AUSTRALIAN COMMISSION
ON SAFETY AND QUALITY IN HEALTH CARE

Hospital-Acquired Complications Information Kit

Fact sheets to support safety and quality in Australian health services

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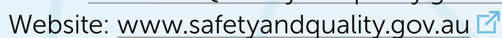
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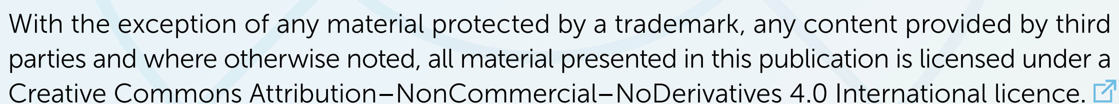
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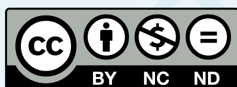

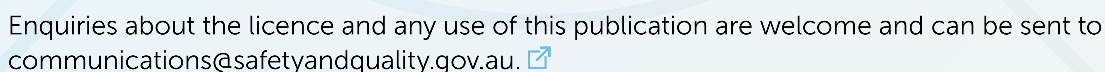
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Foreword

I am pleased to present this information kit to support health services use the hospital acquired complications (HACs) list to improve the safety and quality of Australian health services.

Australia has one of the best health systems in the world, and it is supported by dedicated clinicians who work hard to ensure that their patients receive safe and high-quality care. However things can go wrong, and ongoing work is needed to reduce the impact of adverse events on Australian patients and their families.

The purpose of this information kit is to provide frontline clinicians, safety and quality professionals, managers and executives, members of governing bodies and others with tools to minimise the occurrence of hospital-acquired complications (HACs) in their health service. The kit also provides insights for patients and carers as to the activities health services are undertaking to ensure safety and quality.

The release of this information kit draws upon consultation with clinicians from across Australia, as well as the latest evidence and clinical guidelines. It brings together information about important safety and quality topics in a way that can be used by frontline clinicians to improve their practice, and by managers and executives to improve the safety and quality of health services.

The information kit provides strategies related to 16 HACs. The fact sheets outline steps clinicians, managers, governing bodies and others can put in place to reduce the occurrence of HACs. The kit also highlights the importance of ongoing monitoring of these HACs; which can provide an indication of the success of a service, or signify safety and quality issues that require improvement.

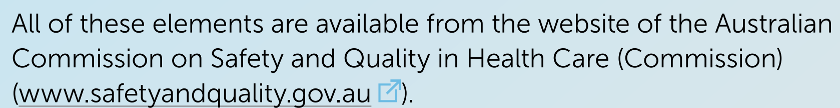
Given the need to continue work to reduce HACs, I am pleased this kit is now available for use across the health system.

Professor Villis Marshall AC
Chair
Australian Commission on Safety and Quality
in Health Care

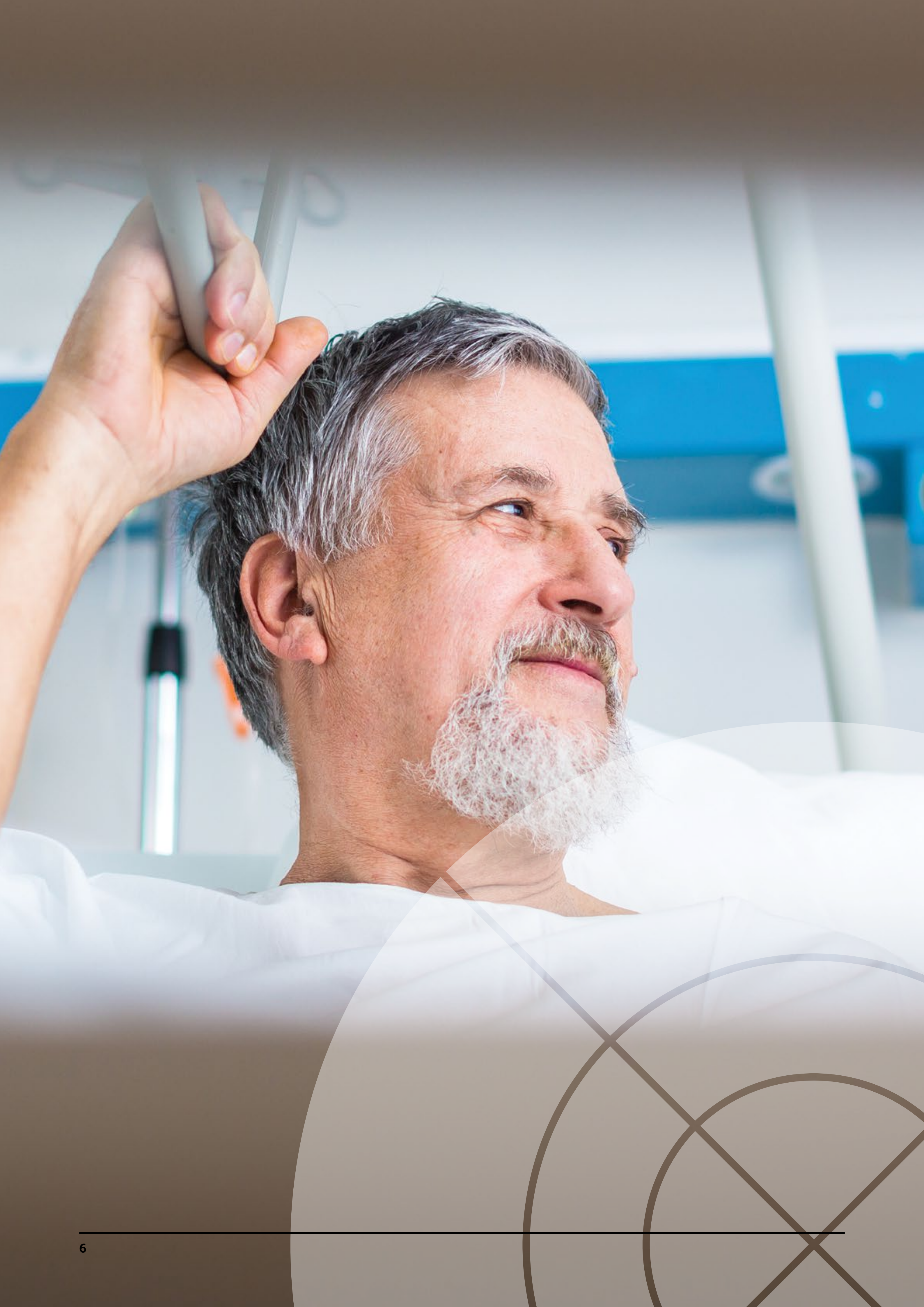
Overview

This information kit includes a suite of resources for clinicians, managers and executives, governing bodies and others, to put in place strategies that reduce the occurrence of hospital-acquired complications (HACs). The kit includes three elements:

- The introduction defines the 16 HACs, explains their development, why they are important, and how monitoring and responding to HACs can help provide the best care for patients.
- Detailed fact sheets for clinicians, managers, safety and quality professionals, managers and executives and governing bodies. These include an overview of the governance structures and quality improvement processes needed to minimise the occurrence of a HAC. They also outline key steps to develop and deliver a comprehensive care plan for the patient.
- Fact sheet "lift outs", that can be found inserted within the front of the kit. These short documents are designed for frontline clinicians. They are provided loose to enable you to share these with relevant clinicians as a quick reference guide.



All of these elements are available from the website of the Australian Commission on Safety and Quality in Health Care (Commission) (www.safetyandquality.gov.au).



Introduction

About hospital-acquired complications (HACs)

Complications in Australian hospitals

Australians enjoy good health compared to other populations reporting through the Organisation for Economic Co-operation and Development. Significant resources are deployed to ensure that the health system supports the continued good health of Australians [1]. Despite these efforts, an unacceptable proportion of Australian hospital admissions are associated with an adverse event [2]. This means more work is needed to reduce adverse events, including HACs, and improve the quality of care provided to patients.

What are HACs?

A HAC refers to a patient complication for which clinical risk mitigation strategies may reduce (but not necessarily eliminate) the risk of that complication occurring [3].

Why are HACs important?

HACs are a problem for patients as they affect a patient's recovery, overall outcome and can result in longer length of stay in hospital [4]. These outcomes also have an impact on the patient's family. HACs are also a concern for health services. This is because a patient's admission costs more if they have a HAC diverting resources away from other patient care activities. [5].

Why should HACs be monitored?

HACs should be monitored due to their impact on patients, health services and the healthcare system. Further, evidence demonstrates that the provision of relevant and timely clinical information to clinicians and managers is an effective driver of safety and quality improvement [6]. In addition, HACs can be monitored using existing data sources, meaning there is no additional burden associated with data collection.

HACs should be monitored at multiple levels within health services, including by clinicians, managers and governing bodies. Monitoring HACs enables the identification and exploration of issues and implementation of strategies to reduce them. High or rising rates of HACs indicate that efforts are needed to understand and reduce these rates. A high HAC rate might be an indication of a broader safety issue within the service that warrants investigation. Conversely low and falling rates of HACs can signify success stories, which should be shared, to support safety improvement and maintenance.

What conditions are on the HACs list?

The HACs list includes the following complications:

1. **Pressure injury**
2. **Falls resulting in fracture or other intracranial injury**
3. **Healthcare-associated infection**
4. **Surgical complications requiring unplanned return to theatre**
5. **Unplanned intensive care unit admission**
6. **Respiratory complications**
7. **Venous thromboembolism**
8. **Renal failure**
9. **Gastrointestinal bleeding**
10. **Medication complications**
11. **Delirium**
12. **Persistent incontinence**
13. **Malnutrition**
14. **Cardiac complications**
15. **Third and fourth degree perineal laceration during delivery**
16. **Neonatal birth trauma.**

Each of the HACs has a number of associated diagnoses and codes, which further describe the HAC. The diagnoses are provided within Appendix 1. Specifications for the list, which describe the relevant codes for each HAC using the International Statistical Classification of Diseases and Related Health Problems Australian Modification (ICD-AM) across various revisions, are available on the Commission's website.

Introduction

Why focus on the HACs list?

All adverse events and complications in hospitals are important, and impact upon patients and the health service. The development of the HACs list followed a clinician lead process to develop a list of complications that are significantly preventable. Further, the HACs focus on serious complications that clinicians can respond to, and put in place clinical risk mitigation strategies to reduce their occurence. These priority HACs can be used as a trigger for exploration of safety and quality within a health service, and an indication of success of the health service. Clinicians and other experts who developed the list selected these HACs based on preventability, patient impact (severity), health service impact and clinical priority.

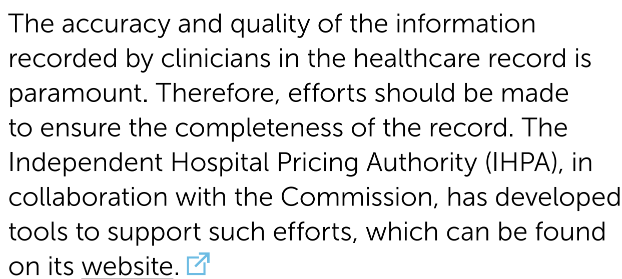
How was the HACs list developed?

Australia's list of 16 HACs was developed by clinical experts with the aim of reducing HACs. It was developed through a comprehensive process that included reviews of the literature, expert clinical advice and testing with public and private hospitals. This process is outlined in more detail in Appendix 2.

Monitoring and local reporting of HACs

As part of a broad quality improvement approach, the 16 HACs should be monitored by clinicians, safety and quality professionals, managers and executives, and governing bodies to provide insight into the state of safety and quality of a health service.

The HACs have been developed for monitoring using data from patient administrative data, also known as 'admitted patient care' data systems. Data are recorded in these electronic systems by trained medical coders. The coders translate the information that is written by clinicians in healthcare records (also known as medical records) into diagnosis and procedure codes using the ICD-AM and the Australian Coding Standards [11]



The accuracy and quality of the information recorded by clinicians in the healthcare record is paramount. Therefore, efforts should be made to ensure the completeness of the record. The Independent Hospital Pricing Authority (IHPA), in collaboration with the Commission, has developed tools to support such efforts, which can be found on its website.

A health service should have processes in place to monitor and report HACs at regular and meaningful intervals. Ideally, the timeframe for reporting and review should be consistent over time to support monitoring of trends, and short enough so as to be meaningful and allow for timely investigation by clinicians, governing bodies and managers.

Monitoring and reporting of HAC rates requires consideration of the different patient populations being compared. Some population groups have a higher risk of acquiring a complication in hospital and an adjustment should be made to the data to account for this risk if comparisons of HAC rates are made between services.

Introduction

Pricing and funding for safety and quality

As a further lever for safety and quality, all Australian Governments have agreed to develop and implement reforms to improve health outcomes for patients and decrease potentially avoidable demand for public hospital services through the National Health Reform Agreement Addendum. The Addendum to the Agreement, released in 2017, sets out governments' commitment to develop and implement reforms to:

- Improve patient outcomes
- Provide an incentive to the system to provide the right care, in the right place, at the right time
- Decrease avoidable demand for public hospital services
- Signal to the health system the need to reduce instances of preventable poor quality patient care, while supporting improvements in data quality and information available to inform clinicians' practice [12].

A key component of these reforms includes developing pricing and funding arrangements for HACs to deliver better health outcomes, improve patient safety and support greater efficiency in the health system. In line with this, in 2017 IHPA released and consulted on a risk adjustment model for HACs [13, 14]. It also introduced an adjustment for the HACs within its 2018–19 *National Efficient Price Determination 2018–19* [15][1]. This will support implementation of an approach for HACs from 1 July 2018 [12].

Implementing HAC prevention and management strategies

Implementing prevention strategies to achieve and maintain low rates of HACs is a key component of reducing the prevalence and incidence of HACs. The fact sheets within this information kit provide guidance on strategies to prevent or respond to the occurrence of HACs. Prevention strategies should incorporate initial patient assessments and ongoing monitoring of:

- Rates of HACs
- Any differences between current practice and best practice prevention
- Any barriers to reducing HAC rates that need to be addressed.

The information gathered through monitoring HACs rates, clinical practice and assessing barriers is essential to identify whether additional quality improvement efforts are needed. It will also provide baseline information against which to monitor progress and support sustained improvement. Continued monitoring and assessment against this information is key to understanding whether care is improving.

1 In IHPA's 2018–19 Price Determination, no adjustments are applied to unplanned intensive care unit admission, third and fourth degree perineal laceration during delivery and neonatal birth trauma. This is due to an 'inability to identify unplanned intensive care unit admissions within current data sets; and small patient cohort or other issues which have prevented the development of a robust risk adjustment approach at the time' the determination was released.

Using this information kit to support safety and quality

This information kit is designed to facilitate the adoption and use of the HACs list to support the provision of safe and high quality health service organisations. The information in the kit:

- Provides strategies to prevent HACs, manage them should they occur and maintain low rates of HACs when they are achieved
- Supports clinicians to include evidence-based prevention strategies in their delivery of comprehensive patient care
- Assists health services to assess the quality and safety of clinical care by monitoring the incidence and prevalence of HACs and identifying opportunities for improvement
- Supports the clinical governance of health services by helping governing bodies to review their structures, processes and clinical outcomes, to identify opportunities for improvement
- Supports health services to evaluate the impact of quality improvement initiatives through clinical audit
- Links HAC reduction strategies to the National Safety and Quality Health Service (NSQHS) Standards [16] and describes how monitoring and responding to HACs can be used as evidence within the accreditation assessment process.

Introduction

The link between the HACs and the NSQHS Standards

This information kit has been developed to support health services implement the NSQHS Standards, particularly those actions in the Comprehensive Care Standard [17].

The NSQHS Standards were developed by the Commission in collaboration with the Australian Government, states and territories, clinical experts, patients and carers. The primary aims of the NSQHS Standards are to protect the public from harm and to improve the quality of health service provision. They provide a quality-assurance mechanism that tests whether relevant systems are in place to ensure expected standards of safety and quality are met. The NSQHS standards also provide a nationally consistent statement on the level of care consumers can expect from health services.

The second edition of the NSQHS Standards was released in November 2017, and assessment to them commences from 1 January 2019. The second edition takes into account feedback from across the health sector on how to improve the first edition, as well as new evidence. This has resulted in a set of standards that is simplified, reduces duplication, has increased clinical focus and addresses important clinical gaps. This includes improving care for patients at risk of poor health outcomes, with new content on mental health and cognitive impairment, health literacy, end-of-life care and Aboriginal and Torres Strait Islander health.

Actions in the NSQHS Standards have been mapped to the suggested strategies in the 'Clinical governance structures and quality improvement processes' section of the fact sheets within the back of this book. Documentation relating to monitoring of HACs, and implementing improvement strategies recommended in the fact sheets, can be used by health service organisations as evidence of compliance with relevant actions in the NSQHS standards.

How to use this information kit

The Commission has developed this information kit following a review of the literature specific to each of the HACs and following consultation with clinicians from across Australia. The fact sheets highlight the impact of HACs on Australian health services and their patients, determined by analysis of the latest data from the Admitted Patient Data Collection National Minimum Data Set (2015–16).

The kit contains two forms of fact sheets developed as resources for health services and clinicians to reduce the prevalence and incidence of HACs. These include:

1. **Detailed fact sheets**, contained at the back of this book. These fact sheets are designed for use by health service managers, including clinical, quality and service managers. These fact sheets outline:
   - Why there is a focus on the particular HAC
   - Best-practice for the condition
   - Tips for the prevention and management of the HAC
   - Clinical governance structures and quality-improvement processes, in line with the NSQHS Standards
   - Steps to develop and deliver the patient's comprehensive care plan
   - How to minimise specific patient harm.
2. **Clinician fact sheets**, which summarise key points from the detailed fact sheets.

While there are 16 HACs, fact sheets have been only been developed for 15 of the HACs. A fact sheet has not been prepared for HAC 5, which relates to 'unplanned intensive care unit admission'. This is because it is not currently possible to identify patients who have had an unexpected admission to intensive care using the Admitted Patient Care National Minimum Data Set, which is used to monitor HACs.

The inclusion of unplanned intensive care unit admission on the HACs list, despite the absence of data, recognises this complication as a priority. It also recognises the burden on the patient, their family and the health service when patients are unexpectedly admitted to intensive care.

Resources to support adoption of the HACs list

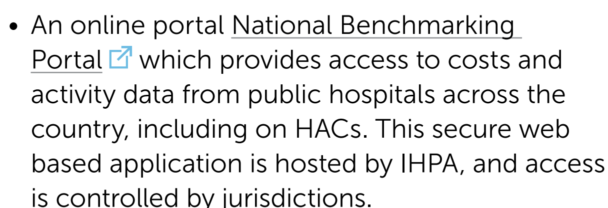
A number of other resources, in addition to this information kit, are available to assist clinicians and health services to implement processes to collect information on and monitor the HACs, and to improve patient safety.

Resources for monitoring HACs

The following resources are available from the Commission's website to support local monitoring of HACs:

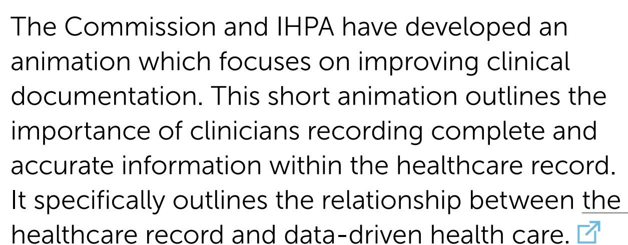
- The **specifications** for the HACs list provide the codes, inclusions and exclusions required to calculate HACs rates. The specifications are provided for a number of editions of the ICD-10-AM. The HACs list and specifications are reviewed and updated regularly, and people are encouraged to sign up for notifications for updates when they download the specifications.
- The Commission and the IHPA have developed Excel and SAS tools to support local monitoring of the HACs. These are known as **groupers**. The groupers can be used by hospitals, health services and system managers to identify and monitor HACs using existing data that is routinely generated from the patient medical record.

The following resource is available from IHPA's website:



- An online portal National Benchmarking Portal which provides access to costs and activity data from public hospitals across the country, including on HACs. This secure web based application is hosted by IHPA, and access is controlled by jurisdictions.

Resources to support completeness and accuracy of admitted patient data



The Commission and IHPA have developed an animation which focuses on improving clinical documentation. This short animation outlines the importance of clinicians recording complete and accurate information within the healthcare record. It specifically outlines the relationship between the healthcare record and data-driven health care.

IHPA is in the process of developing further resources to support improvements in the documentation of medical records, and in turn the clinical coding process. A key upcoming milestone will be the development of an 'app' for clinicians to support accurate documentation. This will be available on IHPA's website once finalised.