to previous data. The weekly reports are considered by the Patient Flow Committee who manage immediate and short term issues such as access block.

Quarterly status reports are also produced that include data on the number of patients treated, and the number of patients who received elective surgery compared to the same quarter last year. Information on current patient flow projects is also included in the quarterly status report, along with a more thorough analysis of the KPIs, objectives, issues and risks together with tables, graphs and charts illustrating changes over time. An explanation is given about each issue and associated risk, as well as proposed action to resolve the issue. The quarterly status reports are reviewed by the Patient Flow Committee. Complex issues that require a more strategic and long term strategy are referred to the Strategic Patient Flow Working Group for resolution.

Why is this better practice?

Clear and consistent reporting is necessary to identify issues and trends on inpatient flow. The Patient Flow Unit has developed an effective reporting system to ensure meaningful data is received on a timely basis for consideration by management. Though the hospital continues to experience increased demand frequently pushing it to capacity, the unit has systems and processes to identify patient flow issues, and has established a responsive, well coordinated approach to resolve them in a timely manner.

6.3 Performance measures

Outcome measures

The primary inpatient flow performance measure closely monitored at the corporate and district levels is access block (i.e. percentage of patients admitted through emergency departments within eight hours of arrival at emergency). This outcome measure is impacted by a number of factors, one being poor inpatient flow.

Three of the four districts audited monitored additional inpatient flow outcome measures, however these were not consistently used across districts. Outcome measures such as length of stay, patient days and bed capacity are reported externally at state and national levels. However audit did not find evidence that exit block was monitored at the corporate or district level.

Without consistent use and analysis of all relevant outcome measures, it is unclear how Health's management can gain a clear understanding of patient flow effectiveness.

Process measures

Comprehensive process measures help to establish the efficiency of patient flow systems. In Health, process measurement is primarily undertaken at the hospital level. Audit noted that the use and analysis of process measures for monitoring inpatient flow and interaction with external health service providers was inconsistent across hospitals. Some hospitals used a comprehensive set of measures covering inpatient flow and interaction with external health service providers, whereas other hospitals used minimal measures. Given the inconsistent use of indicators, it is unclear how hospitals can benchmark their performance against like hospitals in the state. This limits the ability to use performance data to identify areas for improvement and better practice.

At the time of audit, process measures were not monitored by corporate or districts audited. Monitoring of these measures by corporate areas involved in coordinating patient flow improvement projects may assist in informing corporate initiatives. Health has advised that it is currently developing centralised processes for regular monitoring of a range of patient flow measures, including the times patients are discharged from hospital, weekend discharges, number of patients that are allocated an EDD on admission, utilisation of the program Hospital in the Home/Nursing Home, and utilisation of external providers. However, at the time of audit, this process was not in place.

There are additional process measures in use or proposed by other Australia health organisations, which Health may consider to measure performance relating to inpatient flow and interaction with external health service providers. These include:

- elective multi-day patients whose continuity of care planning begins on or before admission (e.g. discharge date pre-planned)
- emergency multi-day patients whose continuity of care planning begins within 24 hours of admission (i.e. discharge date planned)
- percentage of patients occupying acute-care hospital beds who clinically require them on any given date

- percentage of discharges (to home) advised to the patient's general practitioner on or before the discharge date, if the patient consents[10]
- proportion of discharge summaries transmitted electronically within one day of discharge
- discharge plans for complex care needs within five days of discharge
- the number of hospital patient days by those who have been assessed by the Commonwealth Aged Care Assessment Team and were waiting placement in residential aged care.[11]

Balancing measures

Health's focus on patient safety and quality has provided a framework for monitoring balancing measures to ensure that improvements in inpatient flow do not adversely affect the quality of patient care. This framework has been recognised as better practice by independent reviewers.[12]

Recommendations

It is recommended that the Department of Health:

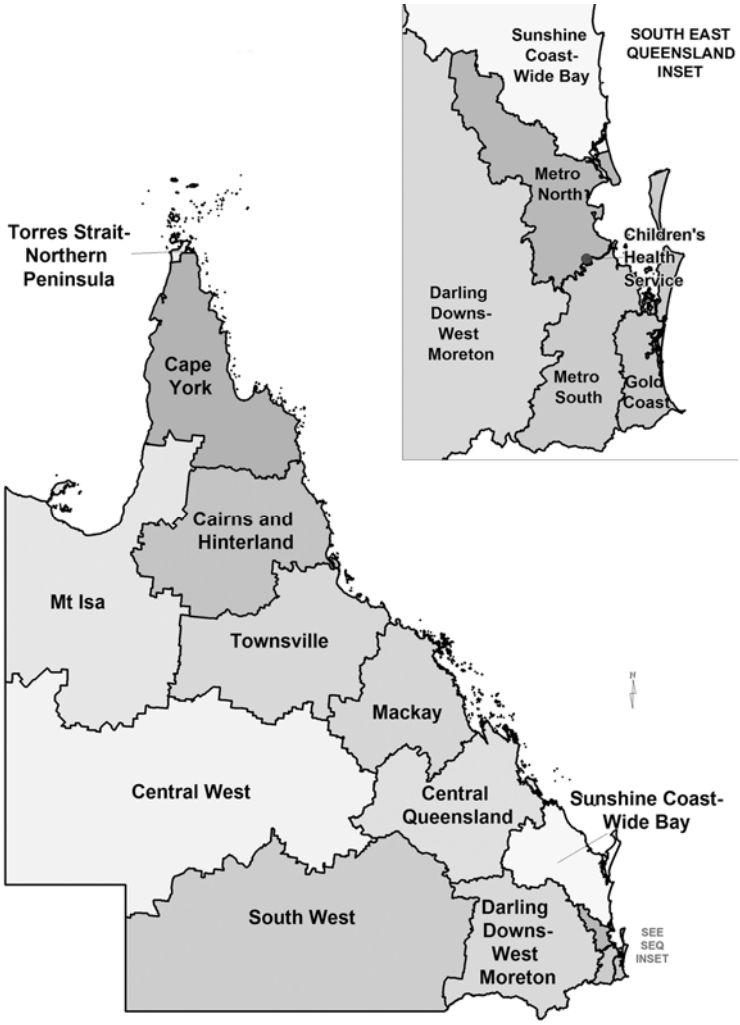
4. **develop a suite of performance indicators for all aspects of patient flow and interaction with external health service providers to be reported against consistently by all hospitals and actively monitored by an identified corporate area.**

[10] The Health Roundtable, *Everything You Wanted to Know About The Health Roundtable Version 12*. March 2008.
[11] Australian Institute of Health and Welfare, *A set of performance indicators across the health and aged care system*, June 2008.
[12] Independent Pricing and Regulatory Tribunal NSW, *Framework for Performance Improvement in Health Final Report*. September 2008.

7 Appendices

7.1 Health district map

Figure 7A : Map of Health districts



Source: www.health.qld.gov.au/maps.default.asp

8 Acronyms, glossary and references

8.1 Acronyms

A-G Act	*Auditor-General Act 2009*
CCCs	Continuity of Care Coordinators
CHIC	Connecting Healthcare in the Community
CPIC	Clinical Practice Improvement Centre
EDD	Expected date of discharge
GCH	Gold Coast Hospital
Health	Department of Health
ICU	Intensive care unit
LOS	Length of Stay
PMS audit	Performance Management Systems audit
RBWH	Royal Brisbane and Women's Hospital
TPCH	The Prince Charles Hospital
TTH	The Townsville Hospital

8.2 Glossary

Access block

The situation where patients in the emergency department who require inpatient care are unable to gain access to appropriate hospital beds within a reasonable timeframe.

Acute illness

Serious but short term medical problem with rapid onset and severe symptoms but brief duration.

Average length of stay

The total number of days for all admissions divided by the number of admissions.

Balancing measures

Balancing measures ensure that changes made to improve patient flow do not adversely affect the quality of service. Balancing measures relevant to inpatient flow and interaction with external health service providers may include re-admission rates.

Bypass

'On bypass' is a term that describes whether the hospital emergency department has requested ambulances to be redirected to other hospitals. This happens when the emergency department has reached maximum capacity and the treatment of patients already in the emergency department could be significantly compromised with the arrival, by ambulance, of further patients.

Clinical pathways

Clinical pathways are standardised, evidence-based multi-disciplinary management plans, which identify an appropriate sequence of clinical interventions, timeframes, milestones and expected outcomes for an homogenous patient group.

Continuity of care planning framework for Queensland

Developed by the General Practice Advisory Council (GPAC) and endorsed by Health, the Continuity of Care Planning Framework for Queensland evolved from a GPAC multi-disciplinary Statewide Discharge Planning Forum in 2002 to improve discharge planning across Queensland.

Diagnosis

The identification of a disease or illness.

Effectiveness

The achievement of the objectives or other intended effects of activities at a program or entity level.

Efficiency

The use of resources such that output is optimised for any given set of resource inputs, or input is minimised for any given quantity and quality of output.

Elective surgery

Surgery which, although deemed necessary by the treating clinician, can be delayed, in their opinion, for at least 24 hours.

External health service providers

A range of community, private, non-for-profit and government funded agencies which provide patients with clinical care outside the hospital setting. Providers include domiciliary agencies such as BlueCare and aged care facilities.

Hospital staff

This includes medical officers, nurses and administrative staff.

Inpatients

Patients who are admitted to a hospital ward or health service facility for same day or overnight treatment.

Multi-disciplinary approach

A model of care that involves various health professionals reviewing the patient. After the professionals have completed their evaluations they meet together to integrate their information and develop a diagnosis and recommendations to help the patient achieve an efficient recovery.

Outcome measures

Outcome measures indicate whether changes made are leading to improvement. Outcomes measures relevant to inpatient flow and interaction with external health service providers may include access block, length of stay, patient days, bed capacity and exit block (patients waiting for placement in external care).

Patient journey

The patient experience during the course of clinical care. It begins from the pre-admission stage and continues through to post-acute care, as outlined in Figure 3A.

Patient flow

The way in which a patient is moved through the hospital system.

Planned admissions

Booked admissions, usually admitted through elective surgery.

Process measures

Process measures help to identify which areas within a process are causing or significantly influencing outcomes. Process measures relevant to inpatient flow and interaction with external health service providers may include outliers (patients in beds not in the most appropriate ward), timeliness of recording the expected date of discharge, discharges by time of day, percentage of weekend discharges, timely completion and provision of discharge summaries as well as usage rates, quality and timeliness of external health service providers.

Unplanned admissions

Patients unexpectedly admitted to hospital for treatment, usually admitted through the emergency department.

8.3 References

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9 Auditor-General's reports

9.1 Tabled in 2009

Report No.	Subject	Date tabled in Legislative Assembly
1	Auditor-General's Report No. 1 for 2009 Results of local government audits **Financial and Compliance Audits**	20 May 2009
2	Auditor-General's Report No. 2 for 2009 Health service planning for the future **A Performance Management Systems Audit**	9 June 2009
3	Auditor-General's Report No. 3 for 2009 Transport network management and urban congestion in South East Queensland **A Performance Management Systems Audit**	23 June 2009
4	Auditor-General's Report No. 4 for 2009 Results of audits at 31 May 2009 **Financial and Compliance Audits**	30 June 2009
5	Auditor-General's Report No. 5 for 2009 Management of patient flow through Queensland hospitals **A Performance Management Systems Audit**	July 2009

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