

Foreword

Over the last decade there has been increasing interest in, and focus on the quality of health care in Australia. This interest arose out of studies that showed very real concerns about the safety and quality of health care services nationally and internationally. The increasing size and complexity of the health care system, the tyranny of distance and our diverse population bring a range of challenges. In response to these challenges and concerns, Queensland Health is undertaking a large program of activities under the Quality Improvement and Enhancement Program (QIEP) that concentrates on particular areas of safety and quality of health care in Queensland. This program is being undertaken in the context of a 20 year development framework for public sector health services in Queensland – *Smart State: Health 2020*.

Addition

Queensland's health care system ranks amongst the best in the world. It requires a range and mix of services and a balanced approach to their delivery. This document highlights the need to look at how we provide and plan for those services system-wide.

Addition

Queensland Health is committed to a process of continuously monitoring and improving its performance. An essential part of improving services is to develop a way of measuring quality and safety and applying this method across the system.

worded.

As no one indicator can adequately represent overall quality of health care services, Queensland Health has recently developed a measurement method which encompasses assessing performance across a number of areas essential to the overall quality and safety of care. In the first phase of this program a set of measures has been developed for hospital inpatient services. The method allows comparisons to be made between hospitals and over time to provide relevant and meaningful information about services. The next steps include local analysis and improvements where necessary, monitoring and feedback, and a sharing of 'lessons learnt' with others. The two phases of the program provide an ongoing process to improve the quality and safety of the State's public hospital system and engage clinicians and managers in the improvement process.

This document is a summary of Phase One and has been prepared for both the Queensland community and our valued health service providers. Improvements made locally contribute to an integrated system-wide approach to continuous quality improvement.

Taking this system-wide approach to quality improvement, it identifies key target areas for improvement and provides examples of Queensland Health programs working to get results in these key areas.

Addition

I encourage you to read this report and use the information to participate in the ongoing public debate over the quality of health services and the decisions required to improve them.

(Dr) R L Stable
Director-General
June 2003

Executive summary

This report provides the community with a snapshot of the performance of its public hospitals statewide and the activities Queensland Health is undertaking to address any issues identified. *It is the first*

Addition time any Australian state has released a public report, which measures the quality of its hospital services across a range of indicators and sets target areas for continuous quality improvement.

Queensland's health system ranks amongst the world's best and provides universal access to hospital services. On the whole, this report indicates that Queensland's health system is effective and efficient. However, it flags some changes required to meet the demands and challenges of the future.

Queensland Health provides its hospital services through a networked statewide system. Information about the performance of individual hospital services is presented within the overall context of the State's public hospital system. This is because, while specific measurements are applied to improve the quality of public hospital services these indicators should be considered within a system-wide setting.

The Queensland Health network consists of **38 Health Service Districts**, which include about 200 hospitals and outpatient facilities, 70 community health centres and 21 state government residential facilities.

The range of services provided includes hospital inpatient, outpatient, emergency, community, mental health, aged care, public health, and health promotion programs.

This network responds to the demands of Queensland's vast geographical area to provide a fair and equitable balance of services close to where patients live and

Addition networked with highly specialised services. Networking mechanisms include appropriate triage, inter-hospital transfers based on patterns of referral as well as effective service and workforce planning.

While the Queensland Health network enables patients to be treated by the most appropriate and closest service, a system-wide perspective recognises that it is neither possible nor appropriate to provide every service at every facility.

Rather the system aims to ensure that whenever a patient presents at any facility within the network they are assessed at that facility and treated and/or referred and transferred to more specialised levels of service depending on the complexity of their treatment needs.

The first step to systematically making improvements to this statewide hospital system is to provide relevant and meaningful information about its services. The next step includes local analysis and improvements where necessary, monitoring and feedback, and a sharing of 'lessons learnt' with others.

Some of the system-wide changes identified in this report include the need to improve preventative measures to avoid unnecessary hospitalisations, implement new and innovative service-delivery models to meet the needs of rural and remote populations, and achieve a balance between the provision of primary health care services and hospital-based care.

The Queensland Government is pursuing these changes through the strategic directions established under Smart State: Heath 2020, and through negotiations with the Commonwealth to secure funding under the Australian Health Care Agreement (ACHA).

The focus of this report, representing step one of the measurement process is on **hospital inpatient services**, which is the largest single component of Queensland Health activity.

The sixty hospitals included in this report represent 94 percent of public hospital activity and 86 percent of the available inpatient beds.

As these hospitals offer a wide range of services, they have been classified into four different 'peer groups'. Each peer group includes hospitals that are of similar size, provide similar types and volumes of services and are in similar areas. The groups are:

- principal referral and specialised hospitals
- large hospitals
- medium hospitals
- small hospitals.

The principal referral and specialised and large hospital peer groups performed 89 percent of the activity of the hospitals in the study.

Four different aspects or quadrants of health care delivery have been measured and reported. Where possible, the data has been analysed (risk adjusted) to account for potentially confounding factors such as different levels of patient risk.

Summary of findings for each quadrant

Overall, Queensland public hospital indicator rates were as good as or better than the rates for public hospitals throughout the rest of Australia where comparisons were possible. Where there are variations to this trend, the findings identify key directions for systematic statewide improvements. These include where services are located geographically, how they are networked and the development of referral and treatment guidelines.

Clinical utilisation and outcomes

The indicator results in this quadrant are presented to show comparisons between the peer group means and the mean for the study cohort as a whole (shown as "State" in the graphs).

A number of factors can impact on patient outcomes, including timeliness of presentation to hospital, severity of condition, diagnosis, treatment, procedures performed, and age, sex and other health problems or co-morbidities (pre or co-existing conditions).

The term 'in-hospital mortality' refers to the number of patients who died in hospital following an admission for a relevant condition or procedure. In-hospital mortality rates can be affected by all or many of the factors listed above.

Findings

Generally, Queensland public hospital clinical indicator rates were as good as or better than the rates for public hospitals throughout the rest of Australia.

Areas for improvement are in the rates of in-hospital mortality for stroke, hysterectomy for women under 35 years of age and caesarean section rates. Investigation of these issues will occur in work with health service providers at the district and zonal level.

There was significant variation between the hospital peer groups for about half of the indicators examined. After the data was risk-adjusted, significant variations

existed between the principal referral and specialised hospital and the medium and smaller hospital peer groups in the areas of stroke, heart attack, heart failure, maternity services, hysterectomy, asthma, pneumonia, colorectal cancer and diabetic foot.

In particular, in-hospital mortality rates for heart attack, heart failure and stroke were all lower in the principal referral and specialised hospitals.

Additionally, long stay rates for maternity services and patients undergoing hysterectomy were generally higher for smaller hospitals, while long stay rates for asthma, and to a lesser extent for pneumonia, were lower in medium and small hospitals.

Finally, complication rates for colorectal cancer surgery were lower for the large hospital group, while amputation rates due to diabetic foot were lower in medium and smaller hospitals.

There are a number of factors which may contribute to these results. One factor may be that more complex conditions are most effectively referred and treated in Queensland's large tertiary and highly specialised hospitals. However, caution should be used when interpreting the results. Indicator results are based on data for one year only. Data were not available for trend analysis for this first report.

Indicators also showed statistically significant differences in outcomes for patients who were admitted to public hospitals as either public or private patients. Variations occurred in the areas of hysterectomy, hip and knee surgery, heart failure, caesarean section and perineal tears.

While private patients had a higher long stay rate for heart failure, the long stay rates for hysterectomy, and hip and knee replacement surgery were all lower.

In addition, complications of surgery rates were lower for private patients for hip and knee replacements and hysterectomy.

The hysterectomy rate for women aged under 35 years was lower for those admitted as private patients while rates for caesarean section, induction and severe perineal tears were all higher for women admitted as private patients.

These issues will be investigated through working with the Commonwealth to leverage a greater return on the Government's investment in private health

insurance and investigating opportunities for clinical quality improvement.

Patient satisfaction

The results showed most patients (89 percent) were satisfied with their hospital stay, with 59 percent being very satisfied.

Four measures that received the highest commendation from patients were cleanliness of rooms, attitudes of staff spoken to before admission, courtesy of nurses and helpfulness of staff.

Areas requiring improvement included discharge planning processes, access and admission processes, the provision of clear treatment related information and management of patient complaints.

Efficiency

These results compare peer group medians to the median for the 60 hospitals included in this study and where comparisons are possible, indicator rates for Queensland public hospitals are as good as or better than those nationally.

Occupancy rates were higher in the principal referral and specialised hospital and large hospital groups, as were energy costs and cost per weighted separation. This suggests a more complex patient cohort overall in these hospital groups.

Catering costs were lower in the principal referral and specialised hospital group. This may also suggest efficiencies derived from economies of scale in larger hospitals.

Variation between peer groups for efficiency indicators is predictable and partly due to different levels of severity of illness and therefore, resource requirements of patient conditions.

System integration and change

These results compare peer group medians to the median for the 60 hospitals included in this study. There was variation in the availability, collection and use of

electronic information to support clinical activities.

In addition, as would be anticipated, the development and use of clinical pathways is more extensive in the principal referral and specialised and large hospital groups. The smaller hospitals have less opportunity to develop clinical pathways because of the smaller numbers of patients.

Similarly, the extent of external benchmarking decreased with the decreasing size of hospitals partly because there are more opportunities to identify with similar benchmarking programs in larger hospitals.

As with efficiency indicators, variations in indicator results can be partially attributed to the differences in function and processes between small and larger hospitals. However, a number of programs are underway to improve processes and integration of care such as improved use of telehealth, discharge planning processes, use of electronic information and the use of clinical pathways across services.

Introduction

Queensland Health is a large and complex organisation that delivers a broad range of hospital and community-based health services from many different locations across the State. Measuring the quality of these services is a huge and complicated task.

The Queensland Government's commitment to continuous quality improvement will ensure the ongoing identification of areas where we can do better. This document is a testament to the Government's commitment to improve services. In fact, Queensland is 'leading the way' as the first health service in Australia to report to the public on the quality of services provided statewide.

The purpose of this report

This report will provide a snapshot for the community, health service managers and government on the performance of its public hospitals and the activities Queensland Health is undertaking to address any issues identified.

It aims to improve the accountability of health services by:

measuring the quality of services and reporting this to the public;

informing the community on aspects of health care thereby assisting and encouraging public debate and community participation in decisions regarding improvements in health care;

improving Queensland Health's responsiveness to community needs and expectations by encouraging participation and feedback; and

establishing an ongoing process that reports on performance and supports continuous improvement.

The Smart State: Health 2020 Directions Statement supports enhancements to accountability. Some of these strategic directions include:

- developing and refining systems to measure changes in population health status and wellbeing as well as health system performance
- improving the safety and quality of health care
- engaging the community on local health issues
- engaging the community on the 'big' issues
- improving integration of the health system
- a focus on quality, safety and continuous improvement in the health care system.

Safety is an important component of measuring the quality of services because all governments and health services aim to minimise the occurrence of adverse clinical events. However, as suggested in a recent statement by the Australian Safety and Quality Council Chair, Professor Bruce Barraclough:

"Health care is extremely complex and will always carry a degree of risk. Unexpected things can happen even when care is being provided at world's best standards.

To make health care safer, it is essential we look at all systems in place to support its delivery and to implement better systems, as well as to have a strong focus on managing risks that are identified."

Scope

This report represents the first stage of a process of measurement. During this stage the focus is on the largest single component of Queensland Health services – **hospital inpatient services**. Queensland Health expects to extend this focus over the next three years to cover most of its services, such as outpatient, emergency and community services.

Although no single measure or indicator can represent the overall quality of health care services, Queensland Health believes there needs to be a systematic, comprehensive performance assessment of Queensland's public health care system.

To address this, Queensland Health has developed a 'balanced scorecard' approach to measurement, which is currently being used in a number of other countries. The scorecard identifies indicators across four different perspectives or quadrants. It helps service providers and the public to assess the performance of the Queensland Health system and plan improvements.

The four quadrants are:

1. Clinical utilisation and outcomes

This measures the clinical performance of hospitals for a number of diseases, conditions and surgical procedures.

2. Patient satisfaction

This measures patients' perceptions of, and satisfaction with, their hospital experience.

3. Efficiency

This measures how hospitals manage their resources.

4. System integration and change

This measures a hospital's ability to adapt to its changing health care environment.

The quadrants are described in detail in the next chapter, 'The measurement method'.

The process of measuring performance has identified the need to improve the measurement capacity itself. Some measures for possible inclusion are

currently available while others require a considerable amount of developmental work.

This report outlines how Queensland Health has approached the method of measurement together with the results of this measurement. It compares the results across the groups of hospitals as well as with national performance data, where available.

Choice of Data Indicators

The indicators examined have been chosen primarily because most have been identified as key performance indicators in national and international literature. The clinical indicators also represent areas of significance in terms of burden of disease and relevance to Queensland Health.

In addition, most indicators have had some testing of reliability and validity and are applicable to many or all of the in-scope hospitals.

A large proportion of the data for the indicators is available from existing databases and this reduces the burden of data collection at a hospital level. Many of the indicators are capable of being collected in other Australian states.

Addition

- it is not certain to what extent the risk-adjustment corrects for differences in the patient populations.
- in general, more complex cases are treated in the principal referral and specialised group of hospitals.
- some variation may occur as a result of data collection practices in hospitals as opposed to actual clinical differences.
- data for all indicators excludes same day patients.

Summary of indicator results

The variations listed below have been identified in the context of a statewide public health system. The variations in patient outcomes identified between hospital groups and between private and public hospitals will be the focus of ongoing improvement activities with the clinical workforce at the facility, district, zonal and statewide level. This work aims to both identify contributing factors and reduce variation. This benchmarking and quality improvement process has occurred within the context of a Queensland wide health system which provides networked services of varying size and complexity. Therefore, quality improvement activities will occur within a systems context through initiatives such as the Integrating Services and Priorities Program, as well as the further development and use of clinical pathways, integrated risk management, the revision of infection control guidelines, telehealth, discharge planning workshops, facilitating continuity of care, service integration and other important initiatives detailed in pages 37,38, and 49 to 56.

Comparisons with national figures are based on data provided to Queensland Health by the Australian Institute of Health and Welfare (AIHW). Generally, Queensland public hospital indicator rates were as good as or better than the rates for public hospitals throughout the rest of Australia, with the exceptions of in-hospital mortality for stroke, hysterectomy for women under 35 years of age and caesarean section rate.

Findings

There was significant variation between the hospital peer groups for about half of the indicators that were examined, after the data had been risk-adjusted. Some of the key findings include:

- in-hospital mortality rates for heart attack, heart failure and stroke were all lower in the principal referral and specialised hospitals;
- long stay rates for maternity services and patients undergoing hysterectomy were generally higher for smaller hospitals;
- long stay rates for asthma, and to a lesser extent for pneumonia, were lower in medium and small hospitals; and,
- complication rates for colorectal cancer surgery were lower for the large peer group of hospitals, while amputation rates due to diabetic foot were lower in smaller hospitals.

Indicators that showed statistically significant differences in outcomes for patients who were admitted to public hospitals as public or private patients included:

- long stay rates for hysterectomy, and hip and knee replacement surgery, which were all lower for private patients, while private patients had a higher long stay rate for heart failure;
- complications of surgery rates were lower for private patients for hip and knee replacements and hysterectomy;
- the hysterectomy rate for women aged under 35 years was lower for those admitted as private patients; and,
- rates for caesarean section, induction and severe perineal tears were all higher for women admitted as private patients.

The indicator results are presented to show comparisons between the peer group means and the mean for the study cohort as a whole (shown as 'State' in the graphs). The figures show the *observed* results for each indicator. Risk-adjusted results are then documented in the text together with comparisons of outcomes for patients admitted as public or private. Comparisons with national data are also reported, where these data were available.

Cardiovascular disease

Cardiovascular disease (circulatory disease) comprises diseases of the heart and blood vessels. A leading cause is atherosclerosis that partially or totally blocks the arteries with fatty deposits. Atherosclerosis affects various parts of the circulation.

Coronary heart disease occurs when atherosclerosis is present in the coronary arteries that supply blood to the heart itself. This can present as **angina pectoris** (chest pain), **acute myocardial infarction** (heart attack) and/or **heart failure**.

Atherosclerosis of the arteries supplying blood to the brain can cause **strokes**.

Atherosclerosis of the peripheral blood vessels such as those supplying blood to the legs can lead to leg ulcers, gangrene and amputation. This condition is made worse when diabetes is present.

Cardiovascular disease continues to be the leading cause of death and disability in Australia even though there have been major advances in its prevention and treatment.

Acute myocardial infarction (AMI)

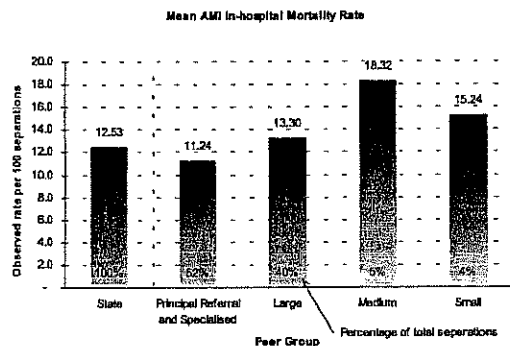
Acute myocardial infarction (AMI) or 'heart attack' is defined as the rapid onset of severe symptoms associated with necrosis or death of the myocardium (heart muscle), resulting from a lack of blood supply. The severity of the 'attack' depends largely on the size and location of the tissue damage.

◆ AMI - in-hospital mortality rate

This indicator measures the rate of patients who have died in hospital within 30 days of an admission for AMI.

Queensland's in-hospital mortality rate for AMI is approximately 15.7 percent better

than the national average (Australia excluding Queensland).



Comments

The large (13.3 per 100 separations), medium (18.3 per 100 separations) and small (15.2 per 100 separations) hospital peer groups were all found to have higher observed mortality rates compared to principal referral and specialised hospitals (11.2 per 100 separations).

After risk-adjusting the data the findings were as follows:

- the differentials between the hospital peer groups were even greater than for the observed rates. For example, the likelihood of in-hospital mortality for medium hospitals was almost three times as high and for small hospitals more than two and a half times as high, compared to principal referral and specialised hospitals.
- whether a patient was admitted to the public hospital as a public or a private patient had no statistically significant impact on their outcome for in-hospital mortality.

Paragraph removed

Queensland Health's investment in specialist physician and cardiology services is being complemented by parallel investments in telehealth facilities. Use of these facilities will improve access to specialist services for those doctors and community members in regional, rural and remote areas.

Addition

For those patients who have had an AMI, thrombolysis or primary coronary

angioplasty may be indicated. Either of these processes decreases the damage to the heart by improving the blood supply to the affected area. In the absence of contraindications, it is recommended that this process of restoring blood flow be commenced as soon as possible as the 'time to lysis' or 'time to angioplasty' can predict the outcome of care. Thrombolysis treatment is available throughout Queensland. However, the outcome for this treatment is influenced by the time taken to reach medical help. Queensland's vast geographical distances will result in variations to the time taken to reach treatment. Angioplasty as a complex treatment modality is available in three principal referral and specialised hospitals within the statewide system and distance factors also influence 'time to angioplasty'.



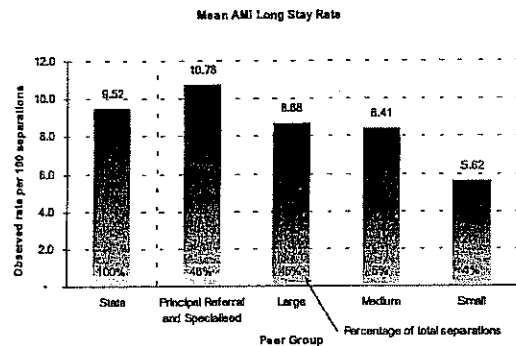
Improvement activities

Acute chest pain assessment

Following a review of services provided for patients with acute chest pain at The Prince Charles Hospital, an 'acute chest pain assessment service' has been established. It provides a structured approach to patient management. General practitioners now have a referral service to assist in the determination of a clear diagnosis and treatment plan for patients presenting with acute chest pain. This structured approach to triage and clinical assessment in the hospital setting has facilitated the rapid diagnosis and treatment of patients at high risk, and the early identification and discharge of low risk patients. Effective communication channels have been established to ensure a seamless transition for ongoing patient management by outpatient and community services. This model of care is transferable to other health care settings and the hospital has taken the lead in ensuring this service pathway becomes widely adopted.

♦ AMI - long stay rate

This indicator measures the rate of patients who remained in hospital for 12-30 days (long stay) following an admission for AMI.



Comments

Queensland's average length of stay for AMI was 2.8 percent better than the national average (Australia excluding Queensland).

The rate of long stays was highest for the peer group of principal referral and specialised hospitals (10.8 per 100 separations) and lowest for small hospitals (5.6 per 100 separations).

After risk-adjusting the data the findings were as follows:

- despite the apparent differences in the observed rates, the hospital peer groups showed no significant differences for the rate of long stays after risk-adjustment.
- whether a patient was admitted to a public hospital as a public or a private patient had no statistically significant impact on their chance of having a long stay.

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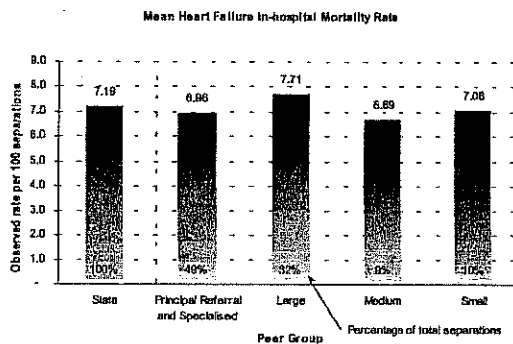
Heart failure

Heart failure is a chronic form of heart disease resulting from a damaged heart muscle. The heart is then unable to pump blood adequately to the rest of the body. It is mainly caused by the occurrence of AMI (heart attack), hypertension or damaged

heart valves and is the third largest cause of cardiovascular death in Australia. More women die from heart failure than men. However, rates for both have been steadily decreasing over the last 10 years. 90 percent of the deaths from heart failure occur in the 75 and over age group⁷.

◆ Heart failure - in-hospital mortality rate

This indicator measures the rate of patients who have died in hospital within 30 days of an admission for heart failure.



Comments

Queensland's in-hospital mortality for heart failure was marginally better than the national average (Australia excluding Queensland).

The observed in-hospital mortality rates were quite similar for each of the hospital peer groups, ranging from 6.7 per 100 separations for medium hospitals to 7.7 per 100 separations for large hospitals.

After risk-adjusting the data, the findings were as follows:

- the large and small hospital peer groups were both found to have a significantly higher likelihood of in-hospital mortality compared with principal referral and specialised hospitals (32 percent and 74 percent higher respectively).
- whether a patient was admitted to a public hospital as a public or private patient had no statistically significant impact on their outcome for mortality.

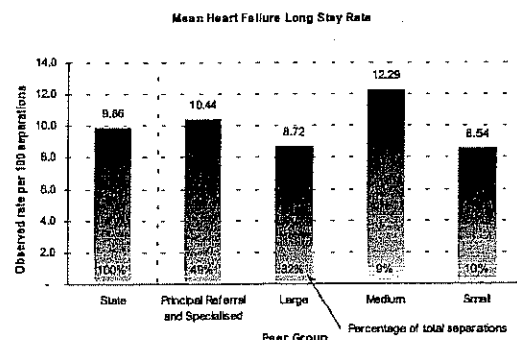
Chronic heart failure is associated with high morbidity rates and annual mortality rates of greater than 30% in patients with severe symptoms⁸. In these severe cases of heart failure, admission to an intensive care unit with continuous positive airways pressure ventilation or intubation may be necessary. This technology is available in the larger and more specialised facilities only, because of the specialists and infrastructure needed to run such services.

The restricted access to investigatory services (such as cardiac ultrasound to assess heart function), specialist consultation and allied health professionals (such as clinical pharmacists) in more remote locales may be another factor accounting for comparatively higher mortality rates noted in smaller hospitals.

Queensland Health's investment in specialist physician and cardiology services is being complemented by parallel investments in telehealth facilities. Use of these facilities will improve access to specialist consultancy services for those doctors and community members in regional, rural and remote areas.

◆ Heart failure - long stay rate

This indicator measures the rate of patients who remained in hospital for 14-30 days (long stay) following an admission for heart failure.



Comments

Queensland's average length of stay for heart failure was 8.6 percent better than the national average (Australia excluding Queensland).

Small and large peer group hospitals had the lowest long stay rates (8.5 and 8.7 per 100 separations respectively), while medium hospitals had an observed long stay rate of 12.3 per 100 separations.

After risk-adjusting the data, the findings were as follows:

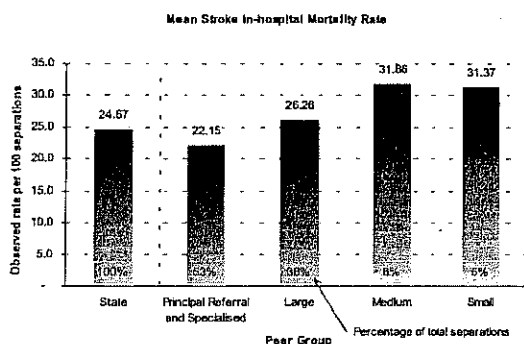
- no significant differences were found in the likelihood of long stays across any of the hospital peer groups.
- patients admitted as private patients to a public hospital were 43 percent more likely to have a long stay than patients who were admitted as public patients.

Stroke

A stroke can occur when blood supply to the brain is suddenly blocked or there is bleeding into the brain. Damage to the brain subsequently occurs and this may affect the ability to move various body parts and/or the ability to communicate.

♦ Stroke - in-hospital mortality rate

This indicator measures the rate of patients who have died in hospital after an admission for stroke.



Comments

Queensland's in-hospital mortality for stroke was higher than the national average (Australia excluding Queensland). However, Queensland patients admitted for stroke are less likely to be discharged to a nursing home as there are proportionally fewer Commonwealth-funded nursing homes places available for the Queensland

population, than the rest of Australia.

Queensland therefore has a higher rate of in-hospital mortality. The nursing home discharge rate plus the mortality rate is similar for Queensland and the rest of Australia.

The large (26.3 per 100 separations), medium (31.9 per 100 separations) and small (31.4 per 100 separations) hospital peer groups were all found to have higher observed mortality rates compared to principal referral and specialised hospitals (22.1 per 100 separations).

After risk-adjusting the data, the findings were as follows:

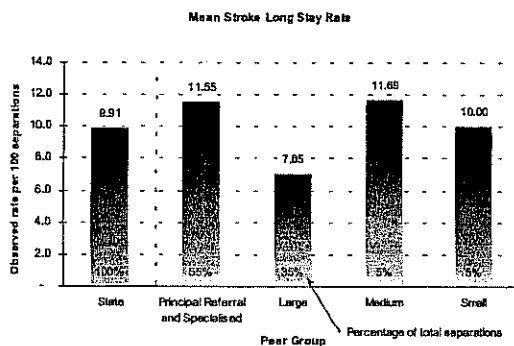
- the differentials in the likelihood of in-hospital mortality for each of the peer groups increased in comparison to principal referral and specialised hospitals. Separations at large hospitals were 32 percent more likely to result from death, while in-hospital mortality was 62 percent more likely for medium hospitals and 49 percent more likely for the small peer group hospitals.
- whether a patient was admitted to a public hospital as a public or private patient had no statistically significant impact on their outcome for in-hospital mortality.

Stroke is not a homogeneous condition. There are clear pathological sub-types with over 100 potential underlying causes. To assist in the diagnosis of type and therefore the appropriate treatment, there is clinical consensus that most patients with acute stroke should undergo Computerised Axial Tomography (CT) brain scanning as soon as possible (preferably within 48 hours). This facility is not available in smaller, rural and remote hospitals because of the specialists and infrastructure needed for this service. The absence of dedicated acute stroke units in many non-tertiary hospitals may further explain the comparatively higher rates of stroke death noted in these sites.

addition. However, outreach programs based at the existing dedicated stroke units are being established to assist physicians in regional, rural and remote areas in the management of their patients (see improvement activities – this page).

♦ Stroke - long stay rate

This indicator measures the rate of patients who remained in hospital for 66 days or longer (long stay) following an admission for stroke.



Comments


Queensland's average length of stay for stroke was 10.5 percent better than the national average (Australia excluding Queensland).

The observed rates of long stays varied from 7.0 per 100 separations for the large hospitals peer group up to 11.6 per 100 separations for principal referral and specialised hospitals and 11.7 per 100 separations for medium hospitals.

After risk-adjusting the data, the findings were as follows:

- separations from large hospitals were found to be 40 percent less likely to result in a long stay than were separations from principal referral and specialised hospitals. However, there was no significant difference for medium or small hospitals in comparison to principal referral and specialised hospitals.
- whether a patient was admitted to a public hospital as a public or private

patient had no statistically significant impact on the probability of a long stay occurring for stroke.



Improvement activities

Stroke unit

The Royal Brisbane Hospital's (RBH) stroke unit commenced services in February 2001 with a dedicated and experienced team of doctors, nurses and allied health professionals. The aim is to provide the highest standard of care to stroke patients and to be a focus for stroke-related research and educational activities. In collaboration with the University of Queensland's centre for magnetic resonance and using a new research Magnetic Resonance Imaging (MRI) scanner, studies of acute stroke pathophysiology using advanced MRI techniques are underway.

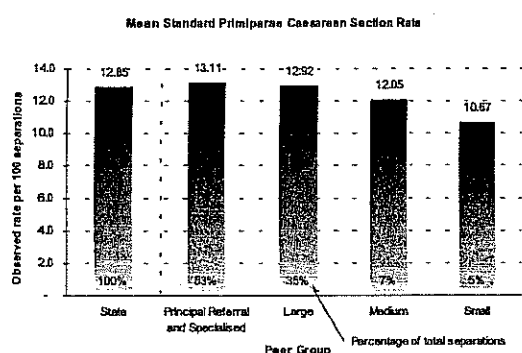
The unit assists physicians in regional, rural and remote centres to manage their patients through an outreach programme. This will be extended over the next 12 months to establish a network of regional hospitals linked to the RBH stroke unit and will use telehealth technology to allow patients outside Brisbane access to the stroke unit's expertise.

Women's health

Hysterectomy

Hysterectomy is one of the most common surgical procedures performed on women apart from those related to pregnancy, such as caesarean section. It involves the removal of the uterus through an incision in the abdomen, or through the vagina.

It is one form of treatment for common gynaecological conditions such as fibroids and uterine prolapse. It can be associated with a number of complications such as excessive bleeding, infection or injury to other organs and it is recommended that it only be performed once conservative treatments have failed.



Comments

Queensland's caesarean section rate for all births was 6.8 percent higher than the national average.

The observed rates of caesarean sections were reasonably similar, varying from 10.7 per 100 separations for the small peer group hospitals up to 13.1 per 100 separations for the principal referral and specialised hospital group.

After risk-adjusting the data, the findings were as follows:

- there was no significant difference in the likelihood of a caesarean section occurring for any of the hospital peer groups.
- patients admitted as private patients to public hospitals were over two and a half times more likely to have a caesarean section when compared to public patients.

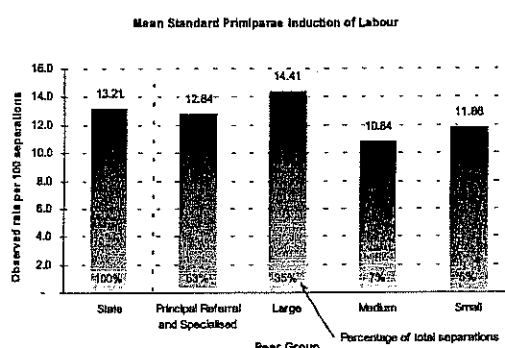
Identification of this variation will lead to further work, including a focus on integrated care and primary health care to improve patient outcomes in line with the national average.

Induction of labour

Induction before the cervix is ready for labour may lead to a 'cascade' of interventions with high rates of induction failure, protracted and exhausting labours, a high caesarean rate and other complications¹³.

♦ Standard primiparae - induction rate

This measures the number of women having their first baby who underwent an induction of labour.



Comments

Queensland's induction rate for all births was 3.8 percent better than the national average.

There was no obvious pattern in the spread of the observed rates of induction of labour across the hospital peer groups. Medium hospitals had the lowest rate of inductions (10.8 per 100 separations) while large hospitals collectively had the highest rate of inductions (14.4 per 100 separations).

After risk-adjusting the data, the findings were as follows:

- there was no significant variation in the probability of induced births occurring for standard primiparae for any of the hospital peer groups.
- women admitted as private patients to public hospitals were more than two and a quarter times as likely to have an induction of labour as were women under public care.

♦ Standard primiparae - 3rd or 4th degree perineal tears

This indicates the number of women having their first baby who sustained a third or fourth degree perineal tear during a vaginal birth.

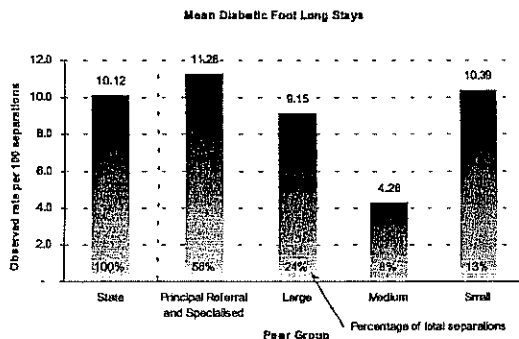
addition

The increased rate for Diabetic foot – amputation rates in the principal referral and specialised and large hospitals could be a reflection of more complicated cases being treated in these hospitals than at the medium and small facilities.

Reliable national comparative data were not available for diabetic foot amputation rates.

◆ Diabetic foot - long stay rate

This indicator measures the rate of patients who remained in hospital for 30 days or longer (long stay) following an admission for diabetic foot.



Comments

There was no obvious pattern in the spread of the observed long stay rates across the hospital peer groups. Medium hospitals had the lowest rate of long stays (4.3 per 100 separations) while principal referral and specialised hospitals had the highest rate of long stays (11.3 per 100 separations).

After risk-adjusting the data, the findings were as follows:

- there appeared to be a considerable amount of variation in the observed long stay rates between the hospital peer groups. However, because the number of separations was relatively small, these differences did not reach statistical significance.
- whether a patient was admitted as a public or a private patient to a public hospital had no statistically significant effect on their chance of having a long stay.

Reliable national comparative data were not available for diabetic foot average length of stay.

Efficiency

To deliver good quality health services, Queensland Health needs to manage its financial and human resources efficiently. This becomes increasingly difficult in a changing environment where the demands for health care are growing in the face of continuing constraints on the capacity of governments to fund health care services.

Just as it is important to measure the results of clinical care using clinical indicators documented in a previous chapter, the ability to measure the technical efficiency of hospitals is essential for the efficient management of resources. Efficient use of resources is critical to a hospital's ability to provide the right amount of quality services.

Measures of technical efficiency are, therefore, an important component of a report on hospital performance. If an individual hospital's utilisation is consistently higher than comparable hospitals, capacity to increase service delivery is lower.

Indicators reported in this quadrant can be classified into two broad categories:

- **activity of the service:** number of separations; length of stay and bed occupancy.
- **cost of the service:** cost of catering; energy costs and cost per weighted separation.

The data used for this quadrant are from administrative, workforce and financial databases routinely used by Queensland Health.

Measures of activity

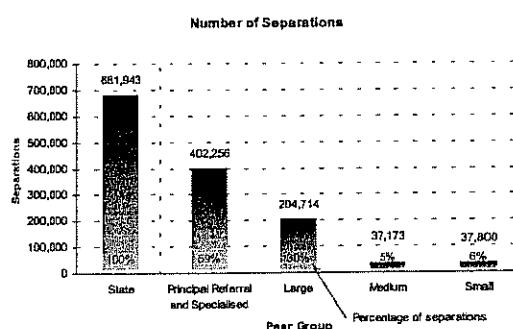
◆ Number of separations

The number of separations reflects the total number of patients completing an episode of care.

Episode of care
An episode of care is a phase of treatment for an admitted patient. It may correspond to a patient's entire hospital stay, or the hospital stay may be divided into separate episodes of care of different types, such as acute care, palliative care and rehabilitation care (ADIW).

This measure does not eliminate differences due to the varying severity of illness of patients at each hospital. Hence, caution is required in making comparisons across hospital peer groups. It is not an indicator of performance but more a descriptor of volume of activity.

Addition



Comments

- acute public hospital separations for Queensland represented 18.3 percent of the total number of separations nationally in 1999-00²². Queensland ranked third after New South Wales and Victoria for total public hospital separations.

Accreditation

Accreditation is a formal process undertaken by Queensland Health where an authorising body assesses a health care facility regarding its compliance with a set of standards.

Queensland Health requires all public health facilities to develop management systems for both clinical and non-clinical services that comply with endorsed quality system standards²⁷. The two main quality system standards recommended by Queensland Health for hospital accreditation are:

- Evaluation and Quality Improvement Program (EQuIP) with Australian Council on Health Care Standards (ACHS) and
- Australian Health and Community Services Standards (AHCSS) with the Quality Improvement Council (QIC).

This indicator identifies the number of hospitals accredited by an organisation recommended by Queensland Health at 30 March 2002.

| | |
|---|-----------|
| Number of facilities | 59 |
| Number of hospitals with full accreditation status on 30 March 2002 | 43 |
| Accreditation with ACHS | 34 |
| Accreditation with QIC | 9 |

11 small hospitals and 4 medium hospitals were partially accredited.

Workforce management

Strong links have been identified between the quality of services and a skilled workforce. The shortage of appropriately trained and skilled staff is an issue that has both a current and far reaching impact on the delivery of quality health services. There is a growing recognition of the importance of recruitment, retention and staff development due to the scarcity of

health professionals. Two issues have been identified as high priority workforce management issues for Queensland Health.

These are:

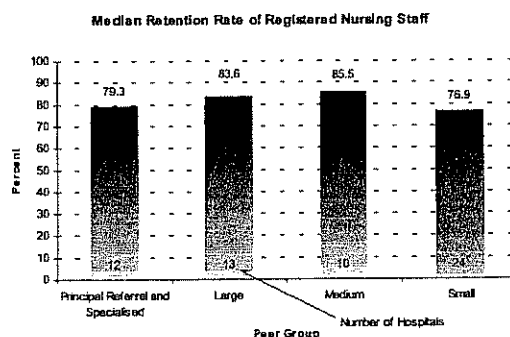
- turnover of staff
- age of staff.

These issues are of particular importance to the nursing workforce as it is the largest professional component in Queensland Health. The shortage of and difficulty in retaining nursing staff has been noted nationally and internationally. It is important for Queensland Health to retain skilled and experienced staff, rather than continually replace them with new graduates.

♦ Workforce - retention rate of registered nursing staff

This indicator measures what percentage of registered nursing staff was retained after one year at the hospital where they were working in the time period (excluding new graduates).

(Time period: Aug 2000–Aug 2001)



Note: These rates are derived from hospital level data and include both staff movements between hospitals as well as nursing staff lost to Queensland Health.

Comments

- the median retention rate for registered nursing staff after one year of service is similar for large and medium hospitals.

← Paragraph removed