AUSTRALASIAN CLINICAL INDICATOR REPORT

18th Edition 2009–2016

HSRG
Health Services Research Group

THE AUSTRALIAN COUNCIL ON HEALTHCARE STANDARDS
ACHS
CLINICAL INDICATOR PROGRAM

Disclaimer
The expert commentary provided by the colleges, societies, and associations is contributed in response to a request from ACHS. Although ACHS appreciates the insights provided, it does not necessarily agree with or endorses the views expressed.

Scan with a smart phone or device to access 'Retrospective ACIR Data in Full'

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Clinical Indicator Working Parties

The Australian Council on Healthcare Standards' (ACHS') Clinical Indicators (CIs) are developed by Working Parties comprising practising clinicians (medical officers, nurses and allied health professionals in the relevant specialty field), representatives of the relevant Australian and New Zealand colleges, associations and societies, consumer representatives, statisticians and ACHS staff.

Selected Working Parties meet several times throughout the year, both in person and via teleconference, to review the existing CIs and explore areas for new CIs.

The revised version of the CI set and its User Manual are then endorsed by the relevant colleges, associations or societies prior to implementation.

CI sets are regularly reviewed to ensure:

- they are relevant for clinicians
- they continue to reflect today's healthcare environment
- there is consensus on collection and reporting requirements
- the set is regarded as useful for quality improvement.

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Foreword

On behalf of the Australian Council on Healthcare Standards (ACHS), I would like to present the *Australasian Clinical Indicator Report 18th Edition 2009-2016.* The report examines data sourced from a broad range of clinical speciality areas. The data provide important information regarding key aspects of health care delivery for members of ACHS, in addition to healthcare organisations worldwide. As in previous years, the 18th Edition of the *Australasian Clinical Indicator Report* provides key points on significant trends, strata differences and outlier effects between 2009 and 2016 for a broad range of Clinical Indicators. The report also includes commentary by professionals within the respective healthcare speciality to provide context to the complex and ever-changing healthcare environment. *The Australasian Clinical Indicator Report* provides the reader with an insight into health care in Australia and New Zealand and provides healthcare organisations with the potential to improve quality and safety within their facility.

During the development of Clinical Indicators and the *Australasian Clinical Indicator Report*, ACHS has proudly collaborated with more than 40 Australasian medical colleges, societies, and associations. The opportunity has been provided to these organisations to contribute comments within their specialist area for each of the 20 Clinical Indicator sets, which now contain 322 individual Clinical Indicators. Data from 825 healthcare organisations have been provided, which is then validated by University of Newcastle statisticians.

Working Parties were held through the year to support the continuous development of Clinical Indicator sets to ensure they remain current and valid. In 2016, Clinical Indicator sets that were reviewed include Oral Health, Ophthalmology and Rehabilitation Medicine.

Dr Brian Collopy has once again written the feature report contained within the *Australasian Clinical Indicator Report.* This year the feature report presents the ACHS' history in the development of Gastrointestinal Endoscopy Clinical Indicators. The report details that there is a growth in endoscopy examination and the clinical indicators demonstrating a satisfactory standard.

The ACHS provides the *Australasian Clinical Indicator Report* to key health industry bodies, Federal and State Governments, our members and surveyors, and other interested parties. The report is available to download from the ACHS website via www.achs.org.au/publications-resources/australasian-clinical-indicator-report/. A full retrospective report is also available on the website, providing detailed results for each Clinical Indicator set.

To conclude, I have confidence that the *Australasian Clinical Indicator Report 18th Edition 2009-2016* will provide you with valuable knowledge of our healthcare industry for which it was intended. In providing this insight, I would like to extend my appreciation to all collaborating colleges, associations, and societies. Their continued support of the Clinical Indicator Program allows us to continue our efforts to improve healthcare standards in Australia and internationally.

Prof Len Notaras AM
ACHS President
September 2017

About the Australasian Clinical Indicator Report (ACIR)

This Australasian Clinical Indicator Report 18th Edition 2009-2016 provides an overview of the results for each Clinical Indicator (CI) set for the last eight years, with additional commentary from the collaborating medical colleges, associations, specialist societies and other clinical organisations. Their expertise provides context for the trends or variations observed in the data.

A Printed Report

This report summarises the Clinical Indicator (CI) data submitted to the ACHS Clinical Indicator Program for the years from 2009-2016. The report highlights significant trends or variation in the data over time, which can suggest areas where there is scope to improve practice.

The Summary of Results section, commencing on the page **24**, describes observations drawn from the data of each CI. To capture the context and circumstances that influence the data, ACHS draws upon the expertise of the specialist healthcare colleges, societies, and associations, in addition to the other clinical organisations with which it collaborates. Their comments and expert feedback precede the summaries of the data and share subheadings within the Summary of Results and the *ACIR Retrospective Data in Full Report,* to assist cross-referencing.

The expert commentators review the retrospective data in full and respond to questions from ACHS. The views expressed in the commentaries are those of the authors, and not necessarily shared by ACHS.

ACIR Retrospective Data in Full Report

Every year, the *Australasian Clinical Indicator Report* (ACIR) lists collective performance against each of the ACHS CIs.

www.achs.org.au/publications-resources/australasian-clinical-indicator-report

This information is published on the ACHS website: www.achs.org.au/publications-resources/australasian-clinical-indicator-report/ and can be accessed by scanning the QR code with a smart phone or device.

An *ACIR Retrospective Data in Full Report* is created for every Clinical Indicator set and provides detailed information about each CI collected in 2016. Listed within the report is the CI, its intent, the numerator and denominator. Tables summarise the data submitted in every year since 2009 that the CI has been available for reporting.

Trends in the rates over time are reported with statistical significance, and the data are displayed in a graph if four or more years of data are available from five or more HCOs. There are three measures of variation in rates between HCOs included in this report. These are quantified by the differences between the 20th and 80th centiles.

Where significant differences between strata have occurred in 2016, these data are reported in additional tables, and the information is illustrated graphically using box plots. The absence of a specific comparator table means that the differences between strata were not statistically significant at three standard deviations or that the minimum number of contributors to enable comparison was not met. Outlier information is displayed through funnel plots.

The full report also statistically estimates the potential improvement (gains) for all eligible CIs, if changes in the distribution of rates were achieved.

Statistical Methods

The statistical methods used to analyse and report these data are also available online at www.achs.org.au/publications-resources/australasian-clinical-indicator-report/, along with a description of how to read, understand and use the retrospective data.

Improvements

In 2016, there were 71 CIs which showed statistically significant trends in the desirable direction. Of these, 44 CIs remained significant after allowing for changes in the number of healthcare organisations (HCOs) contributing over the period. There were four CI sets that had an improvement in at least two-thirds of all trended CIs. They were Day Patient, Emergency Medicine, Intensive care and Radiation Oncology.

There were noteworthy improvements in the following CI sets:

Day Procedure

Since 2013 the rate of patients who experience an adverse event during care delivery (L) (CI 4.1) has displayed a significant improvement and decreased by approximately half from 0.15 to 0.081 per 100 patients.
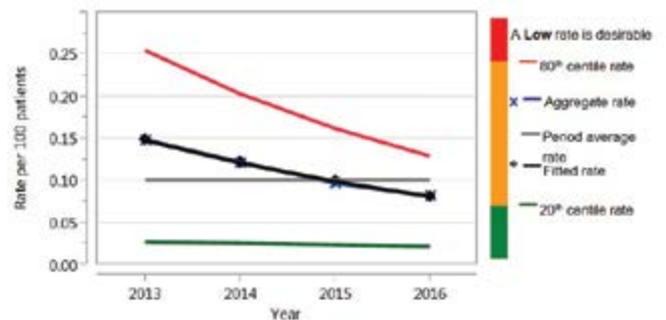
Gastrointestinal Endoscopy

Post-polypectomy haemorrhage (L) (CI 2.3) has shown significant improvement and decreased by more than two-thirds over the last eight years.
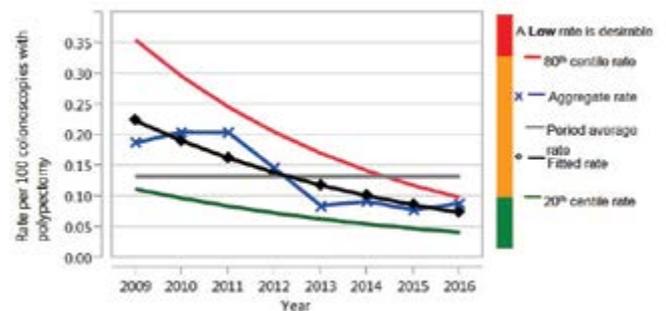
Infection Control

From 2009-2016 the rate for deep or organ/space SSI following coronary artery bypass graft (CABG) procedures (L) (CI 1.6) has shown significant improvement and decreased from 1.0 to 0.70 per 100 procedures. The aggregated rate has dropped by more than one-third in the last year.
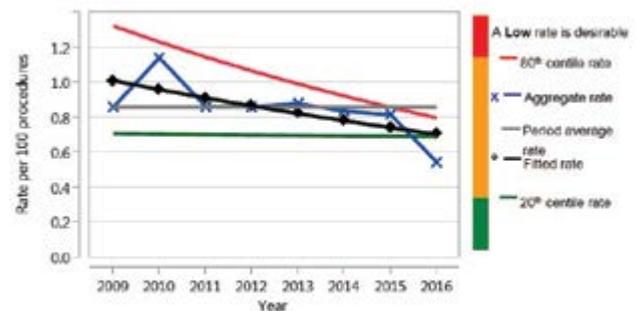
Maternity

From 2009-2016 the rate of serious adverse events addressed within peer review process (H) (CI 11.1) has demonstrated a significant improvement from 59.1 to 99.9, a change of 40.8 per 100 serious adverse events.
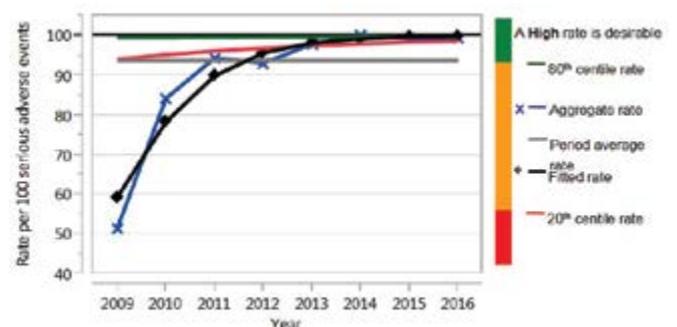
Deteriorations

In 2016, there were 42 CIs which showed statistically significant trends in the undesirable direction. Of these, 19 remained significant after allowing for changes in the number of HCOs contributing over the period.

There were noteworthy deteriorations in the following CI sets:

Anaesthesia

The rate of patients with temperature less than 36 degrees Celsius in the recovery period (L) (CI 3.3) has deteriorated from 1.2 to 2.5 per 100 patients and increased by more than half over the past eight years.
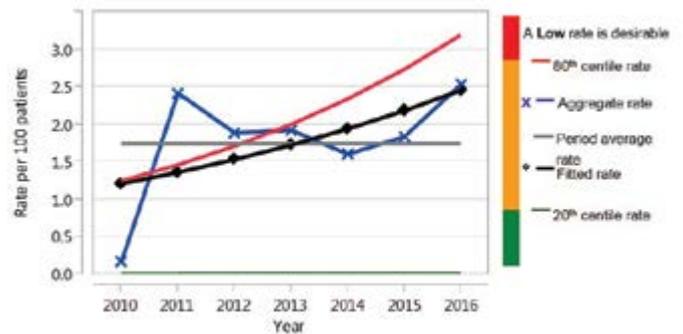
Gynaecological

From 2009-2016 the rate of Gynaecological surgery – injury to a major viscus with repair (L) (CI 2.1) has deteriorated from 0.30 to 0.56, a change of 0.27 per 100 patients.
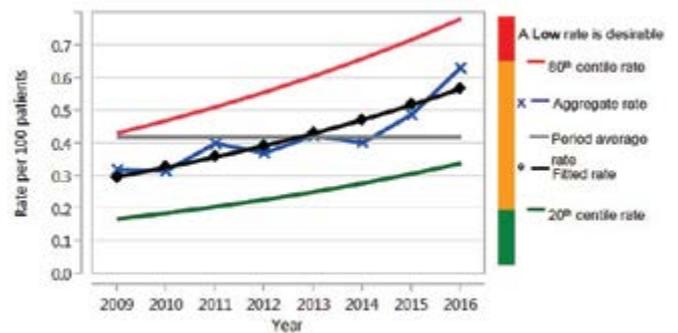
Maternity

As noted from the 2009 results, the rate of selected primipara – episiotomy and no perineal tear (L) (CI 3.2) continues to deteriorate in 2016. The aggregated rate deteriorated from 27.7 to 34.4 per 100 selected primipara from 2009-2016.
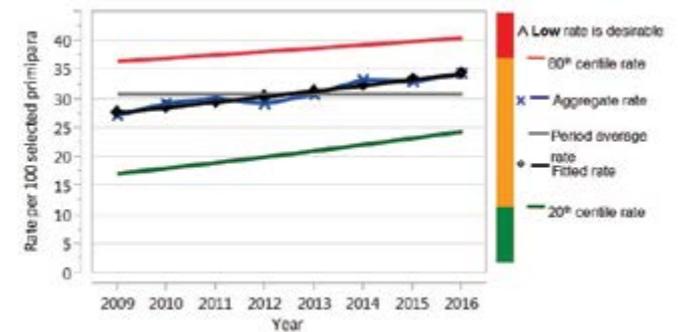
Mental Health

The aggregated rate of physical restraint (L) (CI 5.5) has deteriorated from 0.87 to 4.0 per 100 completed episodes from 2009-2016. The aggregated rate has increased by almost two-thirds in the last year.
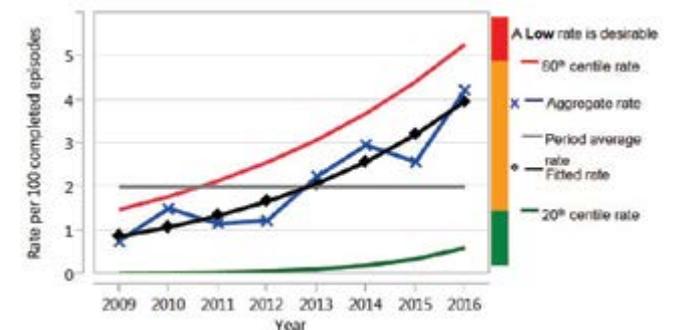
About the ACHS Clinical Indicator Program

The Australian Council on Healthcare Standards (ACHS) provides the world's largest dedicated Clinical Indicator (CI) data collection and reporting service. The Clinical Indicator Program (CIP) examines data sourced from a broad range of clinical speciality areas. It includes CIs that are relevant to inpatient, outpatient, and community health facilities, which were developed by specialist clinicians. It is a highly-valued program by participating healthcare organisations (HCOs) and is developed by Australian and New Zealand clinicians.

History

The ACHS CIP was established in 1989 through the initiative of Dr Brian Collopy, a surgeon and then Chairman of the ACHS Board, who still remains involved in the program today.

The rationale for introducing the program was to provide measures to support the clinical component of the ACHS accreditation standards and to increase the involvement of medical practitioners in quality improvement initiatives within HCOs. At the time of its introduction, doctors were familiar with the use of measures to assess a patient's health status, however, there were almost no tools to assess the performance of an HCO when delivering clinical care.

The first set of CIs, the Hospital-Wide Medical CIs, was introduced in 1993 and the program has continued to evolve since its inception nearly three decades ago. The program has expanded by working in collaboration with specialist colleges, societies, and associations, to include a wide range of speciality areas, now totalling 20 CI sets.

Clinical Indicators and Healthcare Organisations

CIs are designed to indicate potential problems that may need addressing, rather than to provide definitive answers for HCOs. This is achieved by identifying variations within data results. CIs are used to assess, compare and determine the potential to improve care within an organisation. They are, therefore, a tool to assist in assessing whether or not a standard of patient care is being met and can provide evidence for accreditation. HCOs select those CIs that are relevant to their organisation.

Clinical Indicators and Accreditation

Accreditation with ACHS has always had a focus on quality improvement. The program continues to be free for all HCOs that are accredited by ACHS. The program is one of a number of tools that facilitates the review and development of HCO performance. While the data are not a focus for accreditation, surveyors are able to monitor the HCO's response to an outlier measure or a deteriorating trend. HCOs and surveyors are able to question what was investigated, what was learnt, what action had been, or would be taken, and finally what was the outcome of those actions.

Supporting Clinical Indicator Program Customers

The Performance and Outcomes Service (POS) at ACHS provides email, telephone and workshop support to its members, including user access, CI collection assistance clarification on the User Manuals and generation of customised reports.

STRENGTHS OF THE CLINICAL INDICATOR PROGRAM

✓ Internationally renowned

✓ Well established with ongoing review of CI sets

✓ The selection of CIs collected is determined by the HCO

✓ Collaboration with more than 40 Australasian healthcare colleges, societies and associations

✓ CI Working Parties involve wide representation from relevant healthcare colleges, societies, and associations, assisted by consumers and statisticians to ensure relevancy

✓ External analysis and validation of data by University of Newcastle statisticians

✓ ICD coding provided (where applicable) to aid data collection

✓ Current literature review conducted on all new speciality areas available, providing background to the rationale for inclusion

✓ Developed by clinicians for clinicians to ensure relevancy and currency

Developed by Clinicians for Clinicians

Decisions are made on each CI set by a Working Party selected to provide broad representation. The ACHS Performance and Outcomes Service facilitates the process by providing secretariat support. When developing CIs, ACHS relies on practising clinicians from specialist areas in public and private HCOs. Members of CI Working Parties encompass relevant professions and include personnel from non-metropolitan centres and from a number of different states and territories. The Working Party Chair is selected by the lead college, society or association, which will also oversee and endorse the revised CI User Manual.

Assisting with data analysis and offering support and advice to the Working Parties is the Health Services Research Group (HSRG) at the University of Newcastle. Prof Robert Gibberd, who has consulted on the ACHS program for more than 16 years, is supported by Mr Stephen Hancock and a team that has made healthcare data its focus.

Comparisons of Performance

The focus when collecting CI data should always be to identify opportunities for improvement. All participating HCOs receive benchmarking reports that compare their performance to that of all other HCOs submitting data for the CI, and to HCOs from their peer group. Peer groupings are determined by the Working Party and the HCO is then able to select the most appropriate stratification for their organisation. Reports are prepared every six months following data

submission. In addition, trend reports are developed annually for HCOs submitting regularly, which enable the HCOs to compare their own trended performance against that of the group overall.

By definition, 20% of all contributors of CI data must be in the poorer performing centile. This positioning does not necessarily reflect a poor performance level, as individual CIs may be associated with strong outcomes in a majority of reporting organisations. However, being in the poorer performing centile may indicate a greater opportunity for improvement.

As participation in the ACHS program is voluntary, the number of HCOs submitting data for any single CI may be small, therefore the sample may not represent the overall population. Furthermore, participating HCOs are not identified during statistical analysis, which limits comparisons between HCOs. The program's statisticians believe that, in most specialities, with greater numbers comes greater confidence that the data are representative. For this reason, ACHS reports also include outlier data which notify an HCO that their rate is more than three standard deviations from the mean. In conjunction with the centile data, outlier status provides HCOs with a realistic 'snapshot' of their performance against all other reports submitted for a specific CI.

Research in the area of organisational response to CI outcomes has identified the phenomenon of 'data denial', where HCOs are sometimes reluctant to accept the implications of CI data and reject the findings rather than investigate their implications, or seek explanations that are not associated with their own

performance. Acceptance of the data as both correct and relevant is the first step towards positive action and change.[1]

It is necessary that clinicians and healthcare executives recognise that a CI result is a marker of change over time, rather than the equivalent of an 'exam result' with its designated pass/fail outcome. Although the ACHS CI reports provide data from multiple HCOs, CI data outcomes should not be considered as 'league tables'.

CIs are so named because they do not provide answers; they 'indicate'. This means an HCO's rate can raise questions for further evaluation. A considered analysis of potential reasons for trends over time and/or variation between HCOs can then be used to highlight quality issues or monitor the progress of quality improvement initiatives.

Reference

1. Berwick DM, James B, Coye MJ. Connections between quality measurement and improvement. Medical care. 2003 Jan 1;41(1):I30-8.

CLINICAL INDICATOR USER MANUALS

The ACHS CI User Manuals contain greater information about the CIs. Members can access the User Manuals from the ACHS website. The User Manuals include information such as:

- the rationale for CI development
- suggested sources for data collection (including ICD-10-AM codes where applicable)
- desired rates (i.e. whether the organisation should be aiming for a high or low rate)
- stratification variables
- data cleaning rules
- definition of terms
- numerator and denominator details including inclusion and exclusion criteria
- evidence-based information about the CI area

Accompanying resources to the User Manuals are blank templates to assist HCOs to collect their data and retain details of their collection.

Feature Report

Developments in Gastrointestinal Endoscopy

Dr B. T. Collopy FRACS, FRACMA

Introduction

The word endoscopy is derived from two Greek words and essentially means the act of looking inside carefully. Gastrointestinal (GI) endoscopy has been described as having three phases of technical development. These are (i) the 'rigid endoscope' from 1805-1932; (ii) the 'semi-flexible endoscope' from 1932-1957; and (iii) the 'fibreoptic era' from 1957-present.[1] Very little knowledge was gained of stomach pathology with the rigid instrument, but it was with the semi-rigid gastroscope designed by Schindler and Wolf in 1923. It was popularised in the United States to which Schindler had gone in the early 1930s, following his release after a Nazi purge in his homeland. It was used well into the 1950s, one of the first physicians to do so in Australia was Dr John Horan, a physician in Melbourne, who had been a 'Rat of Tobruk'. Horan worked closely with Sir Hugh Devine, one of Australia's foremost gastrointestinal surgeons, in the diagnosis of many of his patients, prior to surgery.

At the lower end (of the intestine), a 35cm long sigmoidoscope was introduced at the Johns Hopkins Hospital by HA Kelly in 1895. The light was reflected down the instrument from a standard electric light globe via a head mirror, but the vision was much improved by the inclusion of proximal lighting within the instrument, as in the Lloyd-Davies sigmoidoscope.

The great advance in GI endoscopy however occurred following the development of the flexible endoscope by the physicist, Harold Hopkins, at the Imperial College, London, in 1954.[2] He recognised that thousands of very narrow glass fibres, collected in a bundle, would transmit light around corners. This was further developed by Basil Hirschowitz, a gastroenterologist at the University of Michigan, who solved the problem of the light jumping from one fibre to another and being lost, by placing the bundle of fibres with a high refractive index into a glass tube of low refractive index.[3] Hirschowitz demonstrated his new instrument at the American Gastroenterological Association meeting held in Colorado Springs in 1957 and the 'explosion' in GI endoscopy began. Bergein Overholt, also at the University of Michigan, succeeded in adapting fibreoptics to the construction of a fully flexible sigmoidoscope in 1963 and later to an elongated version which traversed the whole colon.[4]

Further improvements enabled the passage of procedural instruments through these flexible endoscopes, for example, to perform biopsies, to control bleeding and to remove polyps. This last facility, popularised by Wolff and Shinya in New York, who presented their early experience at an American Surgical Association meeting in 1973, provided a means of reducing, to some extent, the toll of large bowel cancer.[5] The currently used video-endoscopy was pioneered in Melbourne by Berci and Davids at the Alfred Hospital,[6] and now around 900,000 colonoscopies are performed annually in Australia using video equipment.[7]

The word endoscopy is also used in relation to the use of a video capsule to examine the extensive small intestine. Small bowel capsule endoscopy (SBCE) was introduced in 2000 and is now considered a first-line examination to detect small bowel tumours, to determine the extent of Crohn's disease and to identify the site of obscure gastrointestinal bleeding.[8] However its tumour detection rate remains uncertain, there are occasional complications of aspiration and also retention of the capsule may occur. Currently, there is limited information on performance measures for this procedure.[9]

The Clinical Indicators

The first set of GI endoscopy Clinical Indicators (CIs) was developed with the cooperation and endorsement of the Gastroenterological Society of Australia and introduced for data collection from 2006. There were eight CIs in three areas – colonoscopy, gastroscopy, and complications of sedation (Table A). More than 60 health care organisations (HCOs) reported data for that year. The rate for incomplete colonoscopy was low at 1.17%, but was three times higher in public compared with private HCOs, presumably due to patient case mix and also training issues.

The current GI endoscopy CI set, Version 2, which was introduced from 2013, has 11 CIs in five areas – failure to reach the caecum, adverse outcomes of colonoscopy, colorectal cancer detection, perforation from oesophageal dilation, and post endoscopy aspiration (Table B). In 2016, 80 HCOs reported data, down from the maximum of 103 HCOs reporting in 2010. The number of colonoscopies reported to ACHS is approximately 10% of the total performed nationally.

Table A: Gastrointestinal Endoscopy Clinical Indicators: Version 1

Area	Clinical Indicator
Colonoscopy	Incomplete colonoscopy
	Treatment for possible post-polypectomy perforation
	Treatment for possible perforation not related to polypectomy
	Post-polypectomy bleeding
Gastroscopy	Treatment for possible oesophageal perforation related to dilation
	Treatment for possible instrument-related perforation
	Treatment for possible post-polypectomy perforation
Complications of sedation	Overnight stay for post-procedure aspiration

Table B. Gastrointestinal Endoscopy Clinical Indicators: Version 2

Area	Clinical Indicator
Failure to reach caecum	Failure due to inadequate bowel preparation
	Failure due to diseased colon
	Failure due to instrument failure
	Failure due to any other reason
Adverse colonoscopy outcomes	Treatment for possible post-polypectomy perforation
	Treatment for possible post-colonoscopy perforation
	Post-polypectomy haemorrhage
Colorectal cancer	Malignancies diagnosed at colonoscopy
	Malignancies not detected at previous colonoscopy (within 5 years)
Oesophageal dilation	Possible perforation
Aspiration following endoscopy	Aspiration following GI endoscopy

Table C. Comparison of 2006 and 2016 data

Clinical Indicator	2006 Rate	2016 Rate
Incomplete colonoscopy	1.17%	0.5% *
Possible post-polypectomy perforation	0.046%	0.019%**
Possible perforation (not post-polypectomy)	0.032%	0.023%
Post-polypectomy haemorrhage	0.19%	0.089% *

*Highly significant p< 0.0001 **significant p<0.05

A comparison of the rates, for four of the CIs common to both versions 1 and 2, reveals a significant improvement since their introduction for completion of a colonoscopy and for post-polypectomy perforation and post-polypectomy bleeding (Table C). The rate of colorectal cancer detection has remained at just over 1% since the introduction of CI 3.1.

The rate in 2016 for oesophageal perforation, post-dilatation (CI 4.1), was 0.34%, with there being a significant trend upwards in the last five years. The internationally recognised rate for this complication is 0.25%.[10] Two outlier HCOs accounted for half of the perforations. There is limited information on rates for aspiration following GI endoscopy (CI 5.1), but it is probably around 0.5%.[11] The rate reported to ACHS in 2016 was 0.04%.

Future activities and other possible Clinical Indicators for colonoscopy

All of the ACHS CI sets are periodically reviewed by an appropriate multidisciplinary working party and the CIs revised where considered desirable to ensure their clinical relevance. The changes are then approved by the corresponding College/Society before their introduction for data collection. The GI set is to be reviewed in 2018.

The Australian Commission on Safety and Quality in Health Care (ACSQHC) has been requested to develop a safety and quality model for colonoscopy services in Australia and released a paper on the issue in 2016.[7] It is expected to include specifications for:

- Delivery of 'quality' colonoscopy services
- Training and performance of colonoscopists (including certification and re-certification)
- Collection, analysis, and reporting of data (in accordance with a standard national data set)

Stakeholders involved in the consultation process also considered that the appropriateness of a procedure should be determined, for example through compliance with the Cancer Council Australia *Clinical Practice Guidelines for Surveillance Colonoscopy.*[12] This is a reasonable recommendation as the rate of inappropriate colonoscopy (in some European studies) has been shown to be as high as 40%.[13] It is also reasonable to consider the performance of individual colonoscopists, as up to a six-fold variation in adenoma (pre-cancerous polyp) detection rates has been shown between endoscopists.[14]

In the United States (US) the primary colonoscopy quality indicator is the adenoma detection rate (ADR), as the risk of colorectal cancers being detected post-colonoscopy is inversely correlated with an endoscopist's ADR.[15] As the prevalence of adenomas in asymptomatic

adults ranges between 25 and 40%, the benchmark for the ADR has been established at 25%.[15] Such a level can be considered justifiable if progress is to be maintained in the continued reduction in colorectal cancer death rates, which have been recorded over the last decade.[16]

The withdrawal time is another performance indicator for a colonoscopy which is used in the US, as a slower withdrawal time is associated with a higher ADR. However, its measurement and recording are imprecise and are influenced by the patient variation in anatomy and prominence of colonic folds. At present, there is no generally accepted way to quantify an optimal withdrawal technique.[17]

In the three years that data have been reported for CI 3.2 - the number of malignancies not detected at a previous colonoscopy (within 5 years) - there has been no significant difference in the rates, which were between 12.8 and 18.4%. More time is needed to interpret the value of this figure.

It is pleasing to note that the rates recorded for the four CIs in Table 3 all fall well within internationally accepted rates,[18] which are:

• Incomplete colonoscopy - <10%
• Post-polypectomy perforation - <1/500
• Overall perforation - <1/1000
• Post-polypectomy bleeding - <1/100

Because of the not inconsiderable perforation rate from this invasive procedure, CT colonography in 2008 was considered by the American Cancer Society as an alternative screening test for large bowel cancer and MR colonography is increasing in use as a screening tool in Europe.[19] However as colonography is diagnostic only, i.e. it cannot deal with the lesions it identifies, a colonoscopy will remain a frequently performed procedure.

Conclusions

In Australia, as in other countries, there has been an enormous increase in the number of patients having an endoscopic examination of their gastrointestinal tract, since the improvements in instrument design, which occurred in the second half of the 20th century. Whilst the deliberations of the ACSQHC on colonoscopy are awaited with interest; consideration could be given to the introduction of an indicator similar to the adenoma detection rate (ADR) used in the United States and also to the introduction of indicators of appropriateness, to ensure that these procedures, which are not without a morbidity risk, albeit a low one, are not performed unnecessarily.

Overall, however, the quality of GI endoscopy performed in Australia, as evidenced by the majority of the data available to the ACHS Performance and Outcomes Service for a small number of CIs, can be considered satisfactory by world standards.

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The Clinical Indicator Program: Key Facts 2016

In this *Australasian Clinical Indicator Report 18th Edition 2009-2016*, there are total of 20 clinical indicator (CI) sets and in 2016 there were data submitted for 315 of the possible 322 CIs across these sets. Data within this report are submitted from healthcare organisations (HCOs) from every state and territory within Australia and HCOs within New Zealand. These HCOs are from both the public and private sectors, and from metropolitan and non-metropolitan regions.

Clinical Indicators and data submissions

Participation in the Clinical Indicator Program is voluntary for HCOs. Between 2009 and 2016, the number of HCOs participating in the Clinical Indicator Program increased from 671 to 736, representing a 10% increase over that period. While some organisations submit intermittently, most organisations make two submissions to each of their selected CIs in a year. The data are analysed and comparison reports are prepared every six months.

In 2016, the total number of six-monthly data submissions generated was 30,226 with similar numbers from the private and public sectors, 15,481 and 14,745 respectively.

The highest number of six-monthly data submissions over the period 2009 to 2016 was 37,022 in 2009. **Table 1** gives the number of CIs and sets by sector, the number of reporting HCOs and the number of six-monthly CI data submissions.

HCOs reporting

Until 2012 there were similar numbers of public and private HCOs reporting. In 2016, there were more public than private HCOs reporting, 434 and 302 respectively. The geographic breakdown of the number of public and private HCOs submitting data is presented in **Table 2.** There were 434 metropolitan HCOs and 302 non-metropolitan HCOs participating in the Clinical Indicator Program in 2016.

Clinical Indicators reported by each HCO

In 2016, the average number of individual CIs reported was 22.9, with half of all HCOs reporting between seven and 32 CIs (25th and 75th centiles). The variation in the number of CIs reported by each HCO is mostly due to the different services provided by the HCO. For example, not all HCOs have an emergency department, intensive care unit, obstetrics, paediatrics or other specialities.

During the last five years, the mean and median number of CIs collected by individual HCOs in each year have remained relatively stable. The median number of CIs collected varied between 15 and 21 and the mean varied between 22.9 and 29.3.

Table 3 shows that in 2016 there were six CI sets with at least 150 HCOs providing data. While there are six CI sets where fewer than 50 HCOs participate, a small number of HCOs may still provide a representative sample of all HCOs in Australia and New Zealand for some CIs. However, from a quality improvement perspective, it means that these HCOs have less data with which to determine whether the clinical areas in these sets could potentially improve their performance.

Table 1: Number of CI sets, CIs, HCOs reporting and data submissions in 2009-2016

	2009	2010	2011	2012	2013	2014	2015	2016
Clinical Indicator Sets	23	22	22	22	22	22	21	20
Clinical Indicators	370	332	353	335	338	328	314	315
Reporting HCOs								
Private	321	329	330	329	316	317	314	302
Public	350	336	360	341	415	490	511	434
Total	671	665	690	670	731	807	825	736
Submissions								
Private	17,881	17,193	16,732	16,539	15,597	16,022	15,931	15,481
Public	19,141	18,645	18,426	18,354	17,298	16,615	15,192	14,745
Total	37,022	35,838	35,158	34,893	32,895	32,637	31,123	30,226

* CI data are submitted every six months. Most HCOs submit data twice a year; however, some submit data for one-half of the year only.

Table 2: Number of HCOs reporting by state, sector and metropolitan/non-metropolitan characteristics in 2016

Location	Private	Public	Metropolitan	Non-metropolitan	Total
New South Wales	122	120	158	84	242
Victoria	63	110	90	83	173
Queensland	65	50	73	42	115
South Australia	21	116	58	79	137
Western Australia	14	25	31	8	39
Tasmania	6	4	7	3	10
Australian Capital Territory	6	2	8	0	8
Northern Territory	1	4	2	3	5
New Zealand	4	3	7	0	7
Total	302	434	434	302	736

Table 3: HCOs providing data for one or more CIs within each CI set in 2009-2016

Clinical Indicator Set	2009	2010	2011	2012	2013	2014	2015	2016
Anaesthesia and Perioperative Care†	295	288	292	288	273	261	250	241
Day Patient	392	397	393	370	337	318	308	290
Emergency Medicine	210	196	195	181	174	150	137	137
Gastrointestinal Endoscopy	88	103	95	91	77	78	76	80
Gynaecology	84	82	78	65	58	52	58	61
Hospital in the Home	48	50	40	37	39	34	30	17
Hospital-Wide†	454	458	481	478	466	468	525	486
Infection Control†	325	306	324	334	424	424	401	351
Intensive Care†	105	105	98	104	102	107	96	93
Internal Medicine†	98	81	84	74	62	46	36	32
Maternity	181	187	186	188	184	175	170	166
Medication Safety†	176	164	284	259	260	269	276	265
Mental Health*	152	133	128	125	119	118	105	84
Ophthalmology	86	87	86	77	72	75	64	66
Oral Health	11	12	15	15	14	84	90	92
Paediatrics	49	46	47	40	37	11	29	27
Pathology	49	42	42	42	40	44	39	35
Radiation Oncology	20	17	18	20	17	14	14	13
Radiology	66	60	60	69	64	41	40	41
Rehabilitation Medicine	112	122	126	122	115	105	102	122
Any Clinical Indicator	671	665	690	670	731	807	825	736

†Revised Clinical Indicator set introduced during 2016

*Mental Health Community Based and Mental Health Inpatient were revised and combined in 2016.

Clinical Indicator Trends and Variation

Revealing the potential to improve performance

Within an individual facility, fluctuations in performance compared to the overall performance of the submitting HCOs may focus attention on areas for further investigation.

From a health system perspective, the goal would be to see an overall trend in the desirable direction. For the majority of CIs which are process-based, a decrease in variation between the best performing HCOs and the remainder would demonstrate improvement across the system.

Using trends and variation from a systems perspective

The Australasian Clinical Indicator Report shows the trends in the rates for each CI (if four or more years of data are available) and three measures of the variation in rates between HCOs. The variations in clinical practice are quantified by the differences between the 20th and 80th centiles, the differences between the strata, and the rates for the HCOs that are outliers.

The report also estimates the potential improvement if:

- the mean rate was shifted to the better centile rate,

- the mean rate was shifted to the best stratum rate, and

- outlier HCOs with less desirable rates were to shift their rate to the mean rate.

This is calculated for each year and is reported using tables and graphs. The text that summarises the results is divided into:

- a summary of the trends in the mean rates and centiles,

- a table of the differences in the strata rates if they are statistically significant, and

- the number of outlier HCOs.

To view the results in full and for more information on the methodology used in this report, refer to the documentation available on the ACHS website (www.achs.org.au/publications-resources/australasian-clinical-indicator-report/) located with the summary report.

Clinical Indicator trends 2009-2016

Of the 322 CIs in 2016, 318 are rate-based CIs, whereby data were collected for all but seven of these CIs. Of these 311 CIs, 296 had a desirable direction specified (high or low rates indicating better care). Trends could be analysed for 135 of the rate-based CIs. The CIs were not analysed for trends if there were less than four years of data, no desirable direction specified or less than five HCOs reporting. Of the 20 sets, 16 had CIs that were tested for

trend. Of these, there were 10 CI sets which had more CIs moving in the desirable direction than in the undesirable direction. There were four CI sets that had an improvement in at least two-thirds of all trended CIs. They were Day Patient, Emergency Medicine, Intensive Care and Radiation Oncology.

Since the trend in CIs can be due to a changing mix of contributing HCOs, the CIs were tested again to determine whether the trend remained statistically significant after allowing for changes in the HCOs submitting data. Of those 71 statistically significant trends in the desirable direction, 44 remained significant after allowing for changes in the HCOs submitting, and of those 42 CIs whose trends were deteriorating, 19 remained significant. There were 22 CIs that showed no statistically significant trend. The trend results are summarised in **Table 4.**

Variation in Clinical Indicator rates

Calculating relative risk from the centiles

Given that HCOs may be large or small, there is a need to control for the differences in the random variations or confidence intervals for each HCO. To this end, 'shrunken rates' are used. The standard deviations of these 'shrunken rates' could be presented as a measure of variation between HCOs. These distributions are not symmetrical so the 20th and 80th centiles are reported. The region between these centiles contains the 'shrunken rates' for 60% of HCOs and the difference between the 20th and 80th centiles is approximately twice the standard deviation of the rates.

A measure that can be used from the centiles is the relative risk (RR) of having an event when the poorer centile applies compared to when the better centile applies. The relative risk is used to identify CIs where there is large systematic variation in rates. If the better rate is the 20th centile, then the RR is the ratio of the 80th centile to the 20th centile rates, R (80) and R (20). The formula is as follows:

When the desirable level is **low:** R (20) is the better rate of undesirable events (rates are usually less than 0.5).

When the desirable level is **high:** 1 - R (80) is the better rate of non-occurring events.

$$RR = \frac{R(80)}{R(20)}$$

$$RR = \frac{1-R(20)}{1-R(80)}$$

Table 4: Summary of the trends by CI set: CIs that have statistically significant (p<0.05) trends[†] in the desirable or undesirable direction

Clinical Indicator Set	Number of CIs*	Number analysed[†]	Desirable trend[‡]	Undesirable trend[‡]	No Trend
Anaesthesia and Perioperative Care	18	11	5 (3)	6 (1)	0
Day Patient	14	14	10 (4)	3 (0)	1
Emergency Medicine	22	7	7 (3)	0 (0)	0
Gastrointestinal Endoscopy	11	11	3 (2)	4 (1)	4
Gynaecology	8	4	2 (1)	1 (1)	1
Hospital in the Home	9	-	-	-	-
Hospital-Wide	26	10	6 (5)	0 (0)	4
Infection Control	30	13	8 (8)	1 (1)	4
Intensive Care	15	5	5 (2)	0 (0)	0
Internal Medicine	18	3	1 (0)	2 (0)	0
Maternity	21	21	8 (5)	12 (9)	1
Medication Safety	19	2	1 (1)	1 (1)	0
Mental Health	27	4	2 (2)	1 (1)	1
Ophthalmology	14	14	6 (3)	3 (0)	5
Oral Health	9	7	1 (0)	6 (3)	0
Paediatrics	14	-	-	-	-
Pathology	16	-	-	-	-
Radiation Oncology	6	3	3 (2)	0 (0)	0
Radiology	8	-	-	-	-
Rehabilitation Medicine	6	6	3 (3)	2 (1)	1
Total	311	135	71 (41)	42 (19)	22
Per cent of tested		100%	53% (30%)	31% (14%)	16%

* Includes only rate-based CIs where the desired rate is specified as either high or low.

[†] Trends are not reported for CIs with less than four years of data, or fewer than five HCOs reporting, and only rate-based indicators with desirable rate High (H) or Low (L) were tested.

[‡] The number in brackets is the number of CIs that had statistically significant trends after allowing for changes in the HCOs contributing the data.

The RR will be calculated for CIs where there were 20 or more submissions and potential gains of at least five events. The RR was thus calculated for 178 CIs.

While the formulae may appear somewhat daunting, the interpretation is clear. Greater values in the RR indicate greater systematic variation in rates for a given CI, and it may be appropriate to determine the causes of these variations.

Table 5: Relative Risk (RR) for CIs in each CI set – a high relative risk reveals high systematic variation between HCOs

Clinical Indicter Set	Number of CIs	CIs tested*	RR: 1 to <2	RR: 2 to <10	RR: ≥10	% ≥10
Anaesthesia and Perioperative Care	18	12	-	4	8	67%
Day Patient	14	14	-	4	10	71%
Emergency Medicine	22	8	-	7	1	13%
Gastrointestinal Endoscopy	11	6	1	4	1	17%
Gynaecology	8	6	1	4	1	17%
Hospital in the Home	9	-	-	-	-	-
Hospital-Wide	26	18	3	10	5	28%
Infection Control	30	22	2	15	5	23%
Intensive Care	15	8	-	2	6	75%
Internal Medicine	18	-	-	-	-	-
Maternity	21	19	13	4	2	11%
Medication Safety	19	7	-	2	5	71%
Mental Health	27	16	-	9	7	-
Ophthalmology	14	6	2	3	1	17%
Oral Health	9	9	8	1	-	0%
Paediatrics	14	1	-	-	1	100%
Pathology	16	14	1	10	3	21%
Radiation Oncology	6	-	-	-	-	-
Radiology	8	6	-	2	4	67%
Rehabilitation Medicine	6	6	-	1	5	83%
Total	311	178	31	82	65	37%
Percent of tested			17%	46%	37%	

* The relative risk can only be calculated where the centiles are not zero or 100%. CIs with 20 or more submissions and where the potential gains of the CI are at least five are included in this analysis. Only rate-based indicators with desirable rate High (H) or Low (L) were tested.

Table 5 shows that there are 65 CIs (37% of those tested) with high RR (≥10). These occur in 16 of the 17 CI sets tested, and seven CI sets with more than half the CIs having high RR.

Clinical Indicators with significant variations between strata

For each CI, the detailed results identify whether there were statistically different mean rates for 2016 between the three strata: Australian states and territories/New Zealand, public/private and metropolitan/non-metropolitan. This section summarises those results, by identifying the stratum that explains most of the variation in 2016. Table 6 shows the number of CIs that were analysed, and how many had significant stratum differences by CI set.

In 2016 there were 80 CIs with significant differences in mean rates between states and territories of Australia/New Zealand, notably in Emergency Medicine (7), Intensive Care (7), Maternity (10) and Mental Health (10).

In 2016, significant differences between the mean rates for the public and private strata were found in 60 CIs, notably in Hospital-Wide (8) and Maternity (9).

In 2016, there were nine CIs with significant differences between metropolitan and non-metropolitan participants, compared to 14 CIs in 2015.

Outliers

Clinical Indicators and HCOs with significantly different rates

This section uses the data for 2016 to identify desirable and less desirable rates. If a shrunken rate was more than three standard errors from the overall rate, this was considered to be statistically significant. These rates are called outliers.

The reporting of HCOs that are outliers is more relevant to the individual HCOs. Participating HCOs receive reports

Table 6: Number of CIs whose mean rates were statistically significantly different by Australian states and territories/New Zealand, public/private, metropolitan/non-metropolitan in 2016

Clinical Indicator Set	Number of CIs	CIs tested#	State /NZ	Public / private	Metropolitan / non-metropolitan	Any Stratum
Anaesthesia and Perioperative Care	18	13	6	4	0	9
Day Patient	14	14	2	6	0	6
Emergency Medicine	22	9	7	0	0	7
Gastrointestinal Endoscopy	11	9	6	4	0	8
Gynaecology	8	4	0	3	0	3
Hospital in the Home	12	1	0	0	0	0
Hospital-Wide	26	22	6	8	1	11
Infection Control	30	25	5	4	0	8
Intensive Care	16	9	7	5	0	7
Internal Medicine	20	0	0	0	0	0
Maternity	21	20	10	9	0	16
Medication Safety	20	7	5	5	3	7
Mental Health	29	19	10	5	2	12
Ophthalmology	14	9	4	4	0	5
Oral Health	10	9	4	0	3	6
Paediatrics	14	1	1	0	0	1
Pathology	17	10	6	0	0	6
Radiation Oncology	6	2	0	0	0	0
Radiology	8	6	1	0	0	1
Rehabilitation Medicine	6	6	0	3	0	3
Total	322	195	80	60	9	116
Percent of tested			41%	31%	5%	59%

#At least ten HCOs must submit for the CI to be tested. Only rate-based indicators with desirable rate High (H) or Low (L) were tested.

identifying those areas where their rates are statistically significantly different from the overall rate. Outliers are summarised in this report to show that they occur in all sets, and in sufficiently large numbers to suggest that all HCOs would benefit from reviewing their results.

Of the 296 rate-based CIs (with rates that are not 0 or 100%) and 29,146 six-monthly data submissions, those CIs with no preferred direction or CIs that had less than 20 six-monthly data submissions in 2016 were excluded. There remained 197 CIs and 28,255 individual data submissions.

For the 197 rate-based CIs that had a desirable direction and more than 20 six-monthly data submissions, a summary of the number of outlier data submissions is given in **Table 7**. The proportion of data submissions that were outliers with a desirable direction was 15%, the proportion with less desirable rates was 10% and

the remaining 75% of submissions were not outliers in either direction. These proportions varied between the specialities.

In 2016, six sets had more than 15% of submissions classified as outliers in the undesirable direction. They were Emergency Medicine (17%), Intensive Care (16%), Mental Health (16%), Paediatrics (17%), Pathology (24%) and Radiology (20%) and 10 CI sets, including the just mentioned six sets, had a greater number of six-monthly data submissions in the favourable direction than in the unfavourable direction.

Those CIs with a high proportion of outliers were usually associated with process measures such as access block in emergency departments and intensive care units, delays in reporting test results in pathology and radiology, and documentation of and review processes in mental health and medication safety.

Table 7: Number of CIs, HCOs reporting and data submissions in 2016

Clinical Indicator Set	Number of CIs	CIs tested#	HCOs	Data submissions	Undesirable	Desirable
Anaesthesia and Perioperative Care	18	12	241	1,894	13%	33%
Day Patient	14	14	290	3,929	12%	18%
Emergency Medicine	22	8	134	1,243	17%	51%
Gastrointestinal Endoscopy	10	10	80	818	5%	0%
Gynaecology	8	6	60	313	5%	0%
Hospital in the Home	10	-	-	-	-	-
Hospital-Wide	23	22	485	5,556	10%	12%
Infection Control	30	26	351	3,569	4%	3%
Intensive Care	15	9	93	1,011	16%	28%
Internal Medicine	20	-	-	-	-	-
Maternity	20	20	166	4,468	7%	7%
Medication Safety	19	7	256	699	10%	10%
Mental Health	24	18	83	1,093	16%	23%
Ophthalmology	13	9	66	492	4%	0%
Oral Health	10	9	92	1,015	8%	4%
Paediatrics	13	1	17	24	17%	50%
Pathology	16	14	35	561	24%	41%
Radiation Oncology	6	-	-	-	-	-
Radiology	6	6	40	381	20%	45%
Rehabilitation Medicine	6	6	122	1,189	12%	18%
Total	**296**	**197**	**731**	**28,255**	**10%**	**15%**

#CIs with less than 20 six-monthly data submissions were excluded. Hence not all of the 736 contributing HCOs are represented in the above table. Only rate-based indicators with desirable rate High (H) or Low (L) were tested.

Each of the 197 CIs tested were categorised according to whether there were:

- no outlier six-monthly data submissions
- at least one outlier with undesirable rates, none with desirable rates
- at least one outlier with desirable rates, none with undesirable rates
- outliers with both desirable and undesirable rates

Table 8 reveals that 17 of the 197 CIs had no six-monthly data submissions that were outliers and 134 CIs included both undesirable and desirable six-monthly data submissions as outliers.

Can outlier rates be used to rank HCOs?

This has been suggested as a way to improve quality, even though the research literature, in general, does not support the use of 'league tables'.

For the 17 CIs with no outliers, the variation between HCOs was not statistically significant. This means that any ranking would be equivalent to that obtained from tossing a coin or dice. For the remaining 180 CIs, 178 (90% of the 197 tested) have six-monthly data submissions that are outliers in the undesirable direction (with or without other outlier submissions in the desirable direction – **Table 8**).

Table 8: Number of CIs that had six-monthly data submissions that were outliers in 2016*

Outlier category	Number of CIs	Per cent of CIs	Data submissions		
			Range	Median	Mean
No outliers	17	9%	22 - 302	40	73
Undesirable rates only	44	22%	22 - 674	102	149
Desirable rates only	2	1%	29 - 37	33	33
Outliers – undesirable and desirable rates	134	68%	20 - 739	101	152
Total	**197**	**100%**	**20 - 739**	**95**	**143**

*CIs with no less than 20 six-monthly data submissions were excluded. Only rate-based indicators with desirable rate High (H) or Low (L) were tested.

Table 9: Number of HCOs that had CIs that were outliers in 2016*

Outlier category	Number of HCOs	Per cent of HCOs	Number of CIs			Data submissions		
			Range	Median	Mean	Range	Median	Mean
No outliers	160	22%	1 – 25	2	4	1 – 49	4	7
Undesirable rates only	79	11%	1 – 42	9	11	2 – 80	16	19
Desirable rates only	117	16%	2 – 55	16	18	4 – 107	30	32
Outliers – undesirable and desirable rates	375	51%	3 – 97	27	32	3 – 191	50	59
Total	**731**	**100%**	**1 – 97**	**15**	**21**	**1 – 191**	**27**	**39**

*CIs with less than 20 six-monthly data submissions were excluded. Hence not all of the 736 contributing HCOs are represented in the above table. Only rate-based indicators with desirable rate High (H) or Low (L) were tested.

Each of the 731 HCOs that submitted one or more of the 197 CIs tested were categorised according to whether there were:

• no outlier data submissions

• at least one outlier with undesirable rates, none with desirable rates

• at least one outlier with desirable rates, none with undesirable rates

• outliers with both desirable and undesirable rates

The analyses of the outlier rates by HCO reveal that the desirable rates do not cluster into HCOs that have better performance, but that both desirable and undesirable rates occur in 51% of HCOs **(Table 9).** Furthermore, the table shows that HCOs that report fewer CIs have less likelihood of having both desirable and undesirable rates compared to those reporting a greater number of CIs.

From **Table 9**, it can be seen that of the 731 HCOs considered, 375 (51%) HCOs have both desirable and undesirable rates whereas only 79 (11%) HCOs have outliers only in the undesirable direction, a total of 454 HCOs (62%) having at least one outlier in the undesirable direction.

The results from **Table 7** and **Table 9** show that:

• 15% of submissions are in the desirable direction and 10% in the undesirable direction. Thus the majority of six-monthly data submissions (the remaining 75%) are not statistically different from the average **(Table 7)**,

• 62% of the 731 HCOs have some clinical areas with rates that are outliers in the undesirable direction **(Table 9)**.

This suggests that CIs have a greater role in identifying areas for review, rather than for ranking performance.

Summary of Results

A summary of the main observations for each set of CIs follows

Key for 2016 Summary Data sections:

(H) - refers to a High desirable rate

(L) - refers to a Low desirable rate

(N) - refers to a Not Specified rate

"The indicators can be used to demonstrate compliance by hospitals and departments with
a number of the National Safety and Quality Health Service Standards which have since January 2013 been mandatory accreditation standards for all hospitals and day procedure centres in Australia."

Anaesthesia and Perioperative Care

Dr Joanna Sutherland

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General Comments

The development of clinical indicator sets is intended to support quality improvement in clinical practice. The Australian Medical Association (AMA) has defined quality improvement as "an interdisciplinary process, designed to raise the standards of the delivery of preventive, diagnostic, therapeutic and rehabilitative measures in order to maintain, restore or improve health outcomes of individuals and populations".[1]

Aligning with the AMA definition of quality improvement as an interdisciplinary process, and as part of the most recent revision of the ACHS Clinical Indicators for Anaesthesia, the Working Party in 2014 agreed to rename the indicators as the Anaesthesia and Perioperative Care Clinical Indicators. The Working Party was also aware of the challenges faced by hospitals and departments in demonstrating compliance with the Australian Commission on Safety and Quality in Health Care's (ACSQHC) National Safety and Quality Health Service Standards which have (since January 2013) been mandatory accreditation standards for all hospitals and day procedure centres in Australia.[2] Hence some new indicators were developed to address the issues relating to preoperative smoking cessation (Standard 3), patient identification and procedure matching (Standard 5) and interdisciplinary handover of patient care (Standard 6). The Working Party attempted to align new and revised indicators with ANZCA professional standards wherever possible.

Feature Clinical Indicator

CI 1.2: Smoking cessation advised in pre-anaesthesia consultation (H)

"Quit smoking" advice has been identified by ANZCA in their Position Statement [3] as an important component of pre-operative care, and was the focus of National Anaesthesia Day on October 16, 2014. A new clinical indicator has been introduced to reflect the proportion of smokers who are offered such advice and support. This new indicator reflects the role of the anaesthetist as a perioperative physician.

While the day of surgery admissions may make the provision of pre-operative "Quit smoking" advice challenging for many anaesthetists, particularly in private practice, it is possible to incorporate such advice and support as part of delegated pre-admission screening processes. This aligns with the National Standard 3.

References

1. Australian Medical Association. AMA Position Statement on Clinical Indicators_V2. [Internet]. December 2012 [cited 2017 29 June]. Available from: https://ama.com.au/position-statement/clinical-indicators-2012.

2. Australian Commission on Safety and Quality in Health Care. National Safety and Quality Health Service Standards (September 2012). Sydney: ACSQHC; 2012 [cited 2017 29 June]. Available from: https://www.safetyandquality.gov.au/wp-content/uploads/2011/09/NSQHS-Standards-Sept-2012.pdf.

3. Australian and New Zealand College of Anaesthetists (ANZCA). PS12: Guidelines on smoking as related to the perioperative period. ANZCA. [Internet] [cited 2017 29 June]. Available from: http://www.anzca.edu.au/resources/professional-documents/pdfs/ps12-2013-guidelines-on-smoking-as-related-to-the-perioperative-period.pdf.

2016
Summary Data

Pre-anaesthesia period

1.1 Pre-anaesthesia consultation completed by anaesthetist (H)

In 2016, there were 64 records from 37 HCOs. The annual rate was 92.8 per 100 patients. In 2016, the potential gains totalled 6,201 more patients who have complying documentation of risks of anaesthetic procedure(s) at consultation. In 2016, there were eight outlier records from seven HCOs whose combined excess was 5,077 fewer patients who have complying documentation of risks of anaesthetic procedure(s) at consultation. The outlier HCO rate was 56.9 per 100 patients.

1.2 Smoking cessation advised in pre-anaesthesia consultation (H)

In 2016, there were five records from three HCOs. The annual rate was 96.9 per 100 patients who smoke. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there was one outlier record from one HCO whose combined excess was one fewer smokers who have documented quit smoking advice recorded at consultation.

Intraoperative period

2.1 Presence of a trained assistant (H)

In 2016, there were 39 records from 23 HCOs. The annual rate was 96.8 per 100 patients. The fitted rate deteriorated from 96.1 to 94.8, a change of 1.2 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were four outlier records from three HCOs whose combined excess was 3,082 fewer procedures where there is a trained assistant to the anaesthetist. The outlier HCO rate was 80.6 per 100 patients.

2.2 Anaesthesia record compliance with ANZCA requirements (H)

In 2016, there were 84 records from 47 HCOs. The annual rate was 93.8 per 100 patients. The fitted rate deteriorated from 97.8 to 96.5, a change of 1.3 per 100 patients. In 2016, the potential gains totalled 7,915 more compliant anaesthesia records. In 2016, there were nine outlier records from six HCOs whose combined excess was 6,867 fewer compliant anaesthesia records. The outlier HCO rate was 38.2 per 100 patients.

2.3 Time-out procedure: regional anaesthesia (H)

In 2016, there were nine records from six HCOs. The annual rate was 99.6 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

2.4 Prophylactic anti-emetic administered to patients with history of PONV (H)

In 2016, there were 14 records from nine HCOs. The annual rate was 93.3 per 100 patients. The fitted rate improved from 76.5 to 98.5, a change of 22.0 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 22.6 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there was one outlier record from one HCO whose combined excess was one fewer patients to whom a prophylactic anti-emetic has been administered.

Patient recovery period

3.1 Relief of respiratory distress in the recovery period (L)

In 2016, there were 341 records from 182 HCOs. The annual rate was 0.035 per 100 patients. The fitted rate improved from 0.064 to 0.034, a change of 0.030 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.030 per 100 patients. In 2016, the potential gains totalled 372 fewer patients who require intervention to relieve respiratory distress, corresponding to a reduction by approximately two thirds. In 2016, there were 15 outlier records from 11 HCOs whose combined excess was 173 more patients who require intervention to relieve respiratory distress. The outlier HCO rate was 0.27 per 100 patients.

3.2 PONV treatment in the recovery period (L)

In 2016, there were 201 records from 111 HCOs. The annual rate was 0.94 per 100 patients. The fitted rate improved from 1.1 to 0.81, a change of 0.27 per 100 patients. In 2016, the potential gains totalled 6,578 fewer patients undergoing treatment for post-operative nausea and vomiting, corresponding to a reduction by approximately four fifths. In 2016, there were 40 outlier records from 27 HCOs whose combined excess was

3,876 more patients undergoing treatment for post-operative nausea and vomiting. The outlier HCO rate was 3.5 per 100 patients.

3.3 Temperature less than 36 degrees Celsius in the recovery period (L)

In 2016, there were 260 records from 145 HCOs. The annual rate was 2.5 per 100 patients. The fitted rate deteriorated from 1.2 to 2.5, a change of 1.2 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 1.2 per 100 patients. In 2016, the potential gains totalled 24,413 fewer patients with a temperature of less than 36 degrees Celsius, corresponding to a reduction by approximately four fifths. In 2016, there were 41 outlier records from 27 HCOs whose combined excess was 17,790 more patients with a temperature of less than 36 degrees Celsius. The outlier HCO rate was 16.3 per 100 patients.

3.4 Severe pain not responding to pain protocol in the recovery period (L)

In 2016, there were 334 records from 179 HCOs. The annual rate was 0.36 per 100 patients. The fitted rate improved from 0.39 to 0.37, a change of 0.022 per 100 patients. In 2016, the potential gains totalled 4,193 fewer patients who have severe pain not responding to pain protocol, corresponding to a reduction by approximately four fifths. In 2016, there were 47 outlier records from 36 HCOs whose combined excess was 1,987 more patients who have severe pain not responding to pain protocol. The outlier HCO rate was 1.1 per 100 patients.

3.5 Unplanned stay in recovery room longer than 2 hours (L)

In 2016, there were 298 records from 162 HCOs. The annual rate was 1.0 per 100 patients. In 2016, the potential gains totalled 10,330 fewer patients who have an unplanned stay in the post-anaesthesia recovery room for longer than two hours, corresponding to a reduction by approximately four fifths. In 2016, there were 46 outlier records from 34 HCOs whose combined excess was 5,301 more patients who have an unplanned stay in the post-anaesthesia recovery room for longer than two hours. The outlier HCO rate was 3.6 per 100 patients.

4.1 Unplanned ICU admission within 24 hours after procedure (L)

In 2016, there were 200 records from 109 HCOs. The annual rate was 0.14 per 100 patients. In 2016, the potential gains totalled 1,087 fewer patients who have an unplanned admission to an intensive care unit within 24 hours of a procedure, corresponding to a reduction by approximately three quarters. In 2016, there were 29 outlier records from 21 HCOs whose combined excess was 390 more patients who have an unplanned admission to an intensive care unit within 24 hours of a procedure. The outlier HCO rate was 0.41 per 100 patients.

4.2 Documented patient handover - operating suite to recovery area (H)

In 2016, there were 20 records from 13 HCOs. The annual rate was 96.5 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were three outlier records from two HCOs whose combined excess was 998 fewer patients with handover documentation completed from the operating suite to the recovery area. The outlier HCO rate was 86.8 per 100 patients.

4.3 Documented patient handover - recovery area to ward (H)

In 2016, there were 18 records from 12 HCOs. The annual rate was 94.7 per 100 patients. In 2016, the potential gains totalled 1,673 more patients with handover documentation completed from the recovery area to ward. In 2016, there were three outlier records from two HCOs whose combined excess was 1,134 fewer patients with handover documentation completed from the recovery area to ward. The outlier HCO rate was 83.7 per 100 patients.

Management of acute pain

5.1 Pain intensity scores recorded for surgical patients (H)

In 2016, there were 23 records from 14 HCOs. The annual rate was 97.7 per 100 patients. The fitted rate deteriorated from 91.2 to 82.3, a change of 8.9 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016.

2016 SUMMARY DATA

In 2016, there were six outlier records from four HCOs whose combined excess was 148 fewer surgical patients having pain intensity scores recorded regularly. The outlier HCO rate was 92.3 per 100 patients.

5.2 Daily anaesthetist review following postoperative epidural analgesia (H)

In 2016, there were 18 records from 11 HCOs. The annual rate was 99.8 per 100 patients. The fitted rate deteriorated from 99.5 to 99.0, a change of 0.52 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. There were no outlier HCOs in 2016.

Obstetric anaesthesia care

6.1 Obstetric patients experiencing post-dural puncture headache (L)

In 2016, there were 28 records from 17 HCOs. The annual rate was 0.75 per 100 patients. The fitted rate deteriorated from 0.34 to 1.6, a change of 1.2 per 100 patients. In 2016, the potential gains totalled 43 fewer obstetric patients who experience a post-dural puncture headache, corresponding to a reduction by approximately one-third. There were no outlier HCOs in 2016.

6.2 Obstetric patients with risks and benefits of analgesia documented (H)

In 2016, there were nine records from six HCOs. The annual rate was 95.5 per 100 patients. The fitted rate improved from 63.9 to 95.8, a change of 31.9 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 25.3 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were three outlier records from two HCOs whose combined excess was 162 fewer obstetric patients who have documentation of risks and benefits of spinal anaesthesia. The outlier HCO rate was 79.5 per 100 patients.

"Minimising identifiable risks is key
to minimising adverse events and
protecting patients from harm."

Day Patient

Dr George Neale
Representative, Australian Private Hospitals
Association
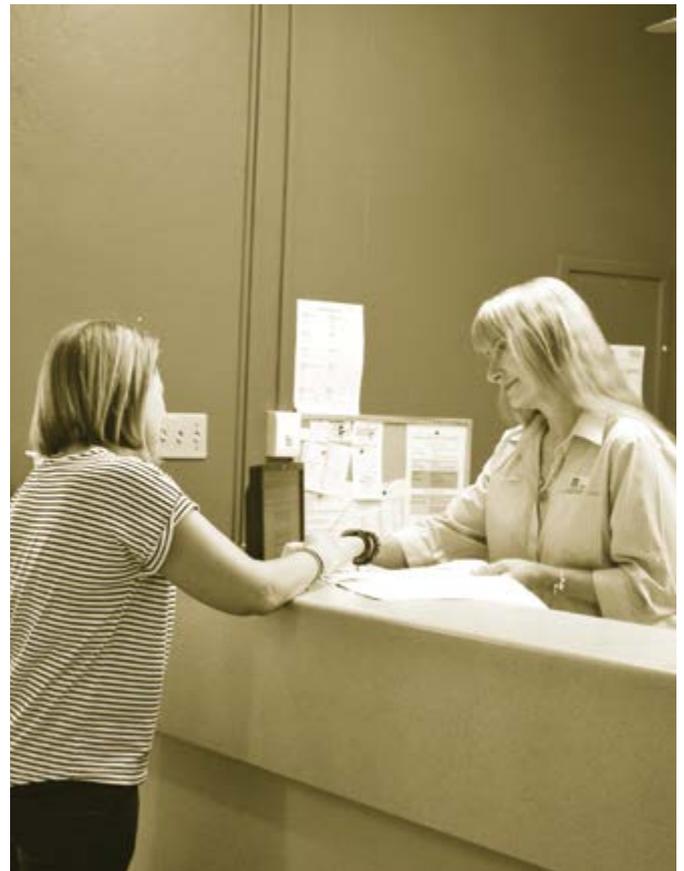
These indicators were developed
in collaboration with the Australian
Commission for Safety and Quality in
Health Care (ACSQHC) and commenced
data collection in 2013.

Source: Australian Commission on Safety and
Quality in Health Care. Indicators of Safety
and Quality - Core outcome indicators for
day procedure services [Available from:
https://www.safetyandquality.gov.au/our-
work/information-strategy/indicators/]

General Comments

The outcomes of many of the indicators are clearly linked. For example, evidence shows the linkage between the indicator CI 1.1 'Booked patients assessed before admission' and CI 2.1 'Booked patients who fail to arrive', as well as the linkage between CIs 3.1 and 3.2 dealing with cancellation of procedures due to a pre-existing medical condition or an acute medical condition. The value of having a good pre-admission assessment of patients is clearly linked to reduced problems associated with the subsequent admission. However, CI 1.1 seems to be poorly subscribed to by healthcare organisations (HCOs). Only 74, 74 and 73 HCOs in 2014, 2015 and 2016 respectively provided data for this CI with the rate trending downwards over the four-year collection period reported. Perhaps this response rate is itself an indicator of the relative value perceived by HCOs of CI 1.1 compared with CIs 2.1, 3.1 and 3.2 which have 200 or more HCOs providing data.

The post discharge follow-up CIs 9.1 'Follow-up phone call within seven days' and 9.2 'Follow-up phone call received by patient or carer within 7 days', are also obviously linked. Both have similar rates with CI 9.2 two points higher at 89.8 per 100 patients than CI 9.1. Interestingly CI 9.1 is trending down slightly whereas CI 9.2 is trending up significantly and both have similar outlier/funnel plot patterns. Not a large number of HCOs subscribe to these indicators which is perhaps more indicative of the lack of systems to adequately collect the data. The differences in the coverage of these two CIs are difficult to ascertain and perhaps it would be best to collect only one of them, preferably CI 9.2. For CI 9.2 it would appear to collect the much more important data on calls which actually reach the patient or carer.

CI 3.3 'Cancellation of the procedure after arrival due to administrative/organisational reasons', is particularly interesting when compared with CIs 3.1 and 3.2. All three CIs are well subscribed by HCOs and are trending down. However, the rate for CI 3.3 of 0.53 per 100 patients is more than twice the rate for CIs 3.1 and 3.2. It would appear that HCOs have less ability to control the administrative aspects within their organisations which can result in the cancellation of a procedure than they have over external influences which result in cancellations due to pre-existing medical conditions and acute medical conditions. Clearly, CI 3.3 identifies an area where more concerted effort is required.

Interesting trends are seen in CIs 6.1 'Unplanned transfer or overnight admission related to the procedure' and CI 6.2 'Unplanned transfer or admission related to ongoing management'. Both CIs provide a good insight into the quality of service and patient outcomes. From an HCO management viewpoint, both are important indicators of areas where the cost of care can escalate significantly. Both CIs show relatively steady rates with CI 6.1 trending up slightly and CI 6.2 trending down slightly. Both indicators show significant outlier patterns and interesting strata differences by sector and by State.

Feature Clinical Indicator

CI 4.1 Patients who experience an adverse event during care delivery (L)

CI 4.1 'Patients who experience an adverse event during care delivery', has as part of its rationale the statement:

'Minimising identifiable risks is key to minimising adverse events and protecting patients from harm.'

The four years of data reported for this CI shows an excellent downward trend from 0.15 per 100 patients in 2013 to 0.082 per 100 patients in 2016. The vast majority of this improvement can be seen in the significant reduction in the 80th centile rate. Prima facie this would indicate less harm to patients and better-quality outcomes.

However, only 126 HCOs provided data for this CI in 2016. It is possible that only those HCOs who have adverse events report data with the denominator being the total number of patients admitted to these 126 HCOs. If this is the case the reported rate is of limited value in a national sense although being an outlier HCO for this CI would be very concerning. Statistical and analytical issues arise as to the value of CI rates based on responses influenced by selectivity by HCOs. Perhaps for clarity, caveats could be included in future reports regarding rates where numerators and denominators are influenced by selectivity rather than a random sample of the HCO population. In these circumstances, the value of other comparators such as the funnel plots and identification of outliers could, in turn, be emphasised.

2016 SUMMARY DATA

2016 Summary Data

Preadmission preparation

1.1 Booked patients assessed before admission (H)

In 2016, there were 129 records from 73 HCOs. The annual rate was 84.9 per 100 patients. The fitted rate deteriorated from 89.8 to 85.3, a change of 4.5 per 100 patients. In 2016, the potential gains totalled 26,530 more patients who receive a pre-admission assessment. In 2016, there were 18 outlier records from 11 outlier HCOs whose combined excess was 17,762 fewer patients who receive a pre-admission assessment. The outlier HCO rate was 42.5 per 100 patients.

Procedure non-attendance

2.1 Booked patients who fail to arrive (L)

In 2016, there were 374 records from 199 HCOs. The annual rate was 0.53 per 100 patients. The fitted rate improved from 0.91 to 0.50, a change of 0.41 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.41 per 100 patients. In 2016, the potential gains totalled 3,684 fewer patients who fail to arrive, corresponding to a reduction by approximately four-fifths. In 2016, there were 55 outlier records from 37 HCOs whose combined excess was 2,086 more patients who fail to arrive. The outlier HCO rate was 2.4 per 100 patients.

Procedure cancellation

3.1 Cancellation of the procedure after arrival due to pre-existing medical condition (L)

In 2016, there were 447 records from 238 HCOs. The annual rate was 0.20 per 100 patients. The fitted rate improved from 0.21 to 0.18, a change of 0.033 per 100 patients. In 2016, the potential gains totalled 1,399 fewer patients who have a procedure cancelled, corresponding to a reduction by approximately three quarters. In 2016, there were 37 outlier records from 30 HCOs whose combined excess was 651 more patients who have a procedure cancelled. The outlier HCO rate was 1.1 per 100 patients.

3.2 Cancellation of the procedure after arrival due to an acute medical condition (L)

In 2016, there were 447 records from 240 HCOs. The annual rate was 0.28 per 100 patients. The fitted

rate improved from 0.27 to 0.25, a change of 0.022 per 100 patients. In 2016, the potential gains totalled 2,006 fewer patients who have a procedure cancelled, corresponding to a reduction by approximately three quarters. In 2016, there were 43 outlier records from 31 HCOs whose combined excess was 1,004 more patients who have a procedure cancelled. The outlier HCO rate was 1.6 per 100 patients.

3.3 Cancellation of procedure after arrival due to administrative/organisational reasons (L)

In 2016, there were 453 records from 242 HCOs. The annual rate was 0.53 per 100 patients. The fitted rate improved from 0.59 to 0.53, a change of 0.052 per 100 patients. In 2016, the potential gains totalled 4,509 fewer patients who have a procedure cancelled, corresponding to a reduction by approximately four fifths. In 2016, there were 70 outlier records from 44 HCOs whose combined excess was 2,743 more patients who have a procedure cancelled. The outlier HCO rate was 2.7 per 100 patients.

Episode of care adverse events

4.1 Patients who experience an adverse event during care delivery (L)

In 2016, there were 228 records from 126 HCOs. The annual rate was 0.082 per 100 patients. The fitted rate improved from 0.15 to 0.081, a change of 0.067 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.064 per 100 patients. In 2016, the potential gains totalled 281 fewer patients who experience an adverse event, corresponding to a reduction by approximately two-thirds. In 2016, there were 17 outlier records from 14 HCOs whose combined excess was 91 more patients who experience an adverse event. The outlier HCO rate was 0.45 per 100 patients.

Unplanned return to the operating room

5.1 Unplanned return to operating room on same day as initial procedure (L)

In 2016, there were 387 records from 208 HCOs. The annual rate was 0.027 per 100 patients. The fitted rate improved from 0.049 to 0.032, a change of 0.017 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.017 per 100 patients. In 2016, the potential gains totalled 134 fewer patients having an unplanned return to the operating/procedure room, corresponding to a reduction by approximately one-half. In 2016, there were 12 outlier records from 11 HCOs whose combined excess was 48 more patients having an unplanned return to the operating / procedure room. The outlier HCO rate was 0.31 per 100 patients.

Unplanned transfer / admission

6.1 Unplanned transfer or overnight admission related to procedure (L)

In 2016, there were 418 records from 223 HCOs. The annual rate was 0.98 per 100 patients. The fitted rate deteriorated from 0.91 to 0.98, a change of 0.071 per 100 patients. In 2016, the potential gains totalled 8,681 fewer patients who have an unplanned transfer or overnight admission, corresponding to a reduction by approximately four-fifths. In 2016, there were 57 outlier records from 35 HCOs whose combined excess was 4,225 more patients who have an unplanned transfer or overnight admission. The outlier HCO rate was 3.4 per 100 patients.

6.2 Unplanned transfer or admission related to ongoing management (L)

In 2016, there were 234 records from 130 HCOs. The annual rate was 0.38 per 100 patients. The fitted rate improved from 0.44 to 0.38, a change of 0.057 per 100 patients. In 2016, the potential gains totalled 1,573 fewer patients who have an unplanned transfer or overnight admission, corresponding to a reduction by approximately four-fifths. In 2016, there were 24 outlier records from 17 HCOs whose combined excess was 814 more patients who have an unplanned transfer or overnight admission. The outlier HCO rate was 2.2 per 100 patients.

Discharge

7.1 Unplanned delayed discharge for clinical reasons greater than 1 hour beyond expected (L)

In 2016, there were 238 records from 129 HCOs. The annual rate was 0.42 per 100 patients. The fitted rate improved from 0.46 to 0.42, a change of 0.031 per 100 patients. In 2016, the potential gains totalled 1,705 fewer patients who have a delayed discharge greater than one hour, corresponding to a reduction by approximately four fifths. In 2016, there were 30 outlier records from 20 HCOs whose combined excess was 1,020 more patients who have a delayed discharge greater than one hour. The outlier HCO rate was 2.4 per 100 patients.

7.2 Unplanned delayed discharge for non-clinical reasons greater than 1 hour beyond expected (L)

In 2016, there were 185 records from 102 HCOs. The annual rate was 0.49 per 100 patients. There was no significant trend in the fitted rate. In 2016, the potential gains totalled 1,503 fewer patients who have a delayed discharge greater than one hour, corresponding to a reduction by approximately four-fifths. In 2016, there were 22 outlier records from 14 HCOs whose combined excess was 972 more patients who have a delayed discharge greater than one hour. The outlier HCO rate was 3.2 per 100 patients.

Departure

8.1 Departure without an escort (L)

In 2016, there were 138 records from 77 HCOs. The annual rate was 0.69 per 100 patients. The fitted rate improved from 0.83 to 0.75, a change of 0.085 per 100 patients. In 2016, the potential gains totalled 1,462 fewer patients discharged without an escort, corresponding to a reduction by approximately four-fifths. In 2016, there were 11 outlier records from eight HCOs whose combined excess was 1,119 more patients discharged without an escort. The outlier HCO rate was 6.0 per 100 patients.

Post-discharge follow-up

9.1 Follow-up phone call within 7 days (H)

In 2016, there were 115 records from 65 HCOs. The annual rate was 87.5 per 100 patients. The fitted rate deteriorated from 91.0 to 88.9, a change of 2.1 per 100 patients. In 2016, the potential gains totalled 15,398 more patients receiving a post discharge telephone call. In 2016, there were 23 outlier records from 18 outlier HCOs whose combined excess was 8,827 fewer patients receiving a post discharge telephone call. The outlier HCO rate was 60.8 per 100 patients.

9.2 Follow-up phone call received by patient or carer within 7 days (H)

In 2016, there were 136 records from 76 HCOs. The annual rate was 89.8 per 100 patients. The fitted rate improved from 75.8 to 88.0, a change of 12.2 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 12.2 per 100 patients. In 2016, the potential gains totalled 17,344 more patients or carers receiving a post discharge telephone call. In 2016, there were 41 outlier records from 29 outlier HCOs whose combined excess was 9,867 fewer patients or carers receiving a post discharge telephone call. The outlier HCO rate was 71.0 per 100 patients.

"We have the opportunity to
embed quality care as part of
our culture, and for it to be
expected and accepted, that close
monitoring with meaningful well-
developed indicators will be one
of the means by which quality
care is objectively assessed."

Emergency Medicine

A/Prof Melinda Truesdale

Quality Management Subcommittee, Australasian
College for Emergency Medicine;
Chair, ACHS Emergency Medicine Working Party

General Comments

The Emergency Medicine Clinical Indicator set version 6
started data collection from July 2016, covering
eight areas, including patient waiting time, ST-
segment elevated myocardial infarction (STEMI)
management, emergency department mental health
presentations, critical care, sepsis management,
discharge communication, pain management an
unplanned attendance.

Waiting time

Compliance by all Emergency Departments (EDs) to
achieve Australasian Triage Scale (ATS) category 1
(CI 1.1) is high, while compliance to achieve category
2 patients seen within 10 minutes (CI 1.2) remained
around 76%. Although it has drifted slightly down
since the peak recorded in 2013, an improvement in
the bottom 20% indicates that there is a consistent
work and focussed attention to deliver timely care
to this cohort of patients. Overall NSW and Victoria
consistently perform the best in this indicator (CI 1.2).
The rate for ATS category 3 within 30 minutes (CI 1.3)
was 64.1%. This has been steadily deteriorating since
its high in 2013 and 2014. Of note, there is a marked
difference between the well-performing states of NSW
and Victoria and the other states with some performing
more than 50% of patients being seen within 30
minutes. Furthermore, it is of interest that although
the number of healthcare facilities reporting has
decreased, the overall number of patients is reasonably
consistent which reflects the marked increase in
patient presentations to EDs. Overall submission to CI
1.4 (ATS category 4) in terms of numbers has fallen by
25% both in the number of healthcare organisations
(HCOs) and total numbers of patients with the data
submitted. The percentage treated, however, is
maintaining close to the 2014 peak with 73.8% being
seen within the one hour. For many EDs, this may be
the largest cohort of patients in term of the number
who present. Often specific processes such as 'fast
track' within a department mean these patients have

The Emergency Medicine clinical
indicators were reviewed in 2015 by
a multidisciplinary Working Party
consisting of representatives from the
Australasian College for Emergency
Medicine (ACEM), the College of
Emergency Nursing Australasia
(CENA) and the Australian Private
Hospitals Association (APHA). The
revised Emergency Medicine clinical
indicator set has been released for data
collection from July 2016.

specific resources or processes allocated to them. It is also pleasing to see that the lower 20th centile is markedly improving. Small numbers of category 5 patients (CI 1.5) who have a recommended time to be seen within two hours have a high percentage achieving this and the lower percentage (20%) is pleasingly continuing to trend moving in an improving manner. For CI 1.6 'Patients who left the ED after triage without being seen (L)', increasing numbers of HCOs have submitted data and it has consistently been just over 3% and slowly decreasing over the last few years. To achieve constant improvement given the increasing number of patient presentations is pleasing.

STEMI management

Time to thrombolysis for patients with a STEMI has long been collected data for ACHS indicators (CI 2.1). This treatment is still required when there are delays in getting a patient to a cardiac catheter laboratory for assessment. Large centres, including some regional ones (many public and most private), offer the facility for cardiac catheter assessment and hence there is an apparent decrease in the number of sites supplying data with respect to thrombolysis. Optimal care is considered to be giving the treatment within a 30-minute time frame. Two indicators on the time to balloon opening in the catheter labatory (CIs 2.2, 2.3) were introduced to the version 6 of the indicator set. Accepted time internationally are within 90 minutes (CI 2.2) but there is a push to achieve times less than 60 minutes (CI 2.3). Achieving 80% within 90 minutes is commendable as re-establishing (re-perfusing) blood supply to the ischaemic muscle preserves cardiac function in the long term. Disappointingly only a few hospitals supplied this data especially given that most large centres use this as their preferred method of treating this cohort of patients. Indeed, ambulance services preferentially seek the larger centres in metropolitan settings to facilitate patients receiving this care.

Mental health presentation

Mental health patients are a vulnerable group in society and there needs to be a focus on their care. This subgroup of patients receiving care and admitted (CI 3.1) / discharged (CI 3.2) within four hours has a poor outcome, especially when compared with all patients who leave or are admitted to hospital within a four-hour time period. Factors involved include limited access to mental health care works (departments

often don't have specific mental health workers after hours to further assess a patient's needs), challenging access to beds for mental health patients is a perennial problem, and timeliness of getting collaborative history from case workers, family and general practitioners can be time-consuming. Governments are focusing resources and funds in this area of medicine but as can be seen, those receiving timely care is a poor result. The discharge data for mental health patients (CI 3.2: 56.2%) is better than that for admitted patients (CI 3.1: 36%) as the access to a mental health bed is not required. Patients presented with a mental health condition who did not wait is in alignment with those who did not wait for all conditions showing just over 3%, which is pleasing given that this cohort of patients often use resources and may feel marginalised (CI 3.3). Furthermore, the 80th centile is decreasing which is also pleasing.

Critical Care

Access to critical care beds is challenging as this is a finite resource. The numbers have also trended with patients often receiving more complex care in the EDs (such as continuous positive airways pressure (CPAP)) rather than going to a high dependency setting. This has an impact on resources including staff and equipment and diverts care away from the next acute patients presenting to the ED. The rate of ED admission within 4 hours before transferred to ICU is 45.2% (CI 4.1). The measure of a rapid response was a newly introduced indicator as a marker of ED assessment and appropriate discharge of the patient to the ward especially given the push to admit patients within four hours to a ward setting due to the finite critical care resource (CI 4.2). This indicator can be suggestive of the number of patients who had a 'predictable' demise in the ward; how many may have required altered vital signs recorded yet these were not altered on the chart, lack of an advanced care directive; and how many had been referred to ICU/HDU yet went to the ward possibly as a consequence of an inability to access a critical care bed. Unfortunately, only a few hospitals submitted the data which is surprising given that it is a component of most hospital morbidity and mortality analysis and the recording, and Medical Emergency Team or 'code blue' response data collection.

Sepsis management

CI 5.1 'Time to antibiotics administration for paediatric patients within 60 minutes' only had data submitted by

EXPERT COMMENTARY
Australasian College for Emergency Medicine (ACEM)

two hospitals. This is disappointing as an audit of 40-50 patients would easily be able to be completed by listing this sample of patients with an ICD diagnosis of sepsis and then pulling the histories. Certainly, hospitals with an electronic medical record can easily obtain the list of these patients and manually collect/analyse this data sample. Optimally all patients who have a diagnosis of sepsis should receive antibiotics within an hour of arrival and thus a rate of one in three is unexpectedly low. Time to antibiotics for sepsis in the adult population (CI 5.2) similarly has not had data submitted in any meaningful amount. Given the heightened awareness (especially in Victoria) of the 'sepsis kills' campaign, it would be prudent to encourage institutions to collect this manual audit information and then some meaningful benchmarking would be able to be achieved. Patients with sepsis should receive antibiotics within an hour of presentation to an ED.

Discharge communication

Although only a small number of HCOs presented data, it is pleasing that 75% had data evidence of information being provided to the primary carer to best ensure cohesion of the information to enable the continuity of care (CI 6.1). Electronic medical records have facilitated information being generated about patients in the form of discharge letters (on paper or electronically sent to nominated general practitioners). 75% is a high percentage; however the capture probably isn't complete as sometimes the ED staff will call the primary carer directly and discuss the patient; therefore to capture this additional data would require a manual audit of the histories. It is well known that patients often are unable to absorb fully every detail of a consultation, and with that, there is the potential for 'non-compliance' with instructions and in turn suboptimal patient management post consultation. Given that patients written information (CI 6.2) improves compliance and facilitates their feeling that they are in partnership with their care, the number of returned audit data is not able to be commented on.

Pain management

Pain should be addressed in a timely manner for patients. Recording a pain score acts as an independent 'vital sign' and information for healthcare workers to address the patient's subjective assessment and may also act as a prompt to give timely analgesia (CI 7.1). This indicator requires a manual audit of randomly selected histories data; however, it is disappointing that not all states have been able to supply this data submission. Best practice suggests timely analgesia is within 30 minutes. Auditing and giving the staff knowledge of performance in their

departments can act as a prompt to improve care. These indicators will be addressed in more details in 'Feature Clinical Indicator'.

Unplanned re-attendances

Patients with unplanned re-attendances may be due to many reasons such as progression or change of symptoms of the initial presenting condition or the patient may wish to seek clarification of their concerns. Patients who have an unplanned readmission to the hospital can indicate suboptimal initial assessment (CI 8.1). The data can be easily obtained by most data systems and one would 'normally' expect this is about 2-3% of patients who may fall into this category. One in 10 patients is unusually high and would require a deeper interrogation to determine how this occurred.

Feature Clinical Indicator

Area 7: Pain management

Indicators are not just in place to 'score' a set of goals, rather they should be a driver for improved performance. Indicators prompt reflective thoughts and through monitoring and evaluation, hopefully, drive changes to improve quality care. Improvements can be driven by a focus on indicators through motivation as a psychological push for people to strive for better performance. We have the opportunity to embed quality care as part of our culture, and for it to be expected and accepted that close monitoring with meaningful well-developed indicators will be one of the means by which quality care is objectively assessed. Equally important, there needs to be a system and framework that provides a basis to foster the care that each of us would wish to receive as a patient.

Pain is the most common complaint of people who present to an ED in Australia and patients expect analgesia to be received in the ED within 30 minutes.[1-5] Some studies have shown that patients with moderate to severe pain have waited more than 60 minutes.[4] The documentation of pain using a descriptive pain score (0 no pain to 10 the worst pain imaginable) in the triage assessment has been shown in some studies to improve the time taken for patients to receive analgesia post arrival to the ED and can serve as a benchmarking tool with respect to triage assessments. Having the trigger present and a common terminology in use can act as a focal point for nursing staff and allied health practitioners to advocate for the patient to have early analgesia prescribed even prior to a formal doctor's assessment of the patient.

Time to analgesia is important to a patient's perception of their management in an ED. By educating staff regarding the use of pain scores, the adoption of a common terminology, and empowerment for the nursing staff to request analgesia on behalf of the patient, hopefully, the care for the patient also improves. Auditing of an ED's time to analgesia can be a feedback loop for staff, and awareness can act as a prompt through heightened awareness to continue to strive to improve (by decreasing) this time interval.

Having given initial analgesia, it is relevant then to reassess the patient's pain level and be in partnership with the patient to decide if further analgesia is required. Documentation of the patient's condition (by recording the pain score again and therefore if further analgesia is required for comfort measure) is an indicator of the quality of care a patient receives as is the documentation of this care.

One appreciates that the audit of pain management for most HCOs would require a manual audit of data. Some institutions have used the removal of a drug of dependency as recorded in the pharmacy records as a surrogate to assess the time of analgesia for patients with a moderate to severe pain score which makes collecting the data easier. With an electronic record, it is possible to review the triage notes to determine if a pain score was recorded at triage. The 30-minute reassessment of pain for most hospitals (unless a full electronic record is used) would require recalling the history and searching for the relevant documentation. A random sampling would make the data collection less burdensome and easier to comply.

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Emergency Medicine

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General Comments

The report covers appropriate indicators. It was interesting to read and see the improvement in the areas such as ICU admission times, pain management and discharge information. Improvement has also been observed in areas such as 'did not wait' and 'time to antibiotic'.

Feature Clinical Indicators

CI 3.1: Mental health patients admitted from the ED within 4 hours (H)

There is a need to improve the assessment time and disposition of these patients in general emergency departments. This needs highlighting as it is an increasing problem especially with the increase in aggression and violence.

CI 6.1: Documented evidence of clinical management plan provided to an ongoing care provider (H)

This needs to be highlighted as increasing in importance as we progress to more community services being provided.

2016 Summary Data

Waiting time

1.1 ATS Category 1 - medically assessed and treated immediately (H)

In 2016, there were 206 records from 124 HCOs. The annual rate was 99.6 per 100 patients. The fitted rate improved from 99.2 to 99.6, a change of 0.39 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were six outlier records from four outlier HCOs whose combined excess was 74 fewer patients allocated ATS Category 1 who are medically assessed and treated immediately. The outlier HCO rate was 93.9 per 100 patients

1.2 ATS Category 2 - medically assessed and treated within 10 minutes (H)

In 2016, there were 226 records from 134 HCOs. The annual rate was 76.4 per 100 patients. The fitted rate improved from 78.0 to 78.3, a change of 0.27 per 100 patients. In 2016, the potential gains totalled 75,109 more patients allocated ATS Category 2 who are medically assessed and treated within 10 minutes. In 2016, there were 35 outlier records from 24 outlier HCOs whose combined excess was 23,068 fewer patients allocated ATS Category 2 who are medically assessed and treated within 10 minutes. The outlier HCO rate was 59.5 per 100 patients.

1.3 ATS Category 3 - medically assessed and treated within 30 minutes (H)

In 2016, there were 226 records from 134 HCOs. The annual rate was 64.1 per 100 patients. The fitted rate improved from 62.6 to 65.7, a change of 3.1 per 100 patients. In 2016, the potential gains totalled 387,208 more patients allocated ATS Category 3 who are medically assessed and treated within 30 minutes. In 2016, there were 44 outlier records from 26 outlier HCOs whose combined excess was 113,054 fewer patients allocated ATS Category 3 who are medically assessed and treated within 30 minutes. The outlier HCO rate was 43.7 per 100 patients.

1.4 ATS Category 4 - medically assessed and treated within 60 minutes (H)

In 2016, there were 226 records from 134 HCOs. The annual rate was 73.8 per 100 patients. The fitted rate improved from 66.4 to 75.2, a change of 8.8 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 8.5 per 100 patients. In 2016, the potential gains totalled 294,389 more patients allocated ATS Category 4 who are medically assessed and treated within 60 minutes. In 2016, there were 53 outlier records from 34 outlier HCOs whose combined excess was 82,523 fewer patients allocated ATS Category 4 who are medically assessed and treated within 60 minutes. The outlier HCO rate was 58.7 per 100 patients.

1.5 ATS Category 5 - medically assessed and treated within 120 minutes (H)

In 2016, there were 224 records from 133 HCOs. The annual rate was 91.3 per 100 patients. The fitted rate improved from 85.1 to 91.2, a change of 6.0 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 6.0 per 100 patients. In 2016, the potential gains totalled 18,510 more patients allocated ATS Category 5 who are medically assessed and treated within 120 minutes. In 2016, there were 38 outlier records from 25 outlier HCOs whose combined excess was 6,619 fewer patients allocated ATS Category 5 who are medically assessed and treated within 120 minutes. The outlier HCO rate was 81.5 per 100 patients.

1.6 Patients who left the ED after triage without being seen (L)

In 2016, there were 87 records from 53 HCOs. The annual rate was 3.4 per 100 patients. The fitted rate improved from 4.7 to 3.2, a change of 1.5 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 1.5 per 100 patients. In 2016, the potential gains totalled 30,426 fewer who leave the ED after triage without being seen, corresponding to a reduction by approximately one half. In 2016, there were 23 outlier records from 15 HCOs whose combined excess was 12,234 more who leave the ED after triage without being seen. The outlier HCO rate was 5.8 per 100 patients.

ST-segment elevated myocardial infarction (STEMI) management

2.1 STEMI patients who receive thrombolytic therapy within 30 minutes (H)

In 2016, there were 10 records from 10 HCOs. The

2016 SUMMARY DATA

annual rate was 62.1 per 100 patients. There were no potential gains in 2016.

2.2 Time to balloon opening within 90 minutes (H)

In 2016, there were four records from four HCOs. The annual rate was 81.0 per 100 patients. There were no potential gains in 2016.

2.3 Time to balloon opening within 60 minutes (H)

In 2016, there was one record from one HCO. The annual rate was 34.5 per 100 patients. There were no potential gains in 2016.

Emergency department mental health presentations

3.1 Mental health patients admitted from the ED within 4 hours (H)

In 2016, there were 21 records from 21 HCOs. The annual rate was 36.0 per 100 mental health patients. In 2016, the potential gains totalled 2,356 more admitted mental health patients whose total ED time is less than four hours. In 2016, there were five outlier records from five outlier HCOs whose combined excess was 625 fewer admitted mental health patients whose total ED time is less than four hours. The outlier HCO rate was 13.3 per 100 mental health patients.

3.2 Mental health patients discharged from the ED within 4 hours (H)

In 2016, there were 18 records from 18 HCOs. The annual rate was 56.2 per 100 mental health patients. In 2016, the potential gains totalled 1,614 more discharged mental health patients whose total ED time is less than four hours. In 2016, there were five outlier records from five outlier HCOs whose combined excess was 649 fewer discharged mental health patients whose total ED time is less than four hours. The outlier HCO rate was 26.6 per 100 mental health patients.

3.3 Mental health patients who did not wait following clinical documentation (L)

In 2016, there were 27 records from 18 HCOs. The annual rate was 3.4 per 100 mental health patients. The fitted rate improved from 5.0 to 4.0, a change of 0.97 per 100 mental health patients. In 2016, the potential gains totalled 482 fewer mental health patients who did not wait following clinical documentation, corresponding to a reduction by approximately three quarters. In 2016, there were two outlier records from one HCO whose combined excess was 311 more mental health patients who did not wait following clinical documentation. The outlier HCO rate was 10.7 per 100 mental health patients.

Critical care

4.1 ED time within 4 hours for ICU admissions (H)

In 2016, there were 16 records from 16 HCOs. The

annual rate was 45.2 per 100 patients. In 2016, the potential gains totalled 962 more ED patients transferred to the ICU whose total ED time is less than 4 hours. In 2016, there were three outlier records from three outlier HCOs whose combined excess was 249 fewer ED patients transferred to the ICU whose total ED time is less than 4 hours. The outlier HCO rate was 28.1 per 100 patients.

4.2 Rapid response system call within 4 hours of admission to the ward from the ED (L)

In 2016, there were three records from three HCOs. The annual rate was 0.23 per 100 patients. In 2016, the potential gains totalled 14 fewer rapid response system calls within 4 hours of admission to the ward from the ED, corresponding to a reduction by approximately one-half. In 2016, there was one outlier record from one HCO whose combined excess was eight more rapid response system calls within 4 hours of admission to the ward from the ED. The outlier HCO rate was 0.49 per 100 patients.

Sepsis management

5.1 Time of antibiotic administration for paediatric patients within 60 minutes (H)

In 2016, there were two records from two HCOs. The annual rate was 33.3 per 100 paediatric patients. There were no potential gains in 2016.

5.2 Time of antibiotic administration for adult patients within 60 minutes (H)

In 2016, there were three records from three HCOs. The annual rate was 65.4 per 100 adult patients. In 2016, the potential gains totalled 17 more adult patients with a primary diagnosis of sepsis who receive antibiotics within 60 minutes of arrival.

Discharge communication

6.1 Documented evidence of clinical management plan provided to an ongoing care provider (H)

In 2016, there were six records from six HCOs. The annual rate was 76.5 per 100 patients. In 2016, the potential gains totalled 6,505 more patients whose ongoing care provider is provided with discharge communication from the ED. In 2016, there were two outlier records from two outlier HCOs whose combined excess was 3,522 fewer patients whose ongoing care provider is provided with discharge communication from the ED. The outlier HCO rate was 57.4 per 100 patients.

6.2 Documented evidence of patient-centred discharge information and instructions provided to the patient or carer (H)

In 2016, there were four records from four HCOs. The annual rate was 58.0 per 100 patients. In 2016, the

potential gains totalled 4,778 more patients/carers provided with patient-centred discharge information and instructions.

Pain management

7.1 Documented initial pain assessment at triage (H)

In 2016, there were four records from four HCOs. The annual rate was 47.7 per 100 patients. In 2016, the potential gains totalled 27,177 more ED patients who have a documented initial pain assessment. In 2016, there was one outlier record from one outlier HCO whose combined excess was 12,052 fewer ED patients who have a documented initial pain assessment. The outlier HCO rate was 6.0 per 100 patients.

7.2 Analgesic therapy within 30 minutes for all patients with moderate or severe pain (H)

In 2016, there were three records from three HCOs. The annual rate was 21.5 per 100 patients. In 2016, the potential gains totalled 3,057 more ED patients with moderate or severe pain who receive analgesic therapy within 30 minutes.

7.3 Documented pain reassessment within 30 minutes of analgesic therapy (H)

In 2016, there was one record from one HCO. The annual rate was 76.0 per 100 patients. There were no potential gains in 2016.

Unplanned re-attendance

8.1 Patients who have an unplanned re-attendance to the ED within 48 hours of initial presentation and who require admission (L)

In 2016, there were 16 records from 16 HCOs. The annual rate was 2.5 per 100 patients. In 2016, the potential gains totalled 4,298 fewer patients who have an unplanned re-attendance to the ED within 48 hours and who require admission, corresponding to a reduction by approximately two thirds. In 2016, there were two outlier records from two HCOs whose combined excess was 2,201 more patients who have an unplanned re-attendance to the ED within 48 hours and who require admission. The outlier HCO rate was 10.0 per 100 patients.

Key Facts:

It is pleasing to note that the rates recorded for the four CIs below all fall well within internationally accepted rates, which are:

INCOMPLETE COLONOSCOPY

<10%

POST-POLYPECTOMY PERFORATION

<1/500

OVERALL PERFORATION

<1/1000

POST-POLYPECTOMY BLEEDING

<1/100

Source:

Feature Report, Development in Gastrointestinal Endoscopy, *ACIR 18th Edition 2009-2016*

Gastrointestinal Endoscopy

Dr Mark Stephens
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Chair, ACHS Gastrointestinal Endoscopy Working Party

General Comments

Gastrointestinal endoscopy remains the gold standard for investigation of the gastrointestinal tract and as such, in essence, the main method of ensuring that endoscopy is of the highest standard is a comparison with other centres. As an investigation that is mainly done on a day-only basis, often without prior consultation, accurate clinical indicators with respect to complications are important to properly inform the patient/consumer about the risks involved.

The clinical indicators principally measure hospital performance. Substantial attention has been given to ensure that data collection was relatively easy for each centre considering the number of endoscopies performed on an annual basis.

The Gastrointestinal Society of Australia has recently introduced a voluntary recertification in colonoscopy which will only improve the standard of endoscopy.

Feature Clinical Indicators

3.1 Malignancies diagnosed at colonoscopy (N)

3.2 Malignancies not detected at another colonoscopy within past 5 years (L)

In Australia, colorectal cancer (CRC) is the second biggest cancer killer.[1] The incidence of bowel cancer increases exponentially with age.[2] With an annual incidence of more than 13,000 cases and close to 4,000 deaths annually, CRC is a common and serious cancer that is largely preventable, its natural history is well understood, there is an identifiable precursor lesion (adenomatous polyp) which may safely be removed at colonoscopy and early detection has a proven impact on mortality.[2, 3] Adenomatous polyps can be regarded as premalignant lesions; their removal can prevent the later evolution of cancer.[4] All polyps should be considered for removal, and the tissue submitted for histological review.[5]

In principle, if all adenomas were detected and removed, no polyps should have undergone a malignant transformation during the interval period (currently five years for the National Bowel Cancer Screening Program). However, quality of colonoscopy technique is known to influence detection rates of polyps.[5] The quality of colonoscopy is dependent on the quality of the bowel preparation, the state of repair and type of colonoscope used as well as the ability of the endoscopist with regard to an adequate inspection of the entire colon and their ability to detect lesions.

Endoscopists are being encouraged by their professional bodies to undergo structured training and importantly periodic retraining and recertification on a triennial basis.[6] This training includes documentation of adenoma detection rates and evidence of complete colonoscopy. The program has been developed over several years and brings Australia into line with international trends and with increasing consumer expectations regarding medical professionals.

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GESA
Gastroenterological
Society of Australia

"Gastroenterological Society of Australia has recently introduced a voluntary recertification in colonoscopy which will only improve the standard of endoscopy."

2016 Summary Data

Failure to reach caecum

1.1 Failure to reach caecum due to inadequate bowel preparation (L)

In 2016, there were 91 records from 50 HCOs. The annual rate was 0.50 per 100 colonoscopies. The fitted rate deteriorated from 0.37 to 0.50, a change of 0.13 per 100 colonoscopies. In 2016, the potential gains totalled 281 fewer incomplete colonoscopies performed, corresponding to a reduction by approximately one-half. In 2016, there were 12 outlier records from seven HCOs whose combined excess was 145 more incomplete colonoscopies performed. The outlier HCO rate was 1.8 per 100 colonoscopies.

1.2 Failure to reach caecum due to diseased colon (L)

In 2016, there were 77 records from 41 HCOs. The annual rate was 0.31 per 100 colonoscopies. There was no significant trend in the fitted rate. In 2016, the potential gains totalled 170 fewer incomplete colonoscopies performed, corresponding to a reduction by approximately two-thirds. In 2016, there were eight outlier records from six HCOs whose combined excess was 65 more incomplete colonoscopies performed. The outlier HCO rate was 1.4 per 100 colonoscopies.

1.3 Failure to reach caecum due to instrument failure (L)

In 2016, there were 75 records from 40 HCOs. The annual rate was 0.008 per 100 colonoscopies. There was no significant trend in the fitted rate. There were no potential gains in 2016.

1.4 Failure to reach caecum for any other reason (L)

In 2016, there were 77 records from 41 HCOs. The annual rate was 0.43 per 100 colonoscopies. The fitted rate deteriorated from 0.22 to 0.39, a change of 0.17 per 100 colonoscopies. In 2016, the potential gains totalled 314 fewer incomplete colonoscopies performed, corresponding to a reduction by approximately four-fifths. In 2016, there were 13 outlier records from 10 HCOs whose combined excess was 159 more incomplete colonoscopies performed. The outlier HCO rate was 2.2 per 100 colonoscopies.

Adverse outcomes - colonoscopy / polypectomy

2.1 Treatment for possible perforation post-polypectomy (L)

In 2016, there were 115 records from 62 HCOs. The annual rate was 0.019 per 100 colonoscopies with polypectomy. There was no significant trend in the fitted rate. There were no potential gains in 2016.

2.2 Treatment for possible perforation post-colonoscopy (L)

In 2016, there were 110 records from 61 HCOs. The annual rate was 0.023 per 100 colonoscopies. The fitted rate improved from 0.037 to 0.022, a change of 0.015 per 100 colonoscopies. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.015 per 100 colonoscopies. There were no potential gains in 2016.

2.3 Post-polypectomy haemorrhage (L)

In 2016, there were 99 records from 53 HCOs. The annual rate was 0.089 per 100 colonoscopies with polypectomy. The fitted rate improved from 0.22 to 0.074, a change of 0.15 per 100 colonoscopies with polypectomy. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.15 per 100 colonoscopies with polypectomy. In 2016, the potential gains totalled 24 fewer patients who have bleeding related to polypectomy, corresponding to a reduction by approximately one-third. In 2016, there was one outlier record from one HCO whose combined excess was two more patients who have bleeding related to polypectomy. The outlier HCO rate was 0.57 per 100 colonoscopies with polypectomy.

Colorectal cancer

3.1 Malignancies diagnosed at colonoscopy (N)

In 2016, there were 44 records from 26 HCOs. The annual rate was 1.1 per 100 colonoscopy patients. There was no significant trend in the fitted rate. In 2016, the potential gains totalled 24 fewer patients who have bleeding related to polypectomy, corresponding to a reduction by approximately one-third.

3.2 Malignancies not detected at another colonoscopy within past 5 years (L)

In 2016, there were 23 records from 14 HCOs. The annual rate was 12.8 per 100 patients. The fitted rate improved from 19.3 to 12.2, a change of 7.0 per 100 patients. In 2016, the potential gains totalled 11 fewer patients diagnosed with a colorectal malignancy within 5 years of their most recent colonoscopy, corresponding to a reduction by approximately one quarter.

Oesophageal dilatation - perforation

4.1 Oesophageal dilatation - possible perforation (L)

In 2016, there were 66 records from 38 HCOs. The annual rate was 0.34 per 100 patients. The fitted rate deteriorated from 0.14 to 0.32, a change of 0.18 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.21 per 100 patients. In 2016, the potential gains totalled eight fewer patients treated for possible oesophageal perforation, corresponding to a reduction by approximately one-half. In 2016, there were two outlier records from two HCOs whose combined excess was six more patients treated for possible oesophageal perforation. The outlier HCO rate was 3.3 per 100 patients.

Aspiration following GI endoscopy

5.1 Aspiration following endoscopy (L)

In 2016, there were 85 records from 46 HCOs. The annual rate was 0.036 per 100 patients. The fitted rate deteriorated from 0.021 to 0.033, a change of 0.011 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016.
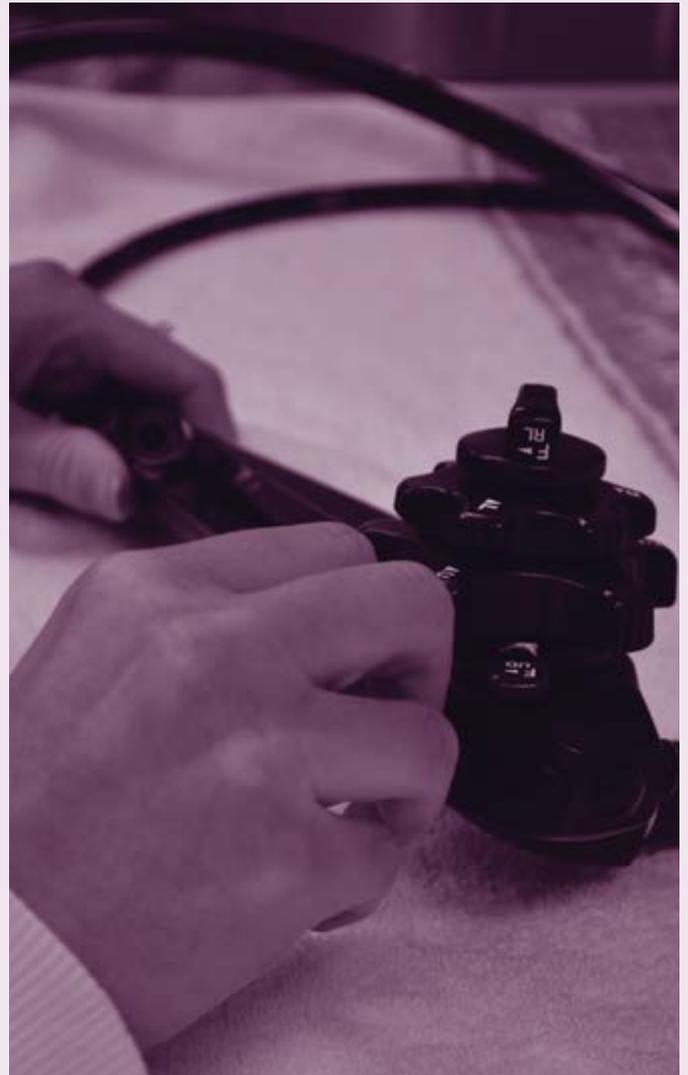
"This year for the second
consecutive time we saw an
increase in the number of
participating HCOs after a
recent downward trend. The
strength of the indicators
is in their numbers and
high participation rates are
essential."

Gynaecology

Dr Martin Ritossa

Board member, Royal Australian and New Zealand
College of Obstetricians and Gynaecologists;
Chair, ACHS Gynaecology Working Party

General Comments

This year for the second consecutive time we saw
an increase in the number of participating HCOs
after a recent downward trend. The strength of the
indicators is in their numbers and high participation
rates are essential.

This year's report demonstrated another decrease in
the blood transfusion rate for benign gynaecological
conditions and a continued downward trend of the
rate of blood transfusion after surgery for malignant
conditions. Thromboprophylaxis rates remain high at
87% and the rate of readmission for thromboembolism
remains low at less than 0.05 per 100 cases. This
result may be influenced by the recent trend to
outpatient treatment of thromboembolism with oral
anticoagulants. Hysterectomy rates as a percentage
of inpatient procedures for menorrhagia continue to
fall, currently sitting at 23.9%. There were two outlying
HCOs with twice this rate. The use of mesh for vaginal
prolapse surgery continues to fall and it is of interest
that there is now a Senate inquiry into this type of
surgery. ACHS has been tracking the rate of mesh
usage for the last three years aiming for a low rate
of utilisation.

One concern is the ongoing increase in the rate of
injury to major viscous with repair. With the increased
complexity of patients and decreased number of
hysterectomies, this may be unavoidable. However,
health units should closely review their cases looking
for possible avoidable causes.

Feature Clinical Indicator

Area 5: Mesh repair

The first vaginal mesh implant was approved by the Food and Drug Administration (FDA) of the United States in 2002. Following approval, there was a rapid uptake in the use of polypropylene mesh around the world with the hope of significantly reducing the rate of repeat surgery for recurrent prolapse.

In 2008, the FDA issued the first formal warning to physicians and the general public in regard to the unique complications associated with transvaginal synthetic mesh use for the repair of pelvic organ prolapse (POP). In spite of this warning, utilisation of mesh for the repair of POP actually increased in the following years. In 2011, the FDA provided an update stating that poor outcomes associated with vaginal mesh use were no longer considered rare. An accompanying literature search concluded that most cases of POP could be treated without mesh and there was no compelling evidence that the use of vaginal mesh showed greater success rates or durability over conventional surgery, particularly with regard to the vault and the posterior vaginal compartment. As a result of these reports, many vaginal mesh kits have now been removed from the market by manufacturers. Recently the Australian government commenced a Senate inquiry into "Number of women in Australia who have had transvaginal mesh implants and related matters".[1] This enquiry is investigating a number

of patients who have had mesh placed as well as complications, incentives given to use or promote mesh, information given to doctors about mesh complications and the role of the Therapeutic Goods Administration (TGA) in accessing suitability and measuring outcomes.

This year there has been an increase in the number of HCOs who have submitted data for this indicator. There were 14 HCOs who participated and more than 1,400 cases. The use of mesh implants for POP surgery is now at the lowest level reported, being a rate of 6 per 100 patients. Given the concerns surrounding mesh complications, this is a pleasing result.

Conclusions are limited by the relatively small number of HCOs reporting and a trend toward inserting mesh via an abdominal route. The move to the abdominal placement of mesh may mean that this report understates the decline in utilisation of vaginal mesh for gynaecological surgery as both procedures are included in the CI.

The use of mesh via an abdominal route is not thought to have the same complication profile as the vaginal application of mesh. However one must urge caution when a procedure is undertaken by an expanding number of surgeons in a larger number of patients, as unexpected complications may become apparent. HCOs should ensure that practitioners performing abdominal placement of vaginal mesh are suitably credentialed.

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2016 Summary Data

Blood transfusion

1.1 Gynaecological surgery for benign disease - unplanned intraoperative or postoperative blood transfusion (L)

In 2016, there were 85 records from 46 HCOs. The annual rate was 0.74 per 100 patients. There was no significant trend in the fitted rate. In 2016, the potential gains totalled 131 fewer patients undergoing gynaecological surgery for benign disease receiving an unplanned blood transfusion, corresponding to a reduction by approximately one third. In 2016, there were five outlier records from four HCOs whose combined excess was 44 more patients undergoing gynaecological surgery for benign disease receiving an unplanned blood transfusion. The outlier HCO rate was 3.4 per 100 patients.

1.2 Gynaecological surgery for malignant disease - unplanned intraoperative or postoperative blood transfusion (L)

In 2016, there were 40 records from 22 HCOs. The annual rate was 5.7 per 100 patients. The fitted rate improved from 8.8 to 4.9, a change of 3.9 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 4.0 per 100 patients. In 2016, the potential gains totalled 18 fewer patients undergoing gynaecological surgery for malignant disease receiving an unplanned blood transfusion, corresponding to a reduction by approximately one fifth. There were no outlier HCOs in 2016.

Injury to a major viscus

2.1 Gynaecological surgery - injury to a major viscus with repair (L)

In 2016, there were 102 records from 54 HCOs. The annual rate was 0.63 per 100 patients. The fitted rate deteriorated from 0.30 to 0.56, a change of 0.27 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.28 per 100 patients. In 2016, the potential gains totalled 133 fewer patients suffering an injury to a major viscus, corresponding to a reduction by approximately one third. In 2016, there were four outlier records from three HCOs whose combined excess was 36 more patients suffering an injury to a major viscus. The outlier HCO rate was 2.3 per 100 patients.

Laparoscopic management of an ectopic pregnancy

3.1 Ectopic pregnancy managed laparoscopically (H)

In 2016, there were 39 records from 23 HCOs. The annual rate was 89.0 per 100 patients. The fitted rate improved from 79.5 to 85.0, a change of 5.5 per 100 patients. In 2016, the potential gains totalled 69 more patients having the laparoscopic management of an ectopic pregnancy. In 2016, there were three outlier records from three HCOs whose combined excess was 28 fewer patients having the laparoscopic management of an ectopic pregnancy. The outlier HCO rate was 56.9 per 100 patients.

Thromboprophylaxis for major gynaecological surgery

4.1 Thromboprophylaxis for major gynaecological surgery (H)

In 2016, there were 18 records from nine HCOs. The annual rate was 87.1 per 100 patients. In 2016, the potential gains totalled 169 more patients undergoing major gynaecological surgery receiving thromboprophylaxis. In 2016, there were two outlier records from one HCO whose combined excess was 84 fewer patients undergoing major gynaecological surgery receiving thromboprophylaxis. The outlier HCO rate was 64.0 per 100 patients.

4.2 Re-admission for venous thromboembolism within 28 days (L)

In 2016, there were 15 records from eight HCOs. The annual rate was 0.046 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

Mesh repair

### 5.1 Use of mesh repair for pelvic organ prolapse (L)

In 2016, there were 25 records from 14 HCOs. The annual rate was 6.0 per 100 patients. In 2016, the potential gains totalled 80 fewer patients having mesh repair for pelvic organ prolapse, corresponding to a reduction by approximately four fifths. In 2016, there were three outlier records from three HCOs whose combined excess was 43 more patients having mesh repair for pelvic organ prolapse. The outlier HCO rate was 29.0 per 100 patients.

Menorrhagia

6.1 Surgical intervention for menorrhagia (L)

In 2016, there were 22 records from 12 HCOs. The annual rate was 23.9 per 100 patients. In 2016, the potential gains totalled 90 fewer patients undergoing a hysterectomy for menorrhagia, corresponding to a reduction by approximately one quarter. In 2016, there were two outlier records from two HCOs whose combined excess was 24 more patients undergoing a hysterectomy for menorrhagia. The outlier HCO rate was 56.7 per 100 patients.
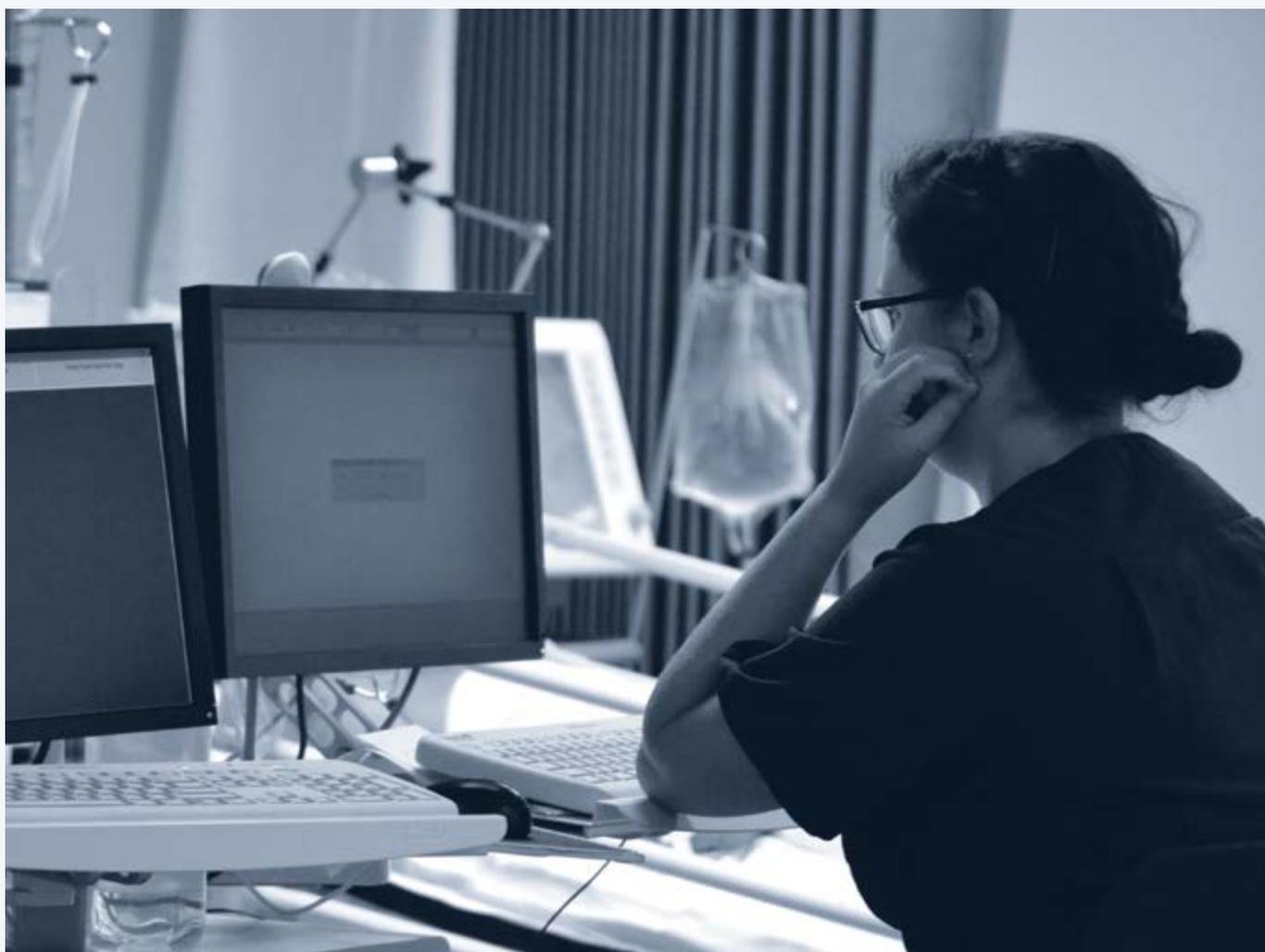
EXPERT COMMENTARY

Hospital in the Home Society
Australasia (HITHSA)

"HITH services are now embedded
in Australian Healthcare and
provide consumer-centred care
for increasing complex clients
at home. It is essential that the
care is safe and equivalent to
inpatient care in terms of quality
and safety."

Hospital in the Home

A/Prof Mary O'Reilly

Vice President, Hospital in the Home Society Australasia;
Chair, ACHS Hospital in the Home Working Party

General Comments

HITH services are now embedded in Australian
healthcare and provide consumer-centred care for
increasingly complex clients at home. It is essential
that this care is safe and equivalent to inpatient care in
terms of quality and safety. The HITH clinical indicators
were revised in September 2015 following consultation
with the sector and have been updated to reflect the
changing case mix to ensure currency and relevance.

Denominators have been updated to HITH patient bed
days to permit benchmarking.

Data, rather than being amalgamated across age
groups, is now separated into a combined adult/
paediatric group and a separate neonatal group as it is
recognised these groups are not comparable. There are
inadequate paediatric patient bed days to separate out
this group at this stage.

The Hospital in the Home clinical indicators
were reviewed in 2015 by a multidisciplinary
Working Party consisting of representatives
from the Hospital in the Home Society
Australasia (HITHSA) and the Australian
Private Hospitals Association (APHA).
The revised Hospital in the Home clinical
indicator set has been released for data
collection from July 2016.

Indicators cover three areas:

1. Patient safety, selection, communication and care coordination.

This group now separates unexpected clinical calls from administrative calls to reflect the differing significance of each. Excessive administrative calls may reflect organisational operational efficiency and in general, should be minimised. Clinical calls related to deterioration and escalation should be encouraged to support patient safety and higher numbers may reflect case-mix complexity. Analysis of clinical calls can also assist with a range of issues including appropriate patient selection and ongoing review and clinical management analysis is necessary to look at overall service risk management.

2. Service interruption

These indicators measure both unplanned readmissions and returns to Emergency Departments. This facilitates healthcare organisations (HCOs) to focus on the preventable subgroup of service interruptions. These service interruptions have implications for both the HITH patient experience and health care systems recource utilisation including access and flow.

3. Unexpected deaths

Review of deaths is critical to ensure patient safety. This indicator has been modified to exclude expected deaths in the palliative care setting, as this is an area which some HITH services are involved, facilitating patient and family choice when HITH level care is required for symptom control. This care aligns with national priorities regarding the end of life care.

Feature Clinical Indicator

2.1 Unplanned admission to hospital - adult or paediatric (L)

This facilitates HCOs to focus on the preventable subgroup of service interruptions. These service interruptions have implications for both the HITH patient experience and also health care systems including access and flow in Emergency Departments and inpatient settings.

This indicator may reflect patient selection, the complexity of care, clinical care during HITH and escalation capability of the HITH service internally, both in hours and in particular, after hours. HITH services should review service interruptions focusing on preventable service interruptions to improve the quality of care and reduce patient risk.

HITH care has become increasingly complex over time and it is noted that some services manage more complex patients, with the patient/carers and services accepting a higher risk of readmission in order to trial patient centred care at home.

There is considerable variation in unplanned service interruption across HITH services; some of which may relate to the patient mix; however, this suggests opportunities for improvement. Of note, nearly half of the reported unplanned service interruptions occurred within the first 24 hours of HITH care. This early subgroup suggests opportunities for enhancing patient assessment and management prior to transfer.

2016 Summary Data

Patient safety, selection, communication and care coordination

1.1 Unexpected clinical telephone calls - adult/paediatric patient (N)

In 2016, there were six records from six HCOs. The annual rate was 1.1 per 100 bed days.

1.2 Unexpected clinical telephone calls - neonatal patient (N)

In 2016, there were two records from two HCOs. The annual rate was 0 per 100 bed days.

1.3 Unexpected administrative telephone calls - adult/paediatric patient (L)

In 2016, there were four records from four HCOs. The annual rate was 0.86 per 100 bed days. In 2016, the potential gains totalled 12 fewer unexpected administrative telephone calls on behalf of adult/paediatric patients, corresponding to a reduction by approximately four-fifths.

1.4 Unexpected administrative telephone calls - neonatal patient (L)

No data has been submitted for this indicator.

1.5 Unscheduled clinical assessment - adult/paediatric patient (L)

In 2016, there were eight records from eight HCOs. The annual rate was 0.22 per 100 bed days. In 2016, the potential gains totalled 32 fewer unscheduled clinical assessments of adult/paediatric patients, corresponding to a reduction by approximately four- fifths. In 2016, there was one outlier record from one HCO whose combined excess was six more unscheduled clinical assessments of adult/paediatric patients. The outlier HCO rate was 0.85 per 100 bed days.

1.6 Unscheduled clinical assessment - neonatal patient (L)

No data has been submitted for this indicator.

Service interruption

2.1 Unplanned return to hospital - adult/paediatric patient (L)

In 2016, there were 15 records from 15 HCOs. The annual rate was 1.2 per 100 bed days. In 2016, the potential gains totalled 257 fewer unplanned returns to the hospital of adult/paediatric patients, corresponding to a reduction by approximately three quarters. In 2016, there were five outlier records from five HCOs whose combined excess was 135 more unplanned returns to the hospital of adult/paediatric patients. The outlier HCO rate was 10.1 per 100 bed days.

2.2 Unplanned return to hospital - neonatal patient (L)

In 2016, there were three records from three HCOs. The annual rate was 0.80 per 100 bed days. There were no potential gains in 2016.

2.3 Unplanned return to hospital within 24 hours - adult/paediatric patient (L)

In 2016, there were 11 records from 11 HCOs. The annual rate was 0.23 per 100 bed days. In 2016, the potential gains totalled 46 fewer unplanned returns to the hospital within 24 hours of adult/paediatric patients, corresponding to a reduction by approximately four-fifths. In 2016, there were three outlier records from three HCOs whose combined excess was 17 more unplanned returns to the hospital within 24 hours of adult/paediatric patients. The outlier HCO rate was 1.8 per 100 bed days.

2.4 Unplanned return to hospital within 24 hours - neonatal patient (L)

In 2016, there was one record from one HCO. The annual rate was 0 per 100 bed days. There were no potential gains in 2016.

Unexpected deaths

3.1 Unexpected deaths during HITH admission - adult/paediatric patient (L)

In 2016, there were nine records from nine HCOs. The annual rate was 0.006 per 100 bed days. There were no potential gains in 2016.

3.2 Unexpected deaths during HITH admission - neonatal patient (L)

No data has been submitted for this indicator.

"Following the decision by the ACHS Board and the Royal Australasian College of Surgeons to close the Surgical Clinical Indicators set, the Hospital-Wide Clinical Indicator Working Party, in conjunction with the College, identified selected relevant Surgical Clinical Indicators that were seen to fit within the Hospital-Wide ethos. These were incorporated into the Hospital-wide set."

Source: User Manual
          Chair – Hospital-Wide Working Party,
          RACMA

Hospital Wide

A/Prof Virginia Plummer
Representative, Australian College of Nursing;
Member, ACHS Hospital-Wide Working Party

General Comments

More than half of hospitalised patients will fall and approximately one quarter will receive an injury as a result, contributing to the longer length of stay (LOS).[1] Further, those who fall and are uninjured may also have an increased LOS[2] due to, for example, fear, loss of independence, reduced mobility. The risk of falling increases with age.[3] Both the patient population and the workforce is ageing and resource allocation needs to match the requirements of those practising, researching and managing in this group of indicators.

The Hospital-Wide clinical Indicator set was the first clinical indicator set released in 1993. The current set of clinical indicators was reviewed in 2014 by a multidisciplinary Working Party consisting of representatives from the Royal Australasian College of Medical Administrators (RACMA), the Royal Australasian College of Surgeons (RACS), the Australian College of Nursing (ACN) and the Australian Private Hospitals Association (APHA). The revised Hospital-Wide clinical indicators set incorporates selected Surgical clinical indicators and has been released for data collection from July 2016.

Feature Clinical Indicators

CI 3.1: Inpatients who develop one or more pressure injuries (L)

Hospital acquired pressure injury is commonly viewed as a nurse-sensitive indicator. The impact of nursing care on prevention may be complicated by patient factors, for example, patients who decline repositioning or nutritional guidance. Levine[4] talks about unavoidable pressure injuries in the context of end-of-life wounds or skin injuries, noting that the skin dies in the terminal phase of life in the same way as the other organs. The terminology is not agreed and includes skin failure and terminal ulceration. Pressure injuries may occur to the skin and mucosa of lips and mouth in association with the fastening of an endotracheal tube.[5] This injury is also viewed as a nurse sensitive indicator, with prevention being the role of nurses who are able to consult the evidence on the fasteners and techniques which best manage the risk. The National Pressure Ulcer Advisory Panel has revised the terminology and definitions to better describe pressure injuries and removed terms 'ulcer', 'suspected' and included injuries caused by medical devices and to the mucosa.[6] There has been a change to Arabic numerals and an increase to six stages of pressure injury.[6]

CI 8.1: Rapid response system calls to adult patients (N)

The diurnal timing of rapid response calls (RRCs) appears to have significant implications for patient mortality and morbidity; patient outcomes are worse if RRC occurs out of hours. This finding has implications for staffing and resource allocation,[7, 8] and the role of a Critical Care Liaison Nurse in RRCs should be explored.[7] Salvatierra et al[9] noted in their study of 471,062 adult patients hospitalised between 2001 and 2009, that although in-hospital mortality improved post introduction of RRC teams, long term in-hospital mortality was trending down.

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2016 Summary Data

Hospital readmissions

1.1 Unplanned and unexpected readmissions within 28 days (L)

In 2016, there were 501 records from 264 HCOs. The annual rate was 1.1 per 100 separations. The fitted rate improved from 1.4 to 1.1, a change of 0.32 per 100 separations. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.32 per 100 separations. In 2016, the potential gains totalled 35,744 fewer unplanned and unexpected readmissions within 28 days, corresponding to a reduction by approximately four-fifths. In 2016, there were 79 outlier records from 54 HCOs whose combined excess was 18,869 more unplanned and unexpected readmissions within 28 days. The outlier HCO rate was 3.9 per 100 separations.

Return to the operating room

2.1 Unplanned return to the operating room during the same admission (L)

In 2016, there were 410 records from 217 HCOs. The annual rate was 0.26 per 100 patients. The fitted rate improved from 0.35 to 0.25, a change of 0.099 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.099 per 100 patients. In 2016, the potential gains totalled 3,675 fewer patients having an unplanned return to the operating room, corresponding to a reduction by approximately two-thirds. In 2016, there were 39 outlier records from 28 HCOs whose combined excess was 1,067 more patients having an unplanned return to the operating room. The outlier HCO rate was 0.66 per 100 patients.

2.2 Reviewed cases following an unplanned return to the operating room (H)

In 2016, there were 102 records from 58 HCOs. The annual rate was 99.7 per 100 patients having an unplanned return to the operating room. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were two outlier records from one HCO whose combined excess was three fewer cases reviewed following an unplanned return to the operating room. The outlier HCO rate was 85.2 per 100 patients having an unplanned return to the operating room.

Pressure injuries

3.1 Inpatients who develop 1 or more pressure injuries (L)

In 2016, there were 724 records from 414 HCOs. The annual rate was 0.071 per 100 bed days. In 2016, the potential gains totalled 6,733 fewer patients who develop one or more pressure injuries, corresponding to a reduction by approximately three-quarters. In 2016, there were 49 outlier records from 36 HCOs whose combined excess was 2,289 more patients who develop one or more pressure injuries. The outlier HCO rate was 0.16 per 100 bed days.

Inpatient falls

4.1 Inpatient falls (L)

In 2016, there were 739 records from 400 HCOs. The annual rate was 0.33 per 100 bed days. In 2016, the potential gains totalled 24,681 fewer inpatient falls, corresponding to a reduction by approximately one-third. In 2016, there were 163 outlier records from 111 HCOs whose combined excess was 9,281 more inpatient falls. The outlier HCO rate was 0.60 per 100 bed days.

4.2 Inpatient falls resulting in fracture or closed head injury (L)

In 2016, there were 674 records from 362 HCOs. The annual rate was 0.008 per 100 bed days. In 2016, the potential gains totalled 568 fewer inpatient falls resulting in a fracture or closed head injury, corresponding to a reduction by approximately one-third. In 2016, there were 20 outlier records from 16 HCOs whose combined excess was 169 more inpatient falls resulting in a fracture or closed head injury. The outlier HCO rate was 0.029 per 100 bed days.

4.3 Inpatient falls - patients 65 years and older (L)

In 2016, there were 403 records from 224 HCOs. The annual rate was 0.48 per 100 bed days. In 2016, the potential gains totalled 10,270 fewer inpatient falls in inpatients aged 65 years and older, corresponding to a reduction by approximately one-third. In 2016, there were 64 outlier records from 52 HCOs whose combined excess was 3,833 more inpatient falls in inpatients aged 65 years and older. The outlier HCO rate was 0.82 per 100 bed days.

Patient deaths

5.1 Patient deaths addressed within a clinical audit process (H)

In 2016, there were 365 records from 205 HCOs. The annual rate was 94.9 per 100 deaths. The fitted rate improved from 94.6 to 95.1, a change of 0.55 per 100 deaths. In 2016, the potential gains totalled 1,090 more patient deaths addressed within a clinical audit process. In 2016, there were 22 outlier records from 16 HCOs whose combined excess was 860 fewer patient deaths

addressed within a clinical audit process. The outlier HCO rate was 70.1 per 100 deaths.

5.2 Deaths in adult patients who do not have an NFR order (L)

In 2016, there were 98 records from 58 HCOs. The annual rate was 0.13 per 100 patients. In 2016, the potential gains totalled 855 fewer deaths in adult patients who DO NOT have a not for resuscitation order, corresponding to a reduction by approximately four-fifths. In 2016, there were 15 outlier records from 12 HCOs whose combined excess was 464 more deaths in adult patients who DO NOT have a not for resuscitation order. The outlier HCO rate was 0.50 per 100 patients.

5.3 Adult deaths (L)

In 2016, there were 114 records from 66 HCOs. The annual rate was 1.0 per 100 patients. In 2016, the potential gains totalled 8,577 fewer adult deaths, corresponding to a reduction by approximately three-quarters. In 2016, there were 33 outlier records from 21 HCOs whose combined excess was 2,622 more adult deaths. The outlier HCO rate was 1.9 per 100 patients.

5.4 Coronary artery graft surgery (CAGS) - death (L)

In 2016, there were 52 records from 28 HCOs. The annual rate was 1.3 per 100 patients. The fitted rate improved from 1.7 to 1.2, a change of 0.54 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.55 per 100 patients. In 2016, the potential gains totalled 21 fewer patients who die in the same admission as having CAGS, corresponding to a reduction by approximately one-quarter. In 2016, there was one outlier record from one HCO whose combined excess was four more patients who die in the same admission as having CAGS. The outlier HCO rate was 7.2 per 100 patients.

5.5 Elective coronary artery graft surgery - death (L)

In 2016, there were 24 records from 13 HCOs. The annual rate was 0.88 per 100 patients. There was no significant trend in the fitted rate. There was relatively little variation between HCOs and so the potential gains were small in 2016. There were no outlier HCOs in 2016.

5.6 Coronary artery graft surgery patients aged 71 years or older - death (L)

In 2016, there were 25 records from 14 HCOs. The annual rate was 1.7 per 100 patients. The fitted rate improved from 2.6 to 1.9, a change of 0.71 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained

significant. The rate change was 0.68 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. There were no outlier HCOs in 2016.

5.7 Elective abdominal aortic aneurysm (AAA) open repair - death (L)

In 2016, there were 27 records from 17 HCOs. The annual rate was 1.6 per 100 patients. There was no significant trend in the fitted rate. There were no potential gains in 2016. There were no outlier HCOs in 2016.

Blood transfusion

6.1 Significant adverse blood transfusion events (L)

In 2016, there were 345 records from 184 HCOs. The annual rate was 0.097 per 100 transfusions. The fitted rate improved from 0.27 to 0.13, a change of 0.14 per 100 transfusions. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.14 per 100 transfusions. In 2016, the potential gains totalled 40 fewer significant adverse blood transfusion events, corresponding to a reduction by approximately one-third. In 2016, there were four outlier records from four HCOs whose combined excess was 14 more significant adverse blood transfusion events. The outlier HCO rate was 0.80 per 100 transfusions.

6.2 Transfusion episodes where informed patient consent was not documented (L)

In 2016, there were 168 records from 94 HCOs. The annual rate was 2.7 per 100 transfusions. In 2016, the potential gains totalled 631 fewer transfusion episodes performed without consent, corresponding to a reduction by approximately four-fifths. In 2016, there were 18 outlier records from 13 HCOs whose combined excess was 459 more transfusion episodes performed without consent. The outlier HCO rate was 16.9 per 100 transfusions.

6.3 RBC transfusion where Hb reading is 100 g/dL or more (L)

In 2016, there were 141 records from 78 HCOs. The annual rate was 1.0 per 100 transfusions. In 2016, the potential gains totalled 126 fewer transfusions where Hb reading is 100g/L or more, corresponding to a reduction by approximately one-half. In 2016, there were 13 outlier records from 10 HCOs whose combined excess was 96 more transfusions where Hb reading is 100g/L or more. The outlier HCO rate was 6.2 per 100 transfusions.

2016 SUMMARY DATA

Thromboprophylaxis

7.1 VTE prophylaxis administered to high risk medical patients (N)

In 2016, there were nine records from six HCOs. The annual rate was 89.3 per 100 high-risk medical patients. There were no potential gains in 2016. Since it has not been specified whether high or low rates are desirable, outlier HCOs are not reported.

Minimum standards for rapid response system (RRS) calls

8.1 Rapid response system calls to adult patients (N)

In 2016, there were 204 records from 113 HCOs. The annual rate was 2.6 per 100 admissions. There were no potential gains in 2016. Since it has not been specified whether high or low rates are desirable, outlier HCOs are not reported.

8.2 Rapid response system calls to adult patients within 24 hours of admission (N)

In 2016, there were 142 records from 79 HCOs. The annual rate was 0.59 per 100 admissions. There were no potential gains in 2016. Since it has not been specified whether high or low rates are desirable, outlier HCOs are not reported.

8.3 Adult patients experiencing cardiopulmonary arrest (L)

In 2016, there were 294 records from 154 HCOs. The annual rate was 0.076 per 100 admissions. In 2016, the potential gains totalled 852 fewer adult patients who experience a cardiopulmonary arrest, corresponding to a reduction by approximately one-half. In 2016, there were 22 outlier records from 16 HCOs whose combined excess was 405 more adult patients who experience a cardiopulmonary arrest. The outlier HCO rate was 0.22 per 100 admissions.

8.4 Rapid response system attendances within 5 minutes (H)

In 2016, there were 99 records from 53 HCOs. The annual rate was 94.8 per 100 rapid response system calls to adult patients. In 2016, the potential gains totalled 852 more rapid response system calls attended to within five minutes. In 2016, there were seven outlier records from six HCOs whose combined excess was 439 fewer rapid response system calls attended to within five minutes. The outlier HCO rate was 81.3 per 100 rapid response system calls to adult patients.

8.5 Adult deaths avoided by rapid response system calls (H)

In 2016, there were 15 records from nine HCOs. The annual rate was 95.6 per 100 rapid response system calls to adult patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there was one outlier record from one HCO whose combined excess was 13 fewer adult deaths avoided due to rapid response system calls. The outlier HCO rate was 92.0 per 100 rapid response system calls to adult patients.

Surgery

9.1 Pre-operative acute appendicitis (children) - normal histology (L)

In 2016, there were 29 records from 18 HCOs. The annual rate was 13.1 per 100 children with a pre-operative diagnosis of acute appendicitis who undergo appendicectomy. In 2016, the potential gains totalled 17 fewer children who undergo appendicectomy with normal histology, corresponding to a reduction by approximately one-fifth. There were no outlier HCOs in 2016.

9.2 Laparoscopic cholecystectomy - bile duct injury requiring operative intervention (L)

In 2016, there were 119 records from 64 HCOs. The annual rate was 0.31 per 100 patients. There was no significant trend in the fitted rate. In 2016, the potential gains totalled 16 fewer patients having a laparoscopic cholecystectomy with a bile duct injury requiring operative intervention, corresponding to a reduction by approximately one-third. In 2016, there was one outlier record from one HCO whose combined excess was two more patients having a laparoscopic cholecystectomy with a bile duct injury requiring operative intervention. The outlier HCO rate was 2.9 per 100 patients.

9.3 Tonsillectomy - significant reactionary haemorrhage (L)

In 2016, there were 103 records from 54 HCOs. The annual rate was 0.57 per 100 patients. There was no significant trend in the fitted rate. In 2016, the potential gains totalled 45 fewer patients who have a significant reactionary haemorrhage following tonsillectomy, corresponding to a reduction by approximately one-half. In 2016, there were five outlier records from three HCOs whose combined excess was 19 more patients who have a significant reactionary haemorrhage following tonsillectomy. The outlier HCO rate was 5.6 per 100 patients.

"Overall, it is noted that there appears to be consistent downward trends with most of the infection related indicators that have large numbers of contributing healthcare facilities."

Infection Control

Dr Philip Russo

Board member and Chair of Research Committee, Australasian College for Infection Prevention and Control; **Chair**, ACHS Infection Control Working Party (2017 revision)

General Comments

Overall, it is noted that there appears to be consistent downward trends with most of the infection related indicators that have large numbers of contributing healthcare facilities. This is a positive finding and may be due to a number of factors relating to improvements in quality of care and stronger infection prevention and control programs.

In general, the reporting of surgical site infection (SSI) rates for clean surgical procedures are a reasonable indicator of infection prevention processes. However, for all of the SSI CIs, it would be beneficial if data were stratified by risk, as not all patients are at the same risk of developing an SSI. It is well documented that reliability of superficial SSI data is questionable. Superficial SSI are often not detected for a number of reasons, namely because they manifest post-discharge, patients do not return to the hospital with a minor infection managed in the community without reporting to the site of the procedure. This, compounded by a lack of robust uniform post-discharge surveillance method, results in low reliability of reported superficial SSI data. Data on deep and organ space SSI

The Infection Control clinical indicator set is currently under review by a multidisciplinary Working Party consisting of representatives from the Australasian College for Infection Prevention and Control (ACIPC), the Australian College of Nursing (ACN) and the Australian Private Hospitals Association (APHA). The revised Infection Control clinical indicator set will be released for data collection in 2018.

are likely to be more reliable as generally, these infections result in representation to the site of the procedure, and consequently identified by routine SSI surveillance processes.

It is also important to keep in mind when reporting data from both public and private sectors it is not uncommon for patients who undergo a procedure at a private facility and develop an SSI may have the SSI managed in a public facility. This may not be reported back to the private facility where the patient originally had their surgery performed. This transfer issue is also likely to occur between public facilities where a patient with an SSI is managed at a different site from where the procedure occurred. Without centralised coordination and communication, the potential exists for a proportion of SSI to never be reported. Future broadening of CIs may want to consider a contaminated procedure such as a colon surgery, as evidence exists the implementation of surgical bundles can decrease SSI rates in these procedures.

Whilst compliance of surgical antibiotic prophylaxis with national guidelines is a reasonable process indicator, the data set in these indicators is relatively small. This may explain some of the yearly variation that is demonstrated in some of the indicators, rather than the effect of any quality improvement activities.

Data reported for immunisation and occupational health exposure provides some useful benchmarks for participating sites. Some caveat needs to be considered. Some states set their own benchmark for vaccination rates, and data on 'vaccine refusers' are not included. This may explain some variation in the data.

Feature Clinical Indicator

CI 4.1: VRE infection within the ICU (L)

Three years of data on VRE infection bloodstream infection within the ICU demonstrate large variability. The 2016 rate is more than half of that reported in 2015, and also less than that reported in 2014. It is difficult to confidently explain the decrease in rates from 2015. Factors such as improved antimicrobial stewardship and improved compliance with infection prevention practices may influence this rate. Further data on all ICU bloodstream infections would be beneficial to detect the overall trend of all cause infections, similarly, it would be useful to know if trends for other multi-resistant organisms mirror that of VRE, particularly those that are subject to the same preventive action as VRE.

2016 Summary Data

Infection surveillance

1.1 Superficial SSI - hip prosthesis procedure (L)

In 2016, there were 307 records from 162 HCOs. The annual rate was 0.46 per 100 procedures. The fitted rate improved from 0.75 to 0.42, a change of 0.33 per 100 procedures. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.32 per 100 procedures. In 2016, the potential gains totalled 54 fewer superficial incisional SSIs, corresponding to a reduction by approximately one-third. In 2016, there were five outlier records from five HCOs whose combined excess was seven more superficial incisional SSIs. The outlier HCO rate was 4.2 per 100 procedures.

1.2 Deep or organ/space SSI - hip prosthesis procedure (L)

In 2016, there were 307 records from 162 HCOs. The annual rate was 0.60 per 100 procedures. There was no significant trend in the fitted rate. In 2016, the potential gains totalled 33 fewer deep incisional/organ space SSIs, corresponding to a reduction by approximately one-fifth. In 2016, there was one outlier record from one HCO whose combined excess was one more deep incisional/organ space SSIs. The outlier HCO rate was 4.8 per 100 procedures.

1.3 Superficial SSI - knee prosthesis procedure (L)

In 2016, there were 304 records from 161 HCOs. The annual rate was 0.40 per 100 procedures. The fitted rate improved from 0.59 to 0.37, a change of 0.23 per 100 procedures. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.22 per 100 procedures. In 2016, the potential gains totalled 68 fewer superficial incisional SSIs, corresponding to a reduction by approximately one-third. In 2016, there was one outlier record from one HCO whose combined excess was two more superficial incisional SSIs. The outlier HCO rate was 15.4 per 100 procedures.

1.4 Deep or organ/space SSI - knee prosthesis procedure (L)

In 2016, there were 302 records from 160 HCOs. The annual rate was 0.34 per 100 procedures. The fitted rate improved from 0.41 to 0.33, a change of 0.085 per 100 procedures. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.078 per 100 procedures. In 2016, the potential gains totalled 22 fewer deep incisional/organ space SSIs, corresponding to a reduction by approximately one-tenth. There were no outlier HCOs in 2016.

1.5 Superficial SSI to chest incision site - CABG (L)

In 2016, there were 69 records from 37 HCOs. The annual rate was 1.3 per 100 procedures. There was no significant trend in the fitted rate. In 2016, the potential gains totalled 37 fewer superficial incisional SSIs, corresponding to a reduction by approximately one-third. In 2016, there were two outlier records from two HCOs whose combined excess was eight more superficial incisional SSIs. The outlier HCO rate was 4.7 per 100 procedures.

1.6 Deep or organ/space SSI to chest incision site - CABG (L)

In 2016, there were 71 records from 38 HCOs. The annual rate was 0.54 per 100 procedures. The fitted rate improved from 1.0 to 0.70, a change of 0.30 per 100 procedures. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.26 per 100 procedures. There were no potential gains in 2016. There were no outlier HCOs in 2016.

1.7 Superficial SSI - LSCS (L)

In 2016, there were 149 records from 80 HCOs. The annual rate was 0.52 per 100 procedures. The fitted rate improved from 0.78 to 0.52, a change of 0.26 per 100 procedures. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.25 per 100 procedures. In 2016, the potential gains totalled 113 fewer superficial incisional SSIs, corresponding to a reduction by approximately one-half. In 2016, there were four outlier records from four HCOs whose combined excess was 18 more superficial incisional SSIs. The outlier HCO rate was 4.7 per 100 procedures.

1.8 Deep or organ/space SSI - LSCS (L)

In 2016, there were 149 records from 80 HCOs. The annual rate was 0.16 per 100 procedures. There was no significant trend in the fitted rate. In 2016, the potential gains totalled 35 fewer deep incisional/organ space SSIs, corresponding to a reduction by approximately one-half. In 2016, there were four outlier records from three HCOs whose combined excess was 11 more deep incisional/organ space SSIs. The outlier HCO rate was 0.75 per 100 procedures.

Surgical antibiotic prophylaxis (SAP)

2.1 Timing of SAP for the hip prosthesis procedure (H)

In 2016, there were 45 records from 28 HCOs. The annual rate was 94.1 per 100 procedures. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were three outlier records from three HCOs whose combined excess was 53 fewer patients who receive surgical antibiotic prophylaxis within one hour prior to induction. The outlier HCO rate was 76.1 per 100 procedures.

2.2 Correct SAP and dose for the hip prosthesis procedure (H)

In 2016, there were 48 records from 29 HCOs. The annual rate was 88.4 per 100 procedures. In 2016, the potential gains totalled 259 more patients who receive the correct surgical antibiotic prophylaxis and dose. In 2016, there were nine outlier records from seven HCOs whose combined excess was 143 fewer patients who receive the correct surgical antibiotic prophylaxis and dose. The outlier HCO rate was 59.3 per 100 procedures.

2.3 Discontinuation of SAP within 24 hours of the hip prosthesis procedure (H)

In 2016, there were 43 records from 27 HCOs. The annual rate was 82.1 per 100 procedures. In 2016, the potential gains totalled 382 more patients whose surgical antibiotic prophylaxis is discontinued within 24 hours. In 2016, there were five outlier records from four HCOs whose combined excess was 141 fewer patients whose surgical antibiotic prophylaxis is discontinued within 24 hours. The outlier HCO rate was 54.0 per 100 procedures.

2.4 Timing of SAP for the knee prosthesis procedure (H)

In 2016, there were 41 records from 27 HCOs. The annual rate was 96.1 per 100 procedures. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were three outlier records from three HCOs whose combined excess was 62 fewer patients who receive surgical antibiotic prophylaxis within one hour prior to induction. The outlier HCO rate was 73.5 per 100 procedures.

2.5 Correct SAP and dose for the knee prosthesis procedure (H)

In 2016, there were 45 records from 28 HCOs. The annual rate was 91.1 per 100 procedures. In 2016, the potential gains totalled 295 more patients who receive the correct surgical antibiotic prophylaxis and dose. In 2016, there were nine outlier records from seven HCOs whose combined excess was 137 fewer patients who receive the correct surgical antibiotic prophylaxis and dose. The outlier HCO rate was 69.0 per 100 procedures.

2.6 Discontinuation of SAP within 24 hours of the knee prosthesis procedure (H)

In 2016, there were 40 records from 26 HCOs. The annual rate was 87.0 per 100 procedures. In 2016, the potential gains totalled 345 more patients whose surgical antibiotic prophylaxis is discontinued within 24 hours. In 2016, there were five outlier records from five HCOs whose combined excess was 137 fewer patients whose surgical antibiotic prophylaxis is discontinued within 24 hours. The outlier HCO rate was 60.4 per 100 procedures.

2.7 Timing of SAP for the CABG procedure (H)

In 2016, there were 10 records from six HCOs. The annual rate was 88.7 per 100 procedures. In 2016, the potential gains totalled 73 more patients who receive surgical antibiotic prophylaxis within one hour prior to induction. In 2016, there was one outlier record from one HCO whose combined excess was 34 fewer patients who receive surgical antibiotic prophylaxis within one hour prior to induction. The outlier HCO rate was 30.0 per 100 procedures.

2.8 Correct SAP and dose for the CABG procedure (H)

In 2016, there were six records from four HCOs. The annual rate was 94.3 per 100 procedures. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there was one outlier record from one HCO whose combined excess was seven fewer patients who receive the correct surgical antibiotic prophylaxis and dose. The outlier HCO rate was 86.1 per 100 procedures.

2.9 Discontinuation of SAP within 24 hours of the CABG procedure (H)

In 2016, there were eight records from five HCOs. The annual rate was 89.7 per 100 procedures. In 2016, the potential gains totalled 31 more patients whose surgical antibiotic prophylaxis is discontinued within 24 hours. There were no outlier HCOs in 2016.

2.10 Timing of SAP for the LSCS procedure (H)

In 2016, there were 30 records from 19 HCOs. The annual rate was 89.8 per 100 procedures. In 2016, the potential gains totalled 425 more patients who receive surgical antibiotic prophylaxis within one hour prior to induction. In 2016, there were seven outlier records from six HCOs whose combined excess was 218 fewer patients who receive surgical antibiotic prophylaxis within one hour prior to induction. The outlier HCO rate was 64.5 per 100 procedures.

2.11 Correct SAP and dose for the LSCS procedure (H)

In 2016, there were 28 records from 17 HCOs. The annual rate was 81.9 per 100 procedures. In 2016, the potential gains totalled 567 more patients who receive the correct surgical antibiotic prophylaxis and dose. In 2016, there were nine outlier records from seven HCOs whose combined excess was 301 fewer patients who receive the correct surgical antibiotic prophylaxis and dose. The outlier HCO rate was 56.7 per 100 procedures.

2.12 Discontinuation of SAP within 24 hours of the LSCS procedure (H)

In 2016, there were 26 records from 16 HCOs. The annual rate was 89.9 per 100 procedures. In 2016, the potential gains totalled 376 more patients whose surgical antibiotic prophylaxis is discontinued within 24 hours. In 2016, there were three outlier records from two HCOs whose combined excess was 140 fewer patients whose surgical antibiotic prophylaxis is discontinued within 24 hours. The outlier HCO rate was 70.8 per 100 procedures.

Haemodialysis access-associated bloodstream infection surveillance

3.1 Haemodialysis - AV-fistula access-associated BSI (L)

In 2016, there were 36 records from 22 HCOs. The annual rate was 0.010 per 100 patient-months. The fitted rate improved from 0.24 to 0.015, a change of 0.22 per 100 patient-months. After allowing for the changing composition of HCOs contributing over the period, the

trend remained significant. The rate change was 0.23 per 100 patient-months. There were no potential gains in 2016. There were no outlier HCOs in 2016.

3.2 Haemodialysis - synthetic and native vessel graft access-associated BSI (L)

In 2016, there were 30 records from 18 HCOs. The annual rate was 0.23 per 100 patient-months. There were no potential gains in 2016. There were no outlier HCOs in 2016.

3.3 Haemodialysis - CI non-cuffed line access-associated BSI (L)

In 2016, there were 17 records from 12 HCOs. The annual rate was 2.0 per 100 patient-months. The fitted rate deteriorated from 0.71 to 2.7, a change of 1.9 per 100 patient-months. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 1.7 per 100 patient-months. There were no potential gains in 2016. There were no outlier HCOs in 2016.

3.4 Haemodialysis - CI cuffed line access-associated BSI (L)

In 2016, there were 38 records from 23 HCOs. The annual rate was 1.2 per 100 patient-months. The fitted rate improved from 1.6 to 1.1, a change of 0.47 per 100 patient-months. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.69 per 100 patient-months. There was relatively little variation between HCOs and so the potential gains were small in 2016. There were no outlier HCOs in 2016.

Vancomycin Resistant Enterococci (VRE)

4.1 VRE infection within the ICU (L)

In 2016, there were 103 records from 58 HCOs. The annual rate was 1.4 per 10,000 bed days. In 2016, the potential gains totalled 19 fewer new VRE healthcare-associated infections, corresponding to a reduction by approximately two-thirds. In 2016, there were three outlier records from three HCOs whose combined excess was 10 more new VRE healthcare-associated infections. The outlier HCO rate was 37.4 per 10,000 bed days.

4.2 VRE infection within non-ICU areas (L)

In 2016, there were 185 records from 106 HCOs. The annual rate was 0.31 per 10,000 bed days. In 2016, the potential gains totalled 128 fewer new VRE healthcare-

associated infections, corresponding to a reduction by approximately three-quarters. In 2016, there were five outlier records from four HCOs whose combined excess was 65 more new VRE healthcare-associated infections. The outlier HCO rate was 3.4 per 10,000 bed days.

Staff Immunisation

5.1 Flu vaccination for permanent staff (H)

In 2016, there were 76 records from 53 HCOs. The annual rate was 54.2 per 100 permanent healthcare employees. In 2016, the potential gains totalled 12,085 more permanent healthcare employees who receive a flu vaccination. In 2016, there were 18 outlier records from 15 HCOs whose combined excess was 4,411 fewer permanent healthcare employees who receive a flu vaccination. The outlier HCO rate was 31.0 per 100 permanent healthcare employees.

5.2 Hepatitis B vaccination for permanent staff (H)

In 2016, there were 39 records from 22 HCOs. The annual rate was 76.3 per 100 permanent Category A healthcare employees. In 2016, the potential gains totalled 3,267 more permanent Category A healthcare employees vaccinated for Hepatitis B. In 2016, there were 11 outlier records from seven HCOs whose combined excess was 1,396 fewer permanent Category A healthcare employees vaccinated for Hepatitis B. The outlier HCO rate was 53.6 per 100 permanent Category A healthcare employees.

Occupational exposures to blood and/or body fluids

6.1 Reported parenteral exposures sustained by staff (L)

In 2016, there were 536 records from 301 HCOs. The annual rate was 0.029 per 100 bed days. There was no significant trend in the fitted rate. In 2016, the potential gains totalled 1,476 fewer reported parenteral exposures, corresponding to a reduction by approximately one-third. In 2016, there were 19 outlier records from 17 HCOs whose combined excess was 294 more reported parenteral exposures. The outlier HCO rate was 0.056 per 100 bed days.

6.2 Reported non-parenteral exposures sustained by staff (L)

In 2016, there were 522 records from 291 HCOs. The annual rate was 0.010 per 100 bed days. The fitted rate improved from 0.015 to 0.011, a change of 0.004 per 100 bed days. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.003 per 100 bed days.

In 2016, the potential gains totalled 636 fewer reported non-parenteral exposures, corresponding to a reduction by approximately one-half. In 2016, there were 15 outlier records from 15 HCOs, whose combined excess was 176 more reported non-parenteral exposures. The outlier HCO rate was 0.030 per 100 bed days.

EXPERT COMMENTARY

Australian and New Zealand
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Intensive Care

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General Comments

The 2016 Intensive Care (version 5) Clinical Indicator set
includes eight new indicators. Three are included in Area
1: Access and exit block, three are included in new areas
(Area 2: Intensive care patient management and Area 6:
Empathetic practice), and a new indicator for paediatric
central line-associated bloodstream infections has been
included in addition to the adult indicator.

Overall, the indicators that measure access and exit block
have progressively improved since 2009. However, there
are very much lower rates of access and exit block in
private than in public hospitals that reflect the largely
elective surgical population of patients in most private
hospitals. Rates of non-admission due to inadequate
resources, cancellation of elective surgery and transfer
to another ICU for treatment appear to be higher in
Queensland, whereas exit block and after hours' discharge
appear to be more prevalent in NSW. Nevertheless, with
the possible exception of SA, most states have outliers with
significantly higher rates.[1]

The intensive care management indicators consist of two
indicators that measure the rate of rapid response system
(RRS) calls to both adult and paediatric patients within 48
hours of ICU discharge. Again, the rate is lower in private
than in public hospitals. Because these are new indicators,
no trends are available. Although the desirable rate is
stated to be low, it is clearly preferable for a deteriorating
patient to have a RRS call than not. It will be interesting to
see how these indicators track over time.[2]

Although VTE prophylaxis has been included in previous
versions of the ICU clinical indicators, version 5 has
updated this indicator to occur within 24 hours of ICU
admission. As the denominator includes adult patients
being treated by one or more appropriate forms of

The Intensive Care clinical indicator
set was reviewed in 2015 by a
multidisciplinary Working Party
consisting of representatives from the
Australian and New Zealand Intensive
Care Society (ANZICS), the College of
Intensive Care Medicine of Australia
and New Zealand (CICM), the Australian
College of Critical Care Nurses (ACCCN)
and the Australian Private Hospitals
Association (APHA). The revised
Intensive Care clinical indicator set
incorporates Paediatric Intensive Care
Indicators and has been released for data
collection from January 2016.

"Following discussions between the Working Party and Paediatric Intensive Care representatives, it was decided that the Paediatric Intensive Care CIs would more appropriately be considered and reviewed as part of the Intensive Care CI set. There will be paediatric intensive care representation on the Working Party from now on."

Source: User Manual Chair
– Intensive Care Working Party ANZICS

venous thromboembolism prophylaxis, the rate should be 100%. It is possible that outliers may be the result of a failure to capture data, but if real, and given the fact that failure to provide VTE prophylaxis is associated with a 20% increased risk of death, the 12 outlier HCOs whose combined excess was more than 1,600 patients, are a cause for concern.[3]

For central line-associated bloodstream infections, rates in adults have continued to decrease progressively since 2009, almost certainly because of guidelines and educational interventions that ensure best practice in insertion techniques and maintenance of central lines. It is gratifying that no bloodstream infections related to central lines were found in paediatric patients.[4]

Contributing HCOs demonstrate high utilisation of patient assessment systems through the adult and paediatric registries provided by the Australian and New Zealand Intensive Care Society (ANZICS) and Centre for Outcome and Resource Evaluation (CORE). 100% participation by all hospitals should be the desired aim. This facilitates accurate benchmarking of ICU outcomes, promotes improvements in Intensive Care practice and results in cost savings overall to the healthcare sector. Failure to participate in such a peer review process may in itself be an indicator of poor performance.[5, 6]

This version of the Intensive Care Clinical Indicators has included a new indicator related to the end-of-life care that measures the rate of family follow-up after a death in or within 48 hours of discharge from ICU. Only seven HCOs submitted data for this indicator in 2016. It is likely these were hospitals that have a system for family follow-up in place as the annual rate was 52 per 100 deaths. Hopefully, this new indicator will stimulate ICUs to adopt practices that allow this indicator to be met more widely but also recognise that this must be done in a fashion which does not potentially increase family distress. It will be interesting to see if rates increase in 2017.[7]

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"The Intensive care clinical indicators program is a valuable data collection tool which gives HCOs the opportunity to reflect on their clinical performance regularly. The contributing intensive care units can monitor their data trends on patient and organisational outcomes, and take actions promptly if needed. ACCCN encourages all intensive care units to contribute to the data collection."

Intensive Care

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General Comments

The Australian College of Critical Care Nurses welcomes the opportunity to provide commentary on the *Australian Clinical Indicator Report 2009-2016*. The intensive care clinical indicators program is a valuable data collection tool which gives HCOs the opportunity to reflect on their clinical performance regularly. The contributing intensive care units can monitor their data trends on patient and organisational outcomes, and take actions promptly if needed. ACCCN encourages all intensive care units to contribute to the data collection.

This report shows that the adult ICU after hours' discharge between 6pm and 6am shows little change at 14.6%. After hours ICU discharges are associated with increased morbidity and mortality, but it is still occurring, especially in public hospitals. More research is needed to investigate the outcomes of these patients and investigate the factors contributing to this occurrence.

The adult CLABSI rate in 2016 was 0.49 per 1000 line-days, which is slightly higher than the 2015 result (0.44 per 1000 line-days). There continues to be a strong emphasis on the prevention of CLABSIs in ICUs. The wide implementation of central line care bundles and the implementation of evidence based clinical practice guidelines saw a continuous decrease of CLABSIs in ICUs between 2009-2014; however, there has been very little improvement in the last three years as reported in this edition of the *ACIR*. CLABSIs cause significant morbidity and mortality and is totally preventable.[1-3] It is strongly recommended that all HCOs, especially those with high CLABSI rates, systematically investigate the factors that are contributing to their CLABSI rates, and implement evidence-based clinical practice guidelines effectively.

Feature Clinical Indicators

CI 1.4: ICU - adult discharge delay more than 12 hours (L)

This clinical indicator was revised in the recent intensive care clinical indicator review. The previous time frame was six hours from the time a discharge decision was made to when patients were discharged, which was thought to be too short considering how long it would take to get the patient ready for discharge. Research has shown that ICU patient discharge delay is associated with increased mortality; [4, 5] however, it still occurs in practice. The 2016 *ACIR Full Report* shows that NSW tops the ICU discharge delays nationally. Factors associated with discharge delays include issues with team work, ineffective communication, and discharge planning within the ICU, and between ICU and other acute clinical areas.[6, 7] Clinicians need to review their discharge processes to reduce the ICU discharge delays to improve patient outcomes. There is no historical comparison for this indicator because this is the first time the 12-hour delay time frame is used.

CI 2.1: Rapid response system calls to adult ICU patients within 48 hours of ICU discharge (L)

The purpose of this ICU clinical indicator is to look at data on premature discharges from the ICU. This clinical indicator was revised in the recent intensive care clinical indicator review with the time frame changed from 72 hours in the previous version (which was thought to be too long to indicate patient issues associated with premature discharge) to the current 48 hours. Premature discharge has been found to be associated with increased mortality.[8] It is important for clinicians to monitor this clinical indicator and analyse patient outcomes for this group of patients.

CI 3.1: VTE prophylaxis in adult patients within 24 hours of ICU admission (H)

This indicator was revised in 2015 which further clarified the inclusion of the numerator of patients having one or more form of VTE prophylaxis. VTE and DVT cause significant morbidity and mortality. The 2016 rate of 94.4% shows a high level of compliance to VTE prevention protocols in the contributing HCOs.

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2016 Summary Data

Access and exit block

1.1 ICU - adult non-admission due to inadequate resources (L)

In 2016, there were 107 records from 60 HCOs. The annual rate was 1.7 per 100 adult admissions.The fitted rate improved from 2.5 to 1.7, a change of 0.77 per 100 adult admissions. In 2016, the potential gains totalled 939 fewer adult patients who could not be admitted to the ICU due to inadequate resources, corresponding to a reduction by approximately four-fifths. In 2016, there were 18 outlier records from 15 HCOs whose combined excess was 477 more adult patients who could not be admitted to the ICU due to inadequate resources. The outlier HCO rate was 5.6 per 100 adult admissions.

1.2 ICU - elective adult surgical cases deferred or cancelled due to unavailability of bed (L)

In 2016, there were 103 records from 59 HCOs. The annual rate was 1.4 per 100 admissions. In 2016, the potential gains totalled 504 fewer adult elective surgical cases deferred or cancelled, corresponding to a reduction by approximately four-fifths. In 2016, there were 12 outlier records from 10 HCOs whose combined excess was 260 more adult elective surgical cases deferred or cancelled. The outlier HCO rate was 6.7 per 100 admissions.

1.3 ICU - adult transfer to another facility/ICU due to unavailability of bed (L)

In 2016, there were 106 records from 60 HCOs. The annual rate was 0.53 per 100 admissions. The fitted rate improved from 0.87 to 0.68, a change of 0.19 per 100 admissions. In 2016, the potential gains totalled 292 fewer adult patients transferred to another facility/ICU, corresponding to a reduction by approximately four-fifths. In 2016, there were 12 outlier records from nine HCOs whose combined excess was 155 more adult patients transferred to another facility/ICU. The outlier HCO rate was 3.2 per 100 admissions.

1.4 ICU - adult discharge delay more than 12 hours (L)

In 2016, there were 117 records from 65 HCOs. The annual rate was 15.7 per 100 adult patients. In 2016, the potential gains totalled 9,304 fewer adult patients whose discharge from ICU was delayed more than 12 hours, corresponding to a reduction by approximately four-fifths. In 2016, there were

34 outlier records from 23 HCOs whose combined excess was 3,631 more adult patients whose discharge from ICU was delayed more than 12 hours. The outlier HCO rate was 32.2 per 100 adult patients.

1.5 ICU - adult discharge between 6pm and 6am (L)

In 2016, there were 140 records from 77 HCOs. The annual rate was 14.6 per 100 adult patients. The fitted rate improved from 16.1 to 14.4, a change of 1.7 per 100 adult patients. In 2016, the potential gains totalled 8,352 fewer adult patients discharged from the ICU between 6pm and 6am, corresponding to a reduction by approximately three-quarters. In 2016, there were 39 outlier records from 24 HCOs whose combined excess was 3,379 more adult patients discharged from the ICU between 6pm and 6am. The outlier HCO rate was 30.4 per 100 adult patients.

1.6 ICU - paediatric discharge between 6pm and 6am (L)

In 2016, there were 17 records from 11 HCOs. The annual rate was 6.2 per 100 paediatric patients. There was relatively little variation between HCOs and so the potential gains were small in 2016.

1.7 ICU - elective paediatric surgical cases deferred or cancelled (L)

In 2016, there were six records from five HCOs. The annual rate was 0 per 100 paediatric admissions. There were no potential gains in 2016.

Intensive care patient management

2.1 Rapid response system calls to adult ICU patients within 48 hours of ICU discharge (L)

In 2016, there were 96 records from 55 HCOs. The annual rate was 4.2 per 100 adult patients. In 2016, the potential gains totalled 1,566 fewer adult rapid response calls within 48 hours of discharge from ICU, corresponding to a reduction by approximately two-thirds. In 2016, there were 10 outlier records from six HCOs whose combined excess was 696 more adult rapid response calls within 48 hours of discharge from ICU. The outlier HCO rate was 11.0 per 100 adult patients.

2.2 Rapid response system calls to paediatric ICU patients within 48 hours of ICU discharge (L)

In 2016, there were 14 records from 11 HCOs. The annual rate was 2.6 per 100 paediatric patients.

In 2016, the potential gains totalled nine fewer paediatric rapid response calls within 48 hours of discharge from ICU, corresponding to a reduction by approximately three-quarters. In 2016, there was one outlier record from one HCO whose combined excess was seven more paediatric rapid response calls within 48 hours of discharge from ICU. The outlier HCO rate was 45.0 per 100 paediatric patients.

Intensive care patient treatment

3.1 VTE prophylaxis in adult patients within 24 hours of ICU admission (H)

In 2016, there were 127 records from 73 HCOs. The annual rate was 94.4 per 100 admissions. In 2016, the potential gains totalled 3,752 more patients given VTE prophylaxis within 24 hours. In 2016, there were 18 outlier records from 12 outlier HCOs whose combined excess was 1,688 fewer patients given VTE prophylaxis within 24 hours. The outlier HCO rate was 80.9 per 100 admissions.

Central line-associated bloodstream infection

4.1 Adult ICU-associated CI-CLABSI (L)

In 2016, there were 95 records from 55 HCOs. The annual rate was 0.49 per 1000 line-days. The fitted rate improved from 1.3 to 0.38, a change of 0.91 per 1,000 line-days. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.86 per 1,000 line-days. There were no potential gains in 2016.

4.2 Paediatric ICU-associated PI-CLABSI (L)

In 2016, there were eight records from six HCOs. The annual rate was 0 per 1000 line-days. There were no potential gains in 2016.

Utilisation of patient assessment systems

5.1 Participation in the ANZICS CORE Adult Patient Database (APD) (H)

In 2016, there were 120 records from 66 HCOs. The annual rate was 97.6 per 100 adult admissions. The fitted rate improved from 88.7 to 96.7, a change of 8.1 per 100 adult admissions. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 7.8 per 100 adult admissions. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were 14 outlier records from 10 outlier HCOs whose combined excess was 1,418 fewer complete adult submissions to the ANZICS Database. The outlier HCO rate was 70.5 per 100 adult admissions.

5.2 Participation in the ANZICS CORE Paediatric Intensive Care (ANZPIC) registry (H)

In 2016, there were 13 records from eight HCOs. The annual rate was 67.3 per 100 paediatric admissions. In 2016, the potential gains totalled 163 more complete paediatric submissions to the ANZICS Database. In 2016, there were five outlier records from three outlier HCOs whose combined excess was 111 fewer complete paediatric submissions to the ANZICS Database. The outlier HCO rate was 0 per 100 paediatric admissions.

5.3 Participation in the ANZICS CORE Critical Care Resources survey (N)

In 2016, there were 54 records from 33 HCOs and the overall rate of compliance was 96.4%. Since 2012, HCOs responded to the Critical Care Resources Survey in at least 95% of semesters reported.

Empathetic practice

6.1 Empathetic practice toward families of ICU patients (H)

In 2016, there were nine records from seven HCOs. The annual rate was 52.2 per 100 deaths. In 2016, the potential gains totalled 151 more families having follow-up contact within four weeks of the death of a family member. In 2016, there were three outlier records from three outlier HCOs whose combined excess was 76 fewer families having follow-up contact within four weeks of the death of a family member. The outlier HCO rate was 0 per 100 deaths.

Internal Medicine

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General Comments

A majority of clinical indicators (60%) have just 1-3 HCOs participating and no HCOs participated in 2016 for CI 4.3 'Documentation of a delirium plan'. Yet delirium is reported to be one of the most common and serious complications for elderly patients contributing to higher mortality and morbidity[1] and more than half of the Australian hospitals contribute to other Clinical Indicator sets.[2] In order to optimise analysis and benchmarking opportunities in these important areas of health care management, reasons for low participation need to be explored so that the evaluation of quality in Australian hospitals remains robust and reliable. This is essential for all stakeholders.[3]

Health services can only report what is available to them, what makes sense to them, what is recorded, reliable and complete. That means clinicians must have good recording practices and be provided with useful and relevant definitions that are reliable over time and across services. Clinical and documentation practices may change, for example where new care pathway types are introduced. Definitions of terms may change if the timing of assessment changes on the pathway, for example, the term 'severe' may be defined and documented variously depending on if it is recorded on arrival or if there is no response to initial treatment. Partial completion of documentation on discharge, for example, as recorded in the Functional Independence Measure (FIM)[4] may mean that there is missing data. Only essential fields may be completed, often due to lack of time by allied health or nursing staff, but other reasons may contribute, including questioning the need for repetition of entry of the same data recorded elsewhere in the medical record and discharge documentation. Clinical Indicators including 'assessment', for example, CI 4.1 'Cognition assessment', or 'follow-up', for example, CI 4.4 'Follow up plan after discharge' may be too difficult to find in the record. The latter is commonly not planned for, or even possibly planned but not documented.

The Internal Medicine clinical indicator set was reviewed in 2014 by a multidisciplinary Working Party consisting of representatives from the Internal Medicine Society of Australia and New Zealand (IMSANZ), the Australian College of Nursing (ACN) and the Australian Private Hospitals Association (APHA). The revised Internal Medicine clinical indicator set incorporates revised Peer Group stratification and has been released for data collection from July 2016.

If the data required is not in a template or in a single commonly recognised field, it will not be easily completed, nor found for reporting. The problem cannot be fixed if completion of all fields is not mandatory and there is no governance or other consequences, such as auditing. Responsibility must be determined for ensuring the accuracy of the data, associated with relevance and usefulness to HCOs to enable reporting of representative unbiased data regularly to ACHS and to other external data collection agencies such as registries.

Feature Clinical Indicators

CI 6.1: Haematemesis/melaena with blood transfusion - gastroscopy within 24 hours (H)

Unfortunately, there has been a steady decline in the number of HCOs that are submitting data. Even taking this into account there has apparently been a significant decrease in the number of admissions for this indicator. There are many possible reasons for this, which include more effective control of bleeding on admission such that a transfusion is not required.

CI 6.2: Haematemesis/melaena with blood transfusion and subsequent death (L)

Again, there has been a significant decline in the number of HCOs collecting data. The decreased mortality may well be due to the sampling error. The HCOs continuing to report see less severe cases especially if the concerned HCOs do not receive emergency admissions.

Overall, I would suggest that the continued collection of these two Indicators be reviewed regarding relevance.

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2016 Summary Data

Cardiovascular disease

1.1 CHF - prescribed ACEI/A2RA (H)

In 2016, there was one record from one HCO. The annual rate was 94.3 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

1.2 CHF - prescribed beta blocker (H)

In 2016, there was one record from one HCO. The annual rate was 98.2 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

1.3 CHF and AF - prescribed warfarin (H)

In 2016, there was one record from one HCO. The annual rate was 100 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

1.4 CHF - chronic disease management referral including physical rehabilitation (H)

In 2016, there was one record from one HCO. The annual rate was 21.2 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

1.5 PTCA - vessels where primary success achieved (H)

In 2016, there were 14 records from eight HCOs. The annual rate was 96.5 per 100 vessels. The fitted rate deteriorated from 96.6 to 95.6, a change of 1.0 per 100 vessels. There were no potential gains in 2016. There were no outlier HCOs in 2016.

Endocrine disease

2.1 Hospitalised patients with severe hypoglycaemia less than 2.8 mmol/L (L)

In 2016, there were two records from two HCOs. The annual rate was 27.1 per 100 patients. In 2016, the potential gains totalled 48 fewer insulin treated diabetic inpatients with a recorded blood glucose level less than 2.8 mmol/L, corresponding to a reduction by approximately four-fifths. In 2016, there was one outlier record from one HCO whose combined excess was 31 more insulin treated diabetic inpatients with a recorded blood glucose level less than 2.8 mmol/L. The outlier HCO rate was 70.3 per 100 patients.

Acute stroke management

3.1 Acute stroke - documentation of swallowing screen conducted within 24 hours prior to food or fluid intake (H)

In 2016, there were 12 records from eight HCOs. The annual rate was 68.2 per 100 inpatients. In 2016, the potential gains totalled 62 more inpatients with acute stroke who have timely swallowing screen. There were no outlier HCOs in 2016.

3.2 Acute stroke - documented physiotherapy assessment within 48 hours of presentation (H)

In 2016, there were 13 records from eight HCOs. The annual rate was 68.3 per 100 inpatients. The fitted rate deteriorated from 83.9 to 75.5, a change of 8.5 per 100 inpatients. In 2016, the potential gains totalled 221 more inpatients having physiotherapy assessment within 48 hours. In 2016, there was one outlier record from one HCO whose combined excess was 37 fewer inpatients having physiotherapy assessment within 48 hours. The outlier HCO rate was 58.3 per 100 inpatients.

3.3 Acute stroke - plan for ongoing community care provided to patient/family (H)

In 2016, there were 14 records from nine HCOs. The annual rate was 84.9 per 100 inpatients. In 2016, the potential gains totalled 73 more inpatients with evidence of a documented plan prior to discharge. In 2016, there were two outlier records from two HCOs whose combined excess was 19 fewer inpatients with evidence of a documented plan prior to discharge. The outlier HCO rate was 62.3 per 100 inpatients.

3.4 Acute stroke - documented treatment in a stroke unit during hospital stay (H)

In 2016, there were 12 records from eight HCOs. The annual rate was 79.9 per 100 inpatients. In 2016, the potential gains totalled 81 more inpatients that have documented treatment in a stroke unit. In 2016, there were three outlier records from three HCOs whose combined excess was 39 fewer inpatients that have documented treatment in a stroke unit. The outlier HCO rate was 50.9 per 100 inpatients.

Care of the elderly

4.1 Medical patients 65 years or older - cognition assessment using validated tool (H)

In 2016, there were eight records from five HCOs. The annual rate was 78.0 per 100 patients. The fitted rate improved from 71.4 to 75.5, a change of 4.2 per 100 patients. In 2016, the potential gains totalled 752 more patients who have had their cognition assessed. In 2016, there were four outlier records from three HCOs whose combined excess was 330 fewer patients who have had their cognition assessed. The outlier HCO rate was 43.2 per 100 patients.

4.2 Geriatric patients - documented assessment of physical function (H)

In 2016, there were 12 records from seven HCOs. The annual rate was 97.2 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there was one outlier record from one HCO whose combined excess was 96 fewer patients having documented objective assessment of physical function. The outlier HCO rate was 69.0 per 100 patients.

Respiratory disease

5.1 COPD - chronic disease management service referral (H)

In 2016, there were three records from two HCOs. The annual rate was 70.7 per 100 patients. In 2016, the potential gains totalled 22 more patients referred for chronic disease management service. There were no outlier HCOs in 2016.

5.2 Acute asthma - assessment of severity documented on admission (H)

In 2016, there was one record from one HCO. The annual rate was 68.9 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

5.3 Acute asthma - appropriate discharge plan documented (H)

In 2016, there was one record from one HCO. The annual rate was 68.9 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

Gastrointestinal disease

6.1 Haematemesis/melaena with blood transfusion - gastroscopy within 24 hours (H)

In 2016, there were four records from three HCOs. The annual rate was 65.2 per 100 patients. In 2016, the potential gains totalled 12 more patients who have a gastroscopy within 24 hours of admission. In 2016, there was one outlier record from one HCO whose combined excess was six fewer patients who have a gastroscopy within 24 hours of admission. The outlier HCO rate was 7.7 per 100 patients.

6.2 Haematemesis / melaena with blood transfusion and subsequent death (L)

In 2016, there were two records from two HCOs. The annual rate was 0 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

Oncology

7.1 Time to administration of antibiotics for patients admitted with febrile neutropenia (H)

In 2016, there were three records from three HCOs. The annual rate was 89.5 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

Maternity

Prof Michael Permezel

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Chair, ACHS Maternity Working Party

General Comments

Congratulations again to ACHS for collecting this data and giving the opportunity to RANZCOG to comment on the collated data. Outcomes of the selected primipara will be addressed in more detail below. Following are other highlights that are worthy of comment.

There has been a further slight increase in the number of caesarean sections in the selected primipara. There are several reasons why the caesarean section rate may be expected to increase over time:

a) Women are becoming more risk averse and therefore more often requesting caesarean section to minimise risk. Births with greater risk (e.g. rotational forceps, vaginal breech birth) are much less likely to be attempted.

b) Increasing maternal age and maternal obesity.

c) Reducing maternal parity with the consequential reduced morbidity from a caesarean section in subsequent pregnancies.

Stratum differences were again demonstrated in relation to private and public HCOs (37.0% vs 25.4% respectively). This is expected as, other than obesity, the above factors favouring caesarean birth are more prevalent in the private than public sector.

Vaginal birth following a previous primary caesarean section remains consistent at 12-15%. The rate of 12.4% is at the lowest level in the eight years although only marginally lower than 2014 (12.5%). Falling rates of this indicator are expected with an increasingly risk-averse maternity population. The publication in 2012 showed better fetal outcomes and lower rates of severe maternal haemorrhage in women who plan an elective caesarean section rather than plan a vaginal birth after a primary caesarean section.

The rate of episiotomy continues to slowly increase. This may be contributed to, by increasing rates of epidural anaesthesia and by the sometime consequent 'lift-out' instrumental birth. Rates of third-degree tears appear to be flattening out but are much more likely to reflect issues of diagnosis than occurrence.

Much of the overall rise is likely to reflect better diagnosis. The considerably lower rates in the private sector (3.1%) versus the public sector (6.0%) is somewhat paradoxical given that instrumental birth is much higher in the private sector than in the private population. Fourth-degree tear rates exhibit considerable fluctuation due to low overall numbers. It is nevertheless gratifying to see that the overall trend remains in decline despite a slight increase in 2016 relative to 2015. In contrast to third-degree tears, fourth-degree tears are an objective measure and the decline supports current decision-making around avoidance of the more difficult vaginal births.

It is disturbing to see the rate of low Apgar scores is slowly rising. The reasons are not clear. While year to year changes are small, an overall upward trend is clear. It will be interesting to see if increased attention of HCOs to fetal surveillance education of maternity staff leads to a reversal of this disturbing upward trend. The markedly higher rates of low Apgar scores in the public (1.53%) relative to the private (0.99%) sector, may reflect case mix or other factors such as rates of continuous electronic fetal monitoring. It should be noted that Apgar scores are very subjective and open to bias – yet remain the only parameter of newborn condition that is available in nearly all labours. The College applauds those centres that have introduced routing cord biochemistry of all births to have an objective measurement of fetal condition at all births.

Feature Clinical Indicator

CI 8.1: Babies – birth weight less than 2,750g at 40 weeks gestation or beyond (L)

Low birth weight at term is one of the strongest predictors of neonate mortality and morbidity.[1-3] Potential sequelae of Fetal Growth Restriction (FGR) include stillbirth, acute neonatal complications (hypoglycaemia, meconium aspiration, hypoxic ischaemic encephalopathy), long-term neurological sequelae (including cerebral palsy) and increased risks of hypertension and diabetes mellitus later in life.[2] The perinatal death risk increases exponentially after 37 weeks' gestation in these fetuses[4] and it is recommended that the delivery of an FGR fetus occurs before 40 weeks gestation.[5]

Birth with birth weight <2,750g at 40 weeks gestation or beyond has been steadily improving and is now down to 1.25% after beginning at 1.80% when this data was first collected eight years ago. This indicator has improved virtually every year since its inception and points to it contributing to the improved clinical performance in this area. A consequent reduction in perinatal mortality and morbidity is likely but difficult to prove because of low (although clinically important)

numbers of these outcomes. Further improvement is desirable and the downward trend should continue with further increased vigilance of staff responsible for detecting antenatal placental insufficiency. It is also gratifying to see that this is a state-wide maternity clinical indicator in Victoria[6] and it is hoped that this indicator will gain prominence nationally.

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2016 Summary Data

Outcome of selected primipara

1.1 Selected primipara - spontaneous vaginal birth (H)

In 2016, there were 269 records from 144 HCOs. The annual rate was 44.3 per 100 selected primipara. The fitted rate deteriorated from 45.3 to 44.5, a change of 0.80 per 100 selected primipara. In 2016, the potential gains totalled 4,125 more selected primipara who have a spontaneous vaginal birth. In 2016, there were 22 outlier records from 15 outlier HCOs whose combined excess was 1,219 fewer selected primipara who have a spontaneous vaginal birth. The outlier HCO rate was 26.7 per 100 selected primipara.

1.2 Selected primipara - induction of labour (L)

In 2016, there were 277 records from 149 HCOs. The annual rate was 38.1 per 100 selected primipara. The fitted rate deteriorated from 27.7 to 37.1, a change of 9.4 per 100 selected primipara. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 9.4 per 100 selected primipara. In 2016, the potential gains totalled 3,158 fewer selected primipara who undergo induction of labour, corresponding to a reduction by approximately one-tenth. In 2016, there were 12 outlier records from seven HCOs whose combined excess was 564 more selected primipara who undergo induction of labour. The outlier HCO rate was 50.6 per 100 selected primipara.

1.3 Selected primipara - instrumental vaginal birth (L)

In 2016, there were 265 records from 143 HCOs. The annual rate was 25.9 per 100 selected primipara. The fitted rate deteriorated from 23.8 to 26.0, a change of 2.2 per 100 selected primipara. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 2.2 per 100 selected primipara. In 2016, the potential gains totalled 2,119 fewer selected primipara who undergo an instrumental vaginal birth, corresponding to a reduction by approximately one-tenth. In 2016, there were 10 outlier records from seven HCOs whose combined excess was 392 more selected primipara who undergo an instrumental vaginal birth. The outlier HCO rate was 38.9 per 100 selected primipara.

1.4 Selected primipara - caesarean section (L)

In 2016, there were 264 records from 142 HCOs. The annual rate was 29.4 per 100 selected primipara. The fitted rate deteriorated from 28.1 to 29.2, a change of 1.2 per 100 selected primipara. In 2016, the potential gains totalled 2,666 fewer selected primipara who undergo a caesarean section, corresponding to a reduction by approximately one-tenth. In 2016, there were 25 outlier records from 18 HCOs whose combined excess was 984 more selected primipara who undergo a caesarean section. The outlier HCO rate was 43.0 per 100 selected primipara.

Vaginal birth after caesarean section (VBAC)

2.1 Vaginal delivery following previous birth of caesarean section (N)

In 2016, there were 213 records from 116 HCOs. The annual rate was 12.4 per 100 deliveries. The fitted rate decreased from 14.1 to 12.4, a change of 1.7 per 100 deliveries. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 1.7 per 100 deliveries.

Major perineal tears and surgical repair of the perineum

3.1 Selected primipara - intact perineum (H)

In 2016, there were 242 records from 129 HCOs. The annual rate was 14.4 per 100 selected primipara. The fitted rate deteriorated from 18.8 to 14.4, a change of 4.3 per 100 selected primipara. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 4.5 per 100 selected primipara. In 2016, the potential gains totalled 2,977 more selected primipara with an intact perineum. In 2016, there were 18 outlier records from 12 outlier HCOs whose combined excess was 417 fewer selected primipara with an intact perineum. The outlier HCO rate was 6.5 per 100 selected primipara.

3.2 Selected primipara - episiotomy and no perineal tear (L)

In 2016, there were 215 records from 116 HCOs. The annual rate was 34.4 per 100 selected primipara. The fitted rate deteriorated from 27.7 to 34.4, a change of 6.7 per 100 selected primipara. After allowing for the

changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 6.6 per 100 selected primipara. In 2016, the potential gains totalled 3,011 fewer selected primipara undergoing episiotomy without a perineal tear, corresponding to a reduction by approximately one-quarter. In 2016, there were 20 outlier records from 14 HCOs whose combined excess was 892 more selected primipara undergoing episiotomy without a perineal tear. The outlier HCO rate was 54.1 per 100 selected primipara.

3.3 Selected primipara - perineal tear and NO episiotomy (L)

In 2016, there were 216 records from 117 HCOs. The annual rate was 43.4 per 100 selected primipara. The fitted rate improved from 46.8 to 43.6, a change of 3.1 per 100 selected primipara. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 3.1 per 100 selected primipara. In 2016, the potential gains totalled 1,860 fewer selected primipara sustaining a perineal tear without episiotomy, corresponding to a reduction by approximately one-tenth. In 2016, there were 12 outlier records from eight HCOs whose combined excess was 410 more selected primipara sustaining a perineal tear without episiotomy. The outlier HCO rate was 59.6 per 100 selected primipara.

3.4 Selected primipara - episiotomy and perineal tear (L)

In 2016, there were 214 records from 116 HCOs. The annual rate was 7.3 per 100 selected primipara. The fitted rate deteriorated from 5.7 to 6.8, a change of 1.1 per 100 selected primipara. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 1.1 per 100 selected primipara. In 2016, the potential gains totalled 1,049 fewer selected primipara undergoing episiotomy and sustaining a perineal tear, corresponding to a reduction by approximately one-third. In 2016, there were 11 outlier records from nine HCOs whose combined excess was 350 more selected primipara undergoing episiotomy and sustaining a perineal tear. The outlier HCO rate was 18.4 per 100 selected primipara.

3.5 Selected primipara - surgical repair of perineum for third-degree tear (L)

In 2016, there were 240 records from 130 HCOs. The annual rate was 5.2 per 100 selected primipara. The fitted rate deteriorated from 4.4 to 5.3, a change of 0.89 per 100 selected primipara. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.90 per 100 selected primipara. In 2016, the potential gains totalled 652 fewer selected

primipara undergoing surgical repair of the perineum for third-degree tear, corresponding to a reduction by approximately one-third. In 2016, there were seven outlier records from five HCOs whose combined excess was 104 more selected primipara undergoing surgical repair of the perineum for third-degree tear. The outlier HCO rate was 10.3 per 100 selected primipara.

3.6 Selected primipara - surgical repair of perineum for fourth-degree tear (L)

In 2016, there were 265 records from 141 HCOs. The annual rate was 0.33 per 100 selected primipara. There was no significant trend in the fitted rate. In 2016, the potential gains totalled 34 fewer selected primipara undergoing surgical repair of the perineum for fourth-degree tear, corresponding to a reduction by approximately one-quarter. In 2016, there was one outlier record from one HCO whose combined excess was four more selected primipara undergoing surgical repair of the perineum for fourth-degree tear. The outlier HCO rate was 9.0 per 100 selected primipara.

General anaesthesia for caesarean section

4.1 General anaesthetic for caesarean section (L)

In 2016, there were 256 records from 136 HCOs. The annual rate was 6.0 per 100 caesareans. The fitted rate improved from 6.4 to 6.1, a change of 0.35 per 100 caesareans. In 2016, the potential gains totalled 1,770 fewer women having a general anaesthetic for a caesarean section, corresponding to a reduction by approximately one-third. In 2016, there were 22 outlier records from 15 HCOs whose combined excess was 490 more women having a general anaesthetic for a caesarean section. The outlier HCO rate was 11.4 per 100 caesareans.

Antibiotic prophylaxis and caesarean section

5.1 Appropriate prophylactic antibiotic at time of caesarean section (H)

In 2016, there were 186 records from 105 HCOs. The annual rate was 92.9 per 100 caesareans. The fitted rate improved from 83.5 to 94.2, a change of 10.8 per 100 caesareans. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 10.4 per 100 caesareans. In 2016, the potential gains totalled 2,629 more women who receive an appropriate prophylactic antibiotic at the time of caesarean section. In 2016, there were 25 outlier records from 17 outlier HCOs whose combined excess was 1,399 fewer women who receive an appropriate prophylactic antibiotic at the time of caesarean section. The outlier HCO rate was 67.4 per 100 caesareans.

2016 SUMMARY DATA

Pharmacological thromboprophylaxis and caesarean section

6.1 Unplanned LSCS - pharmacological thromboprophylaxis (H)

In 2016, there were 117 records from 68 HCOs. The annual rate was 79.3 per 100 unplanned caesareans. The fitted rate improved from 78.2 to 79.4, a change of 1.2 per 100 unplanned caesareans. In 2016, the potential gains totalled 2,679 more women receive appropriate pharmacological thromboprophylaxis. In 2016, there were 27 outlier records from 16 outlier HCOs whose combined excess was 1,320 fewer women receive appropriate pharmacological thromboprophylaxis. The outlier HCO rate was 39.3 per 100 unplanned caesareans.

6.2 Planned LSCS - pharmacological thromboprophylaxis (H)

In 2016, there were 103 records from 57 HCOs. The annual rate was 71.4 per 100 planned caesareans. The fitted rate improved from 69.6 to 71.2, a change of 1.5 per 100 planned caesareans. In 2016, the potential gains totalled 3,436 more women receive appropriate pharmacological thromboprophylaxis. In 2016, there were 22 outlier records from 14 outlier HCOs whose combined excess was 1,618 fewer women receive appropriate pharmacological thromboprophylaxis. The outlier HCO rate was 33.4 per 100 planned caesareans.

Postpartum haemorrhage / blood transfusions

7.1 Vaginal birth - blood transfusion (L)

In 2016, there were 267 records from 143 HCOs. The annual rate was 1.4 per 100 vaginal births. The fitted rate deteriorated from 1.2 to 1.4, a change of 0.19 per 100 vaginal births. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.18 per 100 vaginal births. In 2016, the potential gains totalled 595 fewer women who give birth vaginally who receive a blood transfusion, corresponding to a reduction by approximately one-third. In 2016, there were 11 outlier records from 11 HCOs whose combined excess was 157 more women who give birth vaginally who receive a blood transfusion. The outlier HCO rate was 3.6 per 100 vaginal births.

7.2 Caesarean section - blood transfusion (L)

In 2016, there were 255 records from 137 HCOs. The annual rate was 1.3 per 100 caesareans. The fitted rate improved from 1.7 to 1.3, a change of 0.35 per 100 caesareans. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.34 per 100 caesareans. In 2016, the potential gains totalled 257 fewer women who undergo caesarean section who receive a blood transfusion, corresponding to a reduction by approximately one-quarter. In 2016, there were five outlier records from five HCOs whose combined excess was 40 more women who undergo caesarean section who receive a blood transfusion. The outlier HCO rate was 3.4 per 100 caesareans.

Intrauterine growth restriction (IUGR)

8.1 Babies - birth weight less than 2,750 g at 40 weeks gestation or beyond (L)

In 2016, there were 232 records from 124 HCOs. The annual rate was 1.3 per 100 deliveries. The fitted rate improved from 1.9 to 1.3, a change of 0.54 per 100 deliveries. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.54 per 100 deliveries. In 2016, the potential gains totalled 134 fewer babies born with birth weight less than 2750g at 40 weeks gestation or beyond, corresponding to a reduction by approximately one-tenth. In 2016, there were two outlier records from two HCOs whose combined excess was 21 more babies born with birth weight less than 2750g at 40 weeks gestation or beyond. The outlier HCO rate was 7.7 per 100 deliveries.

Apgar score

9.1 Term babies - Apgar score of less than 7 at 5 minutes post-delivery (L)

In 2016, there were 282 records from 152 HCOs. The annual rate was 1.3 per 100 babies. The fitted rate deteriorated from 1.1 to 1.4, a change of 0.22 per 100 babies. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.21 per 100 babies. In 2016, the potential gains totalled 739 fewer term babies born with an Apgar score of less than seven at five minutes post delivery, corresponding to a reduction by approximately one-quarter. In 2016, there were six outlier records from six HCOs whose combined excess was 81 more term babies born with an Apgar score of less than seven at five minutes post delivery. The outlier HCO rate was 2.5 per 100 babies.

All admissions of a term baby to special care nursery or neonatal intensive care nursery

10.1 Term babies - transferred or admitted to NICN or SCN (L)

In 2016, there were 253 records from 136 HCOs. The annual rate was 10.9 per 100 babies. The fitted rate deteriorated from 9.8 to 10.4, a change of 0.60 per 100 babies. In 2016, the potential gains totalled 10,463 fewer term babies transferred/admitted to a neonatal intensive care nursery or special care nursery, corresponding to a reduction by approximately one-half. In 2016, there were 35 outlier records from 23 HCOs whose combined excess was 2,769 more term babies transferred/admitted to a neonatal intensive care nursery or special care nursery. The outlier HCO rate was 18.9 per 100 babies.

Peer review of serious adverse events

11.1 Serious adverse events addressed within peer review process (H)

In 2016, there were 50 records from 31 HCOs. The annual rate was 99.4 per 100 serious adverse events. The fitted rate improved from 59.1 to 99.9, a change of 40.8 per 100 serious adverse events. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 40.8 per 100 serious adverse events. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were two outlier records from two outlier HCOs whose combined excess was five fewer serious adverse events that are peer reviewed. The outlier HCO rate was 65.2 per 100 serious adverse events.

"Suspected ADRs reported by the public and health professionals provide important information for the TGA's safety monitoring program. Clinical Indicator – 6.2: Adverse drug reactions reported to TGA helps to monitor the suspected ADRs."

The version 4 of ACHS Medication Safety clinical indicator (CI) set has been adapted from the National Quality Use of Medicine (QUM) and commenced data collection from 2015. 18 out of the total 20 indicators are from QUM.

Medication Safety

General Comments

The version 4 of ACHS Medication Safety Clinical Indicator (CI) set has been adapted from the National Quality Use of Medicine (QUM) and commenced data collection from 2015. There are 20 indicators, of which 18 indicators are from QUM covering areas in antithrombotic therapy, antibiotic therapy, medication ordering, pain management, continuity of care and hospital wide policies, and two indicators in hospital wide policies are maintained from previous versions of ACHS Medication Safety CI set. Given the limited data collected in 2015 and 2016, no trend can be established at this stage for the 18 QUM indicators to demonstrate improvement over time, while adverse drug reactions reported to Therapeutic Goods Administration (TGA) (CI 6.2) has shown a significant increase, and adverse events requiring intervention (CI 6.3) has displayed a significant improvement and decreased over the last eight years.

Feature Clinical Indicator

Medication ordering

CI 3.1 Percentage of patients whose current medications are documented and reconciled at admission (H)

CI 3.2 Percentage of patients whose known adverse drug reactions are documented on the current medication chart (H)

CI 3.3 Percentage of medication orders that include error-prone abbreviations (L)

CI 3.4 Percentage of patients receiving cytotoxic chemotherapy whose treatment is guided by a hospital approved chemotherapy treatment protocol (H)

Four indicators in the area of medication ordering encourage medication reconciliation, clear documentation and communication of medical orders, and the use of treatment protocols for high-risk medications to measure the processes involved in medication ordering and to drive improvement towards best practice. The 2015 and 2016 data implied variation between sectors, such as metropolitan versus rural, public versus private or among different states and territories, which need to be carefully interpreted in the local contexts and further data will be needed for comparison.

2016 Summary Data

Antithrombotic therapy

1.1 Percentage of patients prescribed enoxaparin whose dosing schedule is appropriate (H)

In 2016, there were five records from five HCOs. The annual rate was 85.1 per 100 patients. In 2016, the potential gains totalled 55 more patients prescribed enoxaparin with appropriate dosing schedule. In 2016, there was one outlier record from one HCO whose combined excess was 37 fewer patients prescribed enoxaparin with appropriate dosing schedule. The outlier HCO rate was 17.5 per 100 patients.

1.2 Percentage of patients prescribed hospital initiated warfarin whose loading doses are consistent with a Drug and Therapeutics Committee (DTC) approved protocol (H)

In 2016, there were seven records from four HCOs. The annual rate was 53.9 per 100 patients. In 2016, the potential gains totalled 33 more patients on hospital initiated warfarin whose loading doses are consistent with a DTC approved protocol. In 2016, there was one outlier record from one HCO whose combined excess was 11 fewer patients on hospital initiated warfarin whose loading doses are consistent with a DTC approved protocol. The outlier HCO rate was 11.5 per 100 patients.

1.3 Percentage of patients with an INR above 4 whose dosage has been adjusted or reviewed prior to the next warfarin dose (H)

In 2016, there were 18 records from 10 HCOs. The annual rate was 94.9 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

Antibiotic therapy

2.1 Percentage of prescriptions for restricted antibiotics that are concordant with drug and therapeutics committee approved criteria (H)

In 2016, there were seven records from five HCOs. The annual rate was 89.4 per 100 prescriptions for restricted antibiotics. There were no potential gains in 2016. There were no outlier HCOs in 2016.

2.2 Percentage of patients in whom doses of empirical aminoglycoside therapy are continued beyond 48 hours (L)

In 2016, there were five records from three HCOs. The annual rate was 45.5 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

2.3 Percentage of patients presenting with community acquired pneumonia that are prescribed guideline concordant antibiotic therapy (H)

In 2016, there was one record from one HCO. The annual rate was 73.5 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

Medication ordering

3.1 Percentage of patients whose current medications are documented and reconciled at admission (H)

In 2016, there were 53 records from 33 HCOs. The annual rate was 50.2 per 100 patients. In 2016, the potential gains totalled 5,356 more patients whose current medications are documented and reconciled at admission. In 2016, there were five outlier records from three HCOs whose combined excess was 1,786 fewer patients whose current medications are documented and reconciled at admission. The outlier HCO rate was 20.7 per 100 patients.

3.2 Percentage of patients whose known adverse drug reactions are documented on the current medication chart (H)

In 2016, there were 80 records from 44 HCOs. The annual rate was 95.4 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were 25 outlier records from 16 HCOs whose combined excess was 877 fewer patients whose known ADRs are documented on the current medication chart. The outlier HCO rate was 79.5 per 100 patients.

3.3 Percentage of medication orders that include error-prone abbreviations (L)

In 2016, there were 45 records from 25 HCOs. The annual rate was 4.2 per 100 medication orders. In 2016, the potential gains totalled 1,909 fewer medication orders that include error-prone abbreviations, corresponding to a reduction by approximately one-half. In 2016, there were nine outlier records from seven HCOs whose combined excess was 1,274 more medication orders that include error-prone abbreviations. The outlier HCO rate was 17.0 per 100 medication orders.

3.4 Percentage of patients receiving cytotoxic chemotherapy whose treatment is guided by a hospital approved chemotherapy treatment protocol (H)

In 2016, there were four records from three HCOs. The annual rate was 99.8 per 100 patients. There was relatively little variation between HCOs and so the potential gains

were small in 2016. In 2016, there was one outlier record from one HCO whose combined excess was four fewer patients starting a cycle of chemotherapy treatment guided by a hospital approved protocol. The outlier HCO rate was 97.9 per 100 patients.

Pain management

4.1 Percentage of postoperative patients that are given a written pain management plan at discharge AND a copy is communicated to the primary care clinician (H)

In 2016, there were two records from one HCO. The annual rate was 83.8 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

Continuity of care

5.1 Percentage of discharge summaries that include medication therapy changes and explanations for changes (H)

In 2016, there were 15 records from 12 HCOs. The annual rate was 69.9 per 100 discharge summaries. In 2016, the potential gains totalled 98 more discharge summaries that include medication therapy changes. In 2016, there were two outlier records from two HCOs whose combined excess was 27 fewer discharge summaries that include medication therapy changes. The outlier HCO rate was 47.0 per 100 discharge summaries.

5.2 Percentage of patients discharged on warfarin that receive written information regarding warfarin management prior to discharge (H)

In 2016, there were seven records from five HCOs. The annual rate was 89.7 per 100 patients. In 2016, the potential gains totalled 48 more patients who receive written information regarding warfarin management prior to discharge. In 2016, there were three outlier records from two HCOs whose combined excess was 35 fewer patients who receive written information regarding warfarin management prior to discharge. The outlier HCO rate was 62.3 per 100 patients.

5.3 Percentage of patients with a new adverse drug reaction (ADR) that are given written ADR information at discharge AND a copy is communicated to the primary care clinician (H)

In 2016, there were 18 records from 11 HCOs. The annual rate was 53.2 per 100 patients. In 2016, the potential gains totalled 111 more patients discharged with ADR information that was also communicated to their primary care clinician. In 2016, there were two outlier records from two HCOs whose combined excess was 49 fewer patients discharged with ADR information that was also communicated to their primary care clinician. The outlier HCO rate was 21.8 per 100 patients.

5.4 Percentage of patients receiving sedatives at discharge that were not taking them at admission (L)

No data was submitted for this indicator in 2016.

5.5 Percentage of patients whose discharge summaries contain a current, accurate and comprehensive list of medicines (H)

In 2016, there were 20 records from 14 HCOs. The annual rate was 96.5 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were 12 outlier records from nine HCOs whose combined excess was 154 fewer patients whose discharge summaries contain a current, accurate and comprehensive medicines list. The outlier HCO rate was 75.4 per 100 patients.

5.6 Percentage of patients who receive a current, accurate and comprehensive medication list at the time of hospital discharge (H)

In 2016, there were 30 records from 20 HCOs. The annual rate was 53.8 per 100 patients. In 2016, the potential gains totalled 10,068 more patients who received a current, accurate and comprehensive medication list at hospital discharge. In 2016, there were three outlier records from two HCOs whose combined excess was 3,175 fewer patients who received a current, accurate and comprehensive medication list at hospital discharge. The outlier HCO rate was 32.5 per 100 patients.

Hospital wide policies

6.1 Percentage of patients that are reviewed by a clinical pharmacist within one day of admission (H)

In 2016, there were 20 records from 15 HCOs. The annual rate was 75.2 per 100 patients. In 2016, the potential gains totalled 517 more patients who are reviewed by a clinical pharmacist within one day of admission. In 2016, there were six outlier records from five HCOs whose combined excess was 277 fewer patients who are reviewed by a clinical pharmacist within one day of admission. The outlier HCO rate was 39.1 per 100 patients.

6.2 Adverse drug reactions reported to TGA (N)

In 2016, there were 149 records from 82 HCOs. The annual rate was 0.14 per 100 drug reactions. The fitted rate increased from 0.11 to 0.15, a change of 0.043 per 100 separations. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.043 per 100 separations. There were no potential gains in 2016 Since it has not been specified whether high or low rates are desirable, outlier HCOs are not reported.

6.3 Medication errors - adverse event requiring intervention (L)

In 2016, there were 451 records from 238 HCOs. The annual rate was 0.014 per 100 bed days. The fitted rate improved from 0.030 to 0.010, a change of 0.019 per 100 bed days. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.020 per 100 bed days. In 2016, the potential gains totalled 1,281 fewer medication errors resulting in an adverse event requiring intervention, corresponding to a reduction by approximately four-fifths. In 2016, there were 13 outlier records from nine HCOs whose combined excess was 811 more medication errors resulting in an adverse event requiring intervention. The outlier HCO rate was 0.11 per 100 bed days.

"ACHS's efforts in supporting the collection and use of data on mental health service quality are an important part of building a culture of data collection and reflective practice."

The Royal
Australian &
New Zealand
College of
Psychiatrists

The RANZCP recommends following guidelines as excellent resources to support evidence-based best practice in the management of mental health conditions in areas of:

• Mood disorders

• Schizophrenia and related disorders

• Deliberate self-harm

• Eating disorders

The guidelines are all available on the RANZCP website at www.ranzcp.org/guidelines.

Mental Health

Dr Grant Sara
Chair, Mental Health Strategy Standing Committee;
Member, ACHS Mental Health Working Party

General Comments

It is impossible to improve health services without feedback of meaningful clinical indicators. The ACHS Mental Health Clinical Indicators have a long history, and the current version (version 7) was first published in 2016. The indicators measure many critical issues for mental health services, including the effective collaborative care planning, good assessment of physical health problems, rational prescribing, follow-up care after hospitalisation and the avoidance of harm through seclusion, restraint or exposure to assault. ACHS is to be commended for its efforts in producing a report of this length and complexity.

There are two complementary approaches to collecting and reporting comparative indicators. National and state reporting typically aims for the consistent inclusion of all services and therefore limits itself to measures which are universally available through agreed minimum data sets and routine collections. This means that some important issues are not well reported and that private hospitals cannot easily be compared to public services. By contrast, the ACHS indicators include many issues that can currently only be measured by detailed examination of individual clinical records, such as the presence of care plans or documented physical examination. Because of the effort involved, not all services collect all data, and the number of services varies significantly between indicators and over time. Each of these two approaches has strengths and weaknesses. The richness of the ACHS 'opt-in' approach comes at the expense of comparability. There is no way to know how representative contributing services are, or how their performance differs from services who did not contribute data for that indicator. When comparing indicators, trends over time or states and regions, it is also important to check the number of organisations contributing data: this often varies greatly from indicator to indicator. Therefore, some apparent differences are likely to reflect differences in the mix of services included. Hopefully, the increasing use of electronic health records and developments in data analysis should allow these two approaches to converge in the years ahead.

In the meantime, how should the indicators in this report be interpreted? Service users, consumers, families and policy makers who are interested in national

trends or comparisons should ideally start with universal and nationally consistent reports. The Australian Institute of Health and Welfare's Mental Health Services in Australia website (http://mhsa.aihw.gov.au/home/) is the most comprehensive source of data on the performance of Australian government mental health services. The current ACHS indicator report adds valuable supplementary information on specific issues.

The current report shows that services make significant efforts to provide high-quality care. For the services reporting data, around 92% of episodes have a documented care plan. Of these, 73% are signed by the consumer and 43% are signed by a carer. More than 80% of episodes have a documented physical examination. At discharge, around three-quarters of consumers or carers were provided with a discharge summary or letter and had a discharge letter provided to their follow-up care provider within one working day. This is a promising baseline; however, we need consistent national data on these important aspects of care. Much of the data reported on discharge documentation come from private hospitals, and rates in those services appeared higher than for the public hospitals included.

Rational prescribing is an essential component of care. The report suggests that polypharmacy is frequent: 26% of episodes involved a person being on two or more medications from the same class at discharge, and 31% of people discharged on antipsychotics were on two or more medications. In a fifth of services, rates of polypharmacy were 40% or more. This issue warrants further clinical investigation.

The ACHS report provides important information on serious assaults and self-injury. Thankfully, these serious events were rare: 0.74% of episodes included a person committing an assault, 0.38% of episodes involved people being victims of assault, 0.26% of episodes involved significant self-harm and 0.015% of episodes (nine episodes in total) involved suicide. While rare, these incidents all have extremely serious impacts. Better and more consistent national data would assist efforts to eliminate these events.

For consumers, clinicians and managers in individual services, feedback of data of this type is essential for service improvement. This requires comparison to a peer group of 'like enough' services. ACHS's efforts in supporting the collection and use of data on mental health service quality are an important part of building a culture of data collection and reflective practice.

Feature Clinical Indicators

CI 5.1: Rate of seclusion (Seclusion episodes per 1,000 bed days) (L)

CI 5.2: Average duration of seclusion episodes (Hours per episode) (L)

Avoiding restrictive practice and protecting people from harm are essential components of effective inpatient care. The report includes several seclusion and restraint indicators, which should ideally be compared with nationally published data for all Australian public mental health services (http://mhsa.aihw.gov.au/services/admitted-patient/restrictive-practices). Compared to national averages, the services reporting seclusion data to the ACHS report had a slightly lower overall seclusion rate (5.2 episodes per 1000 bed days compared to 8.1 episodes) but a much longer average duration of seclusion (23 hours compared to 5.3 hours). This suggests that the services included may not be a nationally representative sample, underlining the need for caution in interpreting this data.

2016 Summary Data

Diagnosis and care planning

1.1 Individual care plan (H)

In 2016, there were 85 records from 49 HCOs. The annual rate was 92.6 per 100 consumers. In 2016, the potential gains totalled 2,242 more consumers with an individual care plan. In 2016, there were 15 outlier records from 12 outlier HCOs whose combined excess was 1,157 fewer consumers with an individual care plan. The outlier HCO rate was 71.2 per 100 consumers.

1.2 Individual care plan signed by consumer (H)

In 2016, there were 61 records from 36 HCOs. The annual rate was 73.3 per 100 consumers. In 2016, the potential gains totalled 5,321 more consumers who have a signed care plan. In 2016, there were 17 outlier records from 12 outlier HCOs whose combined excess was 2,131 fewer consumers who have a signed care plan. The outlier HCO rate was 43.0 per 100 consumers.

1.3 Individual care plan signed by carer (H)

In 2016, there were 28 records from 19 HCOs. The annual rate was 43.5 per 100 consumers. In 2016, the potential gains totalled 3,208 more consumers whose carers have signed a care plan. In 2016, there were 11 outlier records from 10 outlier HCOs whose combined excess was 1,644 fewer consumers whose carers have signed a care plan. The outlier HCO rate was 3.4 per 100 consumers.

Physical examination of patients

2.1 Physical examination documented within 24 hours of admission (H)

In 2016, there were 87 records from 48 HCOs. The annual rate was 80.5 per 100 consumers. In 2016, the potential gains totalled 5,746 more consumers who have a comprehensive documented physical examination within 24 hours of admission. In 2016, there were 20 outlier records from 13 outlier HCOs whose combined excess was 2,667 fewer consumers who have a comprehensive documented physical examination within 24 hours of admission. The outlier HCO rate was 56.2 per 100 consumers.

Prescribing patterns

3.1 Discharged on 2 or more psychotropic medications from 1 sub-group category (excluding antipsychotics) (L)

In 2016, there were 27 records from 19 HCOs. The annual rate was 26.2 per 100 consumers. In 2016, the potential gains totalled 2,131 fewer consumers discharged on two or more psychotropic medications from one sub-group category, corresponding to a reduction by approximately four-fifths. In 2016, there were eight outlier records from six HCOs whose combined excess was 906 more consumers discharged on two or more psychotropic medications from one sub-group category. The outlier HCO rate was 50.2 per 100 consumers.

3.2 Percentage of patients who receive written and verbal information on regular psychotropic medicines initiated during their admission (including antipsychotics) (H)

In 2016, there were four records from three HCOs. The annual rate was 91.6 per 100 inpatients. In 2016, the potential gains totalled 21 more inpatients who receive written and verbal information on newly initiated regular psychotropic medications.

3.3 Discharged on 2 or more antipsychotic medications (L)

In 2016, there were 15 records from 12 HCOs. The annual rate was 30.5 per 100 consumers. In 2016, the potential gains totalled 661 fewer consumers discharged on two or more antipsychotic medications, corresponding to a reduction by approximately three-quarters. In 2016, there were three outlier records from three HCOs whose combined excess was 204 more consumers discharged on two or more antipsychotic medications. The outlier HCO rate was 59.3 per 100 consumers.

3.4 Metabolic side effects for consumers commencing antipsychotic medications (H)

In 2016, there were five records from four HCOs. The annual rate was 96.8 per 100 consumers. There was relatively little variation between HCOs and so the potential gains were small in 2016.

3.5 Metabolic side effects for consumers taking regular antipsychotic medications (H)

In 2016, there were five records from four HCOs. The annual rate was 92.5 per 100 consumers. In 2016, the potential gains totalled 57 more consumers who receive appropriate monitoring of metabolic side effects from antipsychotic medications. In 2016, there was one outlier record from one outlier HCO whose combined excess was 21 fewer consumers who receive appropriate monitoring of metabolic side effects from antipsychotic medications. The outlier HCO rate was 87.1 per 100 consumers.

Electroconvulsive therapy

4.1 Mean number of ECT treatments (L)

In 2016, 36 HCOs reported a total of 14,163 non-maintenance ECT treatments in courses that were completed for 2,056 consumers . The mean number of treatments per consumer was 6.89.

Use of seclusion and restraint

5.1 Rate of seclusion (Seclusion episodes per 1,000 bed days) (L)

In 2016, there were 30 records from 19 HCOs. The annual rate was 5.3 per 1,000 bed days. In 2016, the potential gains totalled 1,239 fewer seclusion episodes in unit, corresponding to a reduction by approximately three-quarters. In 2016, there were eight outlier records from six HCOs whose combined excess was 577 more seclusion episodes in the unit. The outlier HCO rate was 11.4 per 1,000 bed days

5.2 Average duration of seclusion episodes (Hours per episode) (L)

In 2016, 15 HCOs reported a total of 1,310 episodes of seclusion. The mean duration of seclusion was 23 hours. The median duration of seclusion was 9.9 hours. The average duration of seclusion was reduced from 23.0 to 8.0 hours (for 1,223 seclusions) when two records from one outlier HCO were excluded from the calculations. The median and centiles were unchanged after this exclusion.

5.3 Percent of persons secluded (L)

In 2016, there were 25 records from 14 HCOs. The annual rate was 6.9 per 100 inpatients. In 2016, the potential gains totalled 547 fewer persons secluded at least once, corresponding to a reduction by approximately

three- quarters. In 2016, there were four outlier records from three HCOs whose combined excess was 158 more persons secluded at least once. The outlier HCO rate was 11.5 per 100 inpatients.

5.4 Seclusion more than 4 hours in 1 episode (L)

In 2016, there were 27 records from 16 HCOs. The annual rate was 0.49 per 1 seclusion episode. The fitted rate improved from 0.51 to 0.37, a change of 0.14 per seclusion episode. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.13 per seclusion episode. In 2016, the potential gains totalled 461 fewer completed episodes who had seclusion for more than four hours in one episode, corresponding to a reduction by approximately four-fifths. In 2016, there were two outlier records from two HCOs whose combined excess was 73 more completed episodes who had seclusion for more than 4 hours in 1 episode. The outlier HCO rate was 0.69 per seclusion episode.

5.5 Physical restraint - 1 or more episodes (L)

In 2016, there were 25 records from 14 HCOs. The annual rate was 4.2 per 100 completed episodes. The fitted rate deteriorated from 0.87 to 4.0, a change of 3.1 per 100 completed episodes. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 3.0 per 100 completed episodes. In 2016, the potential gains totalled 447 fewer completed episodes with at least one episode of physical restraint, corresponding to a reduction by approximately three-quarters. In 2016, there were three outlier records from two HCOs whose combined excess was 85 more completed episodes with at least 1 episode of physical restraint. The outlier HCO rate was 11.0 per 100 completed episodes.

5.6 Mechanical restraint - 1 or more episodes (L)

In 2016, there were 23 records from 13 HCOs. The annual rate was 0.18 per 100 completed episodes. In 2016, the potential gains totalled 20 fewer completed episodes with at least one episode of mechanical restraint, corresponding to a reduction by approximately four-fifths. In 2016, there were three outlier records from two HCOs whose combined excess was 14 more completed episodes with at least 1 episode of mechanical restraint. The outlier HCO rate was 1.2 per 100 completed episodes.

2016 SUMMARY DATA

Major critical incidents

6.1 Suicide (L)

In 2016, there were 130 records from 69 HCOs. The annual rate was 0.015 per 100 consumers. There were no potential gains in 2016.

6.2 Consumers who assault (L)

In 2016, there were 92 records from 51 HCOs. The annual rate was 0.74 per 100 consumers. In 2016, the potential gains totalled 335 fewer consumers who assault, corresponding to a reduction by approximately four-fifths. In 2016, there were 14 outlier records from nine HCOs whose combined excess was 221 more consumers who assault. The outlier HCO rate was 3.9 per 100 consumers.

6.3 Consumers assaulted (L)

In 2016, there were 85 records from 47 HCOs. The annual rate was 0.38 per 100 consumers. In 2016, the potential gains totalled 153 fewer consumers assaulted, corresponding to a reduction by approximately four-fifths. In 2016, there were eight outlier records from seven HCOs whose combined excess was 95 more consumers assaulted. The outlier HCO rate was 2.7 per 100 consumers.

6.4 Sexual assault (L)

In 2016, there were 29 records from 22 HCOs. The annual rate was 2.3 per 100 consumers assaulted. There were no potential gains in 2016.

6.5 Significant self-mutilation (L)

In 2016, there were 131 records from 69 HCOs. The annual rate was 0.26 per 100 consumers. In 2016, the potential gains totalled 118 fewer consumers who undertake significant self-mutilation in an admission, corresponding to a reduction by approximately three-quarters. In 2016, there were six outlier records from four HCOs whose combined excess was 38 more consumers who undertake significant self-mutilation in an admission. The outlier HCO rate was 1.7 per 100 consumers.

Length of stay

7.1 Acute unit - length of stay more than 28 days (L)

In 2016, there were 79 records from 47 HCOs. The annual rate was 17.4 per 100 completed episodes. In 2016, the potential gains totalled 2,929 fewer completed episodes in an acute inpatient unit with a length of stay greater than 28 days, corresponding to a reduction by approximately one-half. In 2016, there were 22 outlier records from 18 HCOs whose combined excess was 915 more completed episodes in an acute inpatient unit with a length of stay greater than 28 days. The outlier HCO rate was 26.9 per 100 completed episodes.

Mental Health Act status

8.1 Involuntary admission status (N)

In 2016, there were 20 records from 12 HCOs. The annual rate was 23.1 per 100 completed episodes.

8.2 Change to less restrictive admission status (H)

In 2016, there were eight records from five HCOs. The annual rate was 44.6 per 100 completed episodes. There was relatively little variation between HCOs and so the potential gains were small in 2016.

Continuity of care

9.1 Discharge summary/letter provided to consumer or nominated carer (H)

In 2016, there were 73 records from 41 HCOs. The annual rate was 74.7 per 100 completed episodes. In 2016, the potential gains totalled 6,598 more completed episodes where the consumer or nominated carer is provided with a discharge summary/letter at the time of hospital discharge. In 2016, there were 17 outlier records from 11 outlier HCOs whose combined excess was 3,292 fewer completed episodes where the consumer or nominated carer is provided with a discharge summary/letter at the time of hospital discharge. The outlier HCO rate was 32.7 per 100 completed episodes.

9.2 Discharge summary/letter provided to service providing ongoing care (H)

In 2016, there were 56 records from 33 HCOs. The annual rate was 76.4 per 100 completed episodes. In 2016, the potential gains totalled 4,195 more completed episodes where the consumer's discharge summary/letter is provided to the service providing ongoing care within one working day. In 2016, there were 17 outlier records from 13 outlier HCOs whose combined excess was 2,059 fewer completed episodes where the consumer's discharge summary/letter is provided to the service providing ongoing care within one working day. The outlier HCO rate was 46.1 per 100 completed episodes.

9.3 Three-monthly multidisciplinary review (H)

In 2016, there were 12 records from seven HCOs. The annual rate was 90.4 per 100 consumers. The fitted rate improved from 88.7 to 95.8, a change of 7.1 per 100 consumers. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 11.0 per 100 consumers. There was relatively little variation between HCOs and so the potential gains were small in 2016.
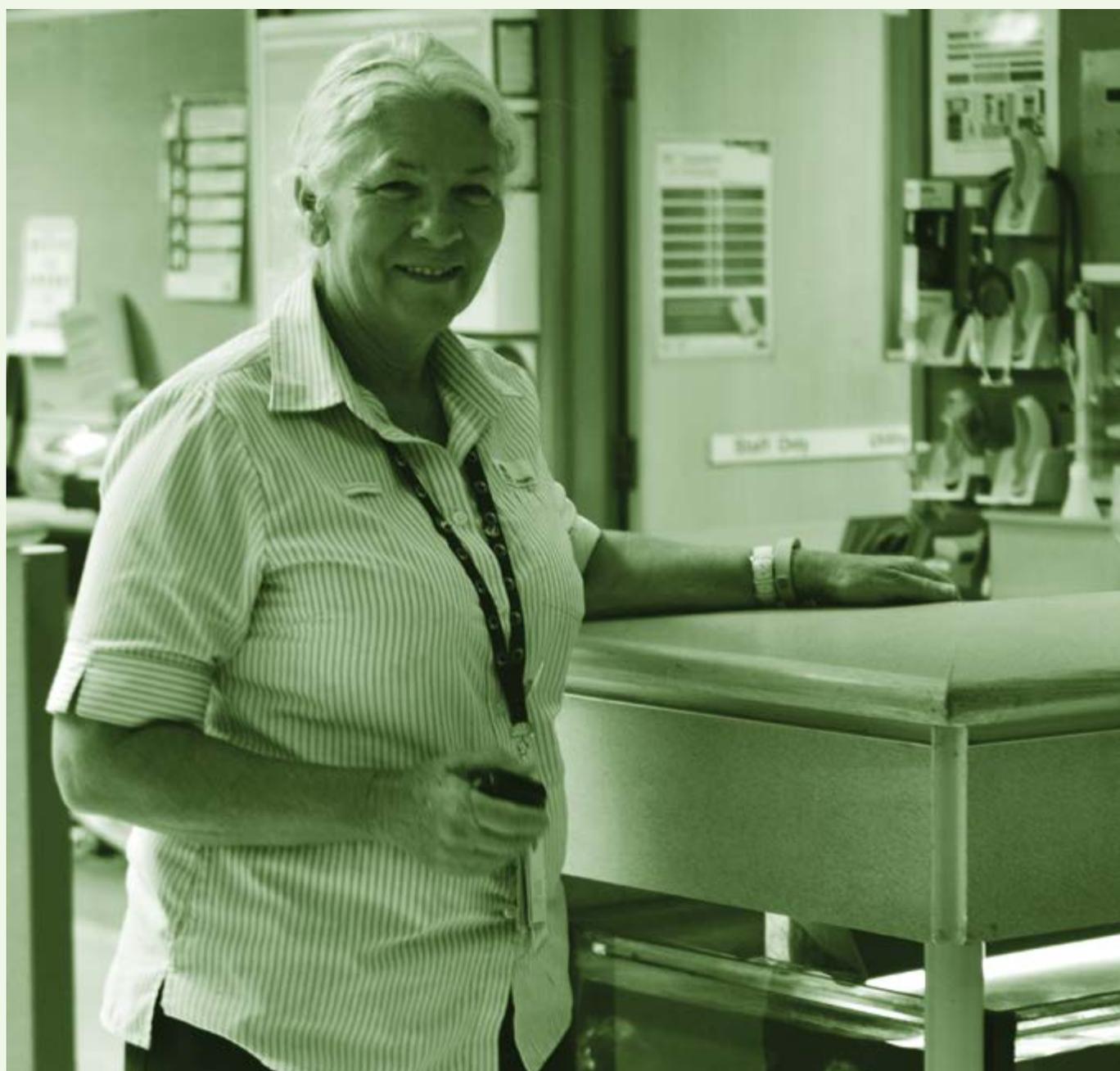
Community care

10.1 Consumers contacted by community service (N)

In 2016, there were nine records from five HCOs. The annual rate was 85.7 per 100 consumers.

10.2 Consumers seen face-to-face by community service (N)

In 2016, there were nine records from five HCOs. The annual rate was 64.9 per 100 consumers. There was no significant trend in the fitted rate.

Australian Ophthalmic Nurses Association National Council (AONANC) and The Australian Council on Healthcare Standards (ACHS)

"Overall the trend of reporting is excellent with significant gains across most of the collection sites."

The Ophthalmology clinical indicator set was reviewed in 2016 by a multidisciplinary Working Party consisting of representatives from the Royal Australian & New Zealand College of Ophthalmologists (RANZCO) and the Australian Ophthalmic Nurses' Association (AONA NSW & VIC). The revised Ophthalmology clinical indicator set has been released for data collection from January 2017.

Ophthalmology

Jenny Keller
Representative, Australian Ophthalmic Nurses Association National Council;
Member, ACHS Ophthalmology Working Party

Heather Machin
Representative, Australian Ophthalmic Nurses Association National Council

General Comments

Overall the trend of reporting is excellent with significant gains across most of the collection sites.

AONANC is concerned about the lack of clear information for the general rate of endophthalmitis. There has been an increased number of intravitreal injections being performed, and in the future, there may need to be a specific collection point for endophthalmitis after intravitreal injections, especially as some may be presenting to the emergency departments (not the original centre of injection) and therefore clinical indicator information may not be collected.

AONANC also questions the benefit for the HCOs in reporting Toric Intraocular Lens (IOLs) implantation 4.1 – 4.3 indicators. There were only 13 HCOs reporting in comparison with the 52 using the cataract indicators. It was noted that the planning records for the Toric lenses were available at the time of surgery.

In 2016, a multidisciplinary Working Party was established consisting of representatives from Royal Australian and New Zealand College of Ophthalmologists, Australian Ophthalmic Nurses Association National Council, Australian Private Hospitals Association, and Consumer Groups to review the version 4 of Ophthalmology Clinical Indicator set. Three indicators that provide data collection for Endophthalmitis are created, which are CI 1.2 'Cataract surgery – treatment within 28 days due to endophthalmitis', CI 2.3 'Intraocular glaucoma surgery – treatment within 28 days due to endophthalmitis', and CI 3.2 'Retinal detachment surgery – treatment within 28 days due to endophthalmitis', while there does not appear to be a collection point for Endophthalmitis after intravitreal injections that may present in the emergency department. AONANC believes that these new indicators for endophthalmitis should provide some evidence of clinical outcomes alerting centres to

review their practice in line with their peers. Indicators for Toric IOLs implantation were also modified in the revised indicator set to further assess the accuracy and effectiveness of Toric IOLs implantation.

Additionally, the recent revision process took positive steps to include new indicators for data collection for antibiotic prophylaxis during cataract surgery (CI 1.5), the occurrence of Toxic Anterior Segment Syndrome (TASS) in cataract surgery (CI 1.6) and planned second eye cataract surgery delay (CI 1.7). Changes implemented via the new AS 4187 'Reprocessing of reusable medical devices in health service organisation' may or may not impact the incidence of TASS, but it is an appropriate time to start having this monitored via a clinical indicator for ophthalmology.

We will now look forward to using the reviewed Ophthalmic Clinical indicators v6 which was released for data collection from January 2017.

2015 Summary Data

Cataract surgery

1.1 Cataract surgery - readmission within 28 days (L)

In 2016, there were 95 records from 52 HCOs. The annual rate was 0.22 per 100 patients. The fitted rate improved from 0.31 to 0.18, a change of 0.13 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.12 per 100 patients. In 2016, the potential gains totalled 102 fewer patients readmitted within 28 days, corresponding to a reduction by approximately three-quarters. In 2016, there were three outlier records from two HCOs whose combined excess was 47 more patients readmitted within 28 days. The outlier HCO rate was 0.90 per 100 patients.

1.2 Cataract surgery - readmission within 28 days due to endophthalmitis (L)

In 2016, there were 87 records from 49 HCOs. The annual rate was 0.019 per 100 patients. The fitted rate improved from 0.047 to 0.014, a change of 0.033 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 0.033 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there was one outlier record from one HCO whose combined excess was two more patients readmitted within 28 days due to endophthalmitis. The outlier HCO rate was 0.12 per 100 patients.

1.3 Cataract surgery - unplanned overnight admission (L)

In 2016, there were 87 records from 49 HCOs. The annual rate was 0.44 per 100 patients. The fitted rate improved from 0.50 to 0.42, a change of 0.079 per 100 patients. In 2016, the potential gains totalled 213 fewer patients who had an unplanned overnight admission, corresponding to a reduction by approximately four-fifths. In 2016, there were seven outlier records from five HCOs whose combined excess was 108 more patients who had an unplanned overnight admission. The outlier HCO rate was 1.6 per 100 patients.

1.4 Cataract surgery - anterior vitrectomy (L)

In 2016, there were 94 records from 52 HCOs. The annual rate was 0.52 per 100 patients. The fitted rate improved from 0.67 to 0.53, a change of 0.14 per 100 patients. In 2016, the potential gains totalled 170 fewer patients having an anterior vitrectomy, corresponding to a reduction by approximately one-half. In 2016, there were five outlier records from four HCOs whose combined excess was 65 more patients having an anterior vitrectomy. The outlier HCO rate was 1.5 per 100 patients.

Intraocular glaucoma surgery

2.1 Intraocular glaucoma surgery - readmission within 28 days (L)

In 2016, there were 33 records from 19 HCOs. The annual rate was 2.3 per 100 patients. The fitted rate improved from 4.4 to 2.4, a change of 2.0 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 2.0 per 100 patients. In 2016, the potential gains totalled 28 fewer patients readmitted within 28 days, corresponding to a reduction by approximately two-thirds. There were no outlier HCOs in 2016.

2.2 Intraocular glaucoma surgery - readmission within 28 days due to endophthalmitis (L)

In 2016, there were 31 records from 18 HCOs. The annual rate was 0 per 100 patients. There was no significant trend in the fitted rate. There were no potential gains in 2016. There were no outlier HCOs in 2016.

2.3 Intraocular glaucoma surgery - LOS greater than 3 days (L)

In 2016, there were 17 records from 10 HCOs. The annual rate was 1.4 per 100 patients. There was no significant trend in the fitted rate. There was relatively little variation between HCOs and so the potential gains were small in 2016. There were no outlier HCOs in 2016.

Retinal detachment surgery

3.1 Retinal detachment surgery - readmissions within 28 days (L)

In 2016, there were 22 records from 12 HCOs. The annual rate was 3.6 per 100 patients. The fitted rate deteriorated from 2.6 to 4.5, a change of 2.0 per 100 patients. In 2016, the potential gains totalled 58 fewer patients readmitted within 28 days, corresponding to a reduction by approximately one-third. In 2016, there was one outlier record from one HCO whose combined excess was nine more patients readmitted within 28 days. The outlier HCO rate was 14.3 per 100 patients.

3.2 Retinal detachment surgery - unplanned readmission within 28 days due to endophthalmitis (L)

In 2016, there were 26 records from 14 HCOs. The annual rate was 0.018 per 100 patients. There was no significant trend in the fitted rate. There were no potential gains in 2016. There were no outlier HCOs in 2016.

3.3 Retinal detachment surgery - LOS greater than 4 days (L)

In 2016, there were 16 records from nine HCOs. The annual rate was 0.45 per 100 patients. The fitted rate improved from 1.1 to 0.36, a change of 0.78 per 100 patients. In 2016, the potential gains totalled 10 fewer patients with an LOS greater than four days, corresponding to a reduction by approximately one-half. In 2016, there was one outlier record from one HCO whose combined excess was two more patients with an LOS greater than four days. The outlier HCO rate was 6.3 per 100 patients.

3.4 Retinal detachment surgery - unplanned reoperation within 28 days (L)

In 2016, there were 26 records from 15 HCOs. The annual rate was 3.4 per 100 patients. The fitted rate deteriorated from 2.0 to 3.5, a change of 1.4 per 100 patients. In 2016, the potential gains totalled 59 fewer patients having an unplanned reoperation within 28 days, corresponding to a reduction by approximately one third. In 2016, there was one outlier record from one HCO whose combined excess was 10 more patients having an unplanned reoperation within 28 days. The outlier HCO rate was 14.3 per 100 patients.

Toric intraocular lens implantation

4.1 Intraocular lens implantation with planning record present at time of surgery (H)

In 2016, there were 22 records from 13 HCOs. The annual rate was 100 per 100 toric intraocular lenses. There was no significant trend in the fitted rate. There were no potential gains in 2016. There were no outlier HCOs in 2016.

4.2 Toric lens implantation (N)

In 2016, there were 20 records from 12 HCOs. The annual rate was 31.8 per 100 toric intraocular lenses. The fitted rate increased from 29.0 to 30.7, a change of 1.8 per 100 toric intraocular lenses. There were no potential gains in

2016 Since it has not been specified whether high or low rates are desirable, outlier HCOs are not reported.

4.3 Toric intraocular lens implantation with planning record present at time of surgery (H)

In 2016, there were 17 records from 10 HCOs. The annual rate was 100 per 100 toric intraocular lenses. There was no significant trend in the fitted rate. There were no potential gains in 2016. There were no outlier HCOs in 2016.

"In 2016, the number of contributing
healthcare organisations (HCOs)
has increased steadily and is being
maintained."

The Oral Health clinical indicator set was
reviewed in 2016 by a multidisciplinary
Working Party consisting of
representatives from the Australian
Dental Association (ADA), the Royal
Australasian College of Dental Surgeons
(RACDS) and the Australian Private
Hospitals Association (APHA). The
revised Oral Health clinical indicator set
has been released for data collection
from January 2017.

Oral Health

Dr Hugo Sachs
President, Australian Dental Association
Chair, ACHS Oral Health Working Party

General comments

Data collected and reported in 2016 is as per the
version 3 of the Oral Health Clinical Indicator User
Manual. In 2016, the number of contributing healthcare
organisations (HCOs) has increased steadily and is
being maintained, with more public (98%) and non-
metro (55%) HCOs submitting data.

Slight improvements have been observed in 2016
data compared with rates in 2015 in five out of ten
indicators, which are CI 1.1 'Restorative treatment - teeth
retreated within 6 months', CI 1.3 'Surgical extraction
- complications within 7 days', CI 2.2 'Endodontic
treatment - teeth extracted within 12 months', CI 3.1
'Restorative treatment (children) - teeth retreated
within 6 months', and CI 3.3 'Fissure sealant treatment
(children) - re-treatment within 24 months'. However,
six indicators demonstrated a deteriorating trend in
2009 -2016, in which rates for CI 1.1, CI 1.3 and CI 2.2
showed statistically significant trends in the undesirable
direction after allowing for the changing composition
of HCOs contributing over the period. This suggests a
need to further investigate the underlying problems that
caused the deterioration, and to implement and monitor
changes to drive improvements. Variation between
sectors, such as metropolitan versus rural, or among
different states and territories was detected across
indicators, indicating a further need for the data to be
examined and carefully interpreted in the local contexts.

Chaired by the Australian Dental Association (ADA),
the multidisciplinary Working Party reviewed the Oral
Health indicators v3 in 2016. Modification was made
according to ADD codes to ensure the revised indicator
set represents the current dental practices. The revised
Oral Health Clinical Indicator v4 was released for data
collection in January 2017.

Feature Clinical Indicators

CI 1.1: Restorative treatment - teeth retreated within 6 months (L)

There is an increasing trend in restorative re-treatments. There is a need to extrapolate further information regarding the causes including the type of dental health provider (dentist, oral health therapist or dental therapist) or type of tooth (deciduous or permanent tooth).

CI 1.2: Routine extraction – complications within 7 days (L)

The aggregate rate has declined in recent years and these improved outcomes is a pleasing result. There is a lack of designation of the type of complication (e.g. infection, dry socket, paraesthesias or jaw fracture) and this should be investigated further. There is a significant variation in the rate between metropolitan (1.3) and non-metropolitan (2.13) facilities.

2016 Summary Data

Unplanned returns to the dental centre

1.1 Restorative treatment - teeth retreated within 6 months (L)

In 2016, there were 129 records from 69 HCOs. The annual rate was 7.2 per 100 teeth restored. The fitted rate deteriorated from 5.3 to 7.4, a change of 2.1 per 100 teeth restored. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 1.3 per 100 teeth restored. In 2016, the potential gains totalled 7,372 fewer teeth retreated within six months, corresponding to a reduction by approximately one quarter. In 2016, there were 22 outlier records from 16 HCOs whose combined excess was 2,099 more teeth retreated within six months. The outlier HCO rate was 9.0 per 100 teeth restored.

1.2 Routine extraction - complications within 7 days (L)

In 2016, there were 129 records from 69 HCOs. The annual rate was 1.7 per 100 patients. The fitted rate deteriorated from 1.6 to 1.8, a change of 0.15 per 100 patients. In 2016, the potential gains totalled 592 fewer attendances for complications within 7 days, corresponding to a reduction by approximately one quarter. In 2016, there were eight outlier records from seven HCOs whose combined excess was 171 more attendances for complications within 7 days. The outlier HCO rate was 3.3 per 100 patients.

1.3 Surgical extraction - complications within 7 days (L)

In 2016, there were 82 records from 45 HCOs. The annual rate was 3.2 per 100 patients. The fitted rate deteriorated from 2.0 to 3.5, a change of 1.6 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 1.6 per 100 patients. In 2016, the potential gains totalled 70 fewer attendances for complications within 7 days, corresponding to a reduction by approximately one-tenth. In 2016, there were four outlier records from four HCOs whose combined excess was 22 more attendances for complications within 7 days. The outlier HCO rate was 12.6 per 100 patients.

1.4 Denture remade within 12 months (L)

In 2016, there were 77 records from 46 HCOs. The annual rate was 3.2 per 100 dentures. The fitted rate deteriorated from 2.1 to 3.1, a change of 0.96 per 100 dentures. In 2016, the potential gains totalled 611 fewer dentures remade within 12 months, corresponding to a reduction by approximately one-half. In 2016, there were six outlier records from four HCOs whose combined excess was 172 more dentures remade within 12 months. The outlier HCO rate was 5.5 per 100 dentures.

Endodontic treatment

2.1 Endodontic treatment - same tooth within 6 months of initial treatment (H)

In 2016, there were 67 records from 38 HCOs. The annual rate was 47.0 per 100 teeth. The fitted rate deteriorated from 50.8 to 48.5, a change of 2.3 per 100 teeth. In 2016, the potential gains totalled 1,035 more completed courses of endodontic treatment within six months. In 2016, there were five outlier records from four outlier HCOs whose combined excess was 179 fewer completed courses of endodontic treatment within six months. The outlier HCO rate was 23.5 per 100 teeth.

2.2 Endodontic treatment - teeth extracted within 12 months (L)

In 2016, there were 122 records from 65 HCOs. The annual rate was 7.0 per 100 teeth. The fitted rate deteriorated from 5.4 to 7.2, a change of 1.7 per 100 teeth. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 1.5 per 100 teeth. In 2016, the potential gains totalled 329 fewer teeth extracted within 12 months of endodontic treatment commencement, corresponding to a reduction by approximately one-quarter. In 2016, there were three outlier records from three HCOs whose combined excess was 49 more teeth extracted within 12 months of endodontic treatment commencement. The outlier HCO rate was 12.3 per 100 teeth.

Children's dental care

3.1 Restorative treatment (children) - teeth retreated within 6 months (L)

In 2016, there were 145 records from 76 HCOs. The annual rate was 2.5 per 100 teeth. The fitted rate improved from 2.7 to 2.5, a change of 0.19 per 100 teeth. In 2016, the potential gains totalled 922 fewer teeth retreated within six months, corresponding to a reduction by approximately one-tenth. In 2016, there were seven outlier records from five HCOs whose

combined excess was 234 more teeth retreated within six months. The outlier HCO rate was 4.1 per 100 teeth.

3.2 Pulpotomy (children) - deciduous teeth extracted within 6 months (L)

In 2016, there were 115 records from 65 HCOs. The annual rate was 4.2 per 100 teeth. In 2016, the potential gains totalled 46 fewer teeth extracted within six months, corresponding to a reduction by approximately one-tenth. In 2016, there was one outlier record from one HCO whose combined excess was seven more teeth extracted within six months. The outlier HCO rate was 23.9 per 100 teeth.

3.3 Fissure sealant treatment (children) - re-treatment within 24 months (L)

In 2016, there were 149 records from 78 HCOs. The annual rate was 2.4 per 100 teeth. In 2016, the potential gains totalled 1,799 fewer teeth retreated within 24 months of initial fissure sealant treatment, corresponding to a reduction by approximately one-fifth. In 2016, there were 24 outlier records from 20 HCOs whose combined excess was 1,117 more teeth retreated within 24 months of initial fissure sealant treatment. The outlier HCO rate was 3.9 per 100 teeth.

"The clinical indicators give good
information on quality areas for
improvement in a paediatric
healthcare environment."

Paediatrics

Maria Ronan

Representative, Australian College of Children and
Young People's Nurses

General Comments

The clinical indicators give good information on quality
areas for improvement in a paediatric health care
environment. It is interesting to note that the number of
HCOs reporting registered nurses with paediatric basic
life support qualifications was 12 in 2015 and yet only
eight HCOs reported in 2016 – an area that should have
100% compliance and should be easy for HCOs to report
on annually. Of note, there was no significant stratum
differences in 2015 – 2016 with a centile gain of 10%. The
area for improvement would be the outlier gain where one
area indicates a significant deficit in compliance. It is also
noted that the HCOs reporting medical practitioners with a
paediatric basic life support qualification was low with only
three in 2015 and two in 2016. Again, this is an area where
reporting should be possible and 100% compliance should
be achieved and yet in 2016, the compliance rate is 87.8%.

The Clinical Indicator report shows the significant
importance of a paediatric health care facility for all cases
of paediatric care. HCOs reporting has increased from 14 in
2015 to 17 in 2016 and highlights to a potential gain of 1,282
more paediatric cases admitted to dedicated paediatric
wards or areas; however, there were still outlier areas
with three HCOs where 575 few paediatric patients were
admitted to the dedicated area for paediatrics.

Medication errors is an area that can still show significant
improvement and again it would be important to see the
number of HCOs reporting increasing (12 HCOs in 2015 and
eight HCOs in 2016). The 2016 outlier gains at 13 showed a
statistically insignificant high rate and could show benefits
of improving the rate of each of the outlier HCOs to equal
the value of the overall rate.

Feature Clinical Indicators

CI 1.2: Medical Practitioners with paediatric basic life support qualifications (H)

Although trained and educated in medicine, it is important to ensure compliance with up to date evidence-based practice for all healthcare professionals in the area of paediatric medicine. Encouraging more HCOs to ensure mandatory basic life support training is completed by medical officers, particularly those who have trained many years ago, is essential to improving the quality of care in paediatrics. Reporting by more HCOs in this area would be of benefit to increasing skill levels and quality care.

CI 3.4: Physical assessment completed by registered nurse and documented (H)

The desirable level is high for this process driven clinical indicator. In 2016 the rate of 83.1 per 100 paediatric admissions can be improved.

CI 3.5: Medical discharge summary completed - paediatrics (H)

The outlier area indicated 90 fewer paediatric patients with a completed medical discharge summary. The importance of medical discharge summary is to communicate information to other health care providers for this patient. This is an area where improvement can benefit the patient and healthcare professionals.

Data collection for Version 5 of the Paediatric clinical indicator (CI) set, which was endorsed by the Paediatrics and Child Health Division of the Royal Australasian College of Physicians (RACP), commenced in January 2014 in five areas including appropriateness of paediatric care, paediatric adverse incidence, documentation, paediatric intensive care, and paediatric anaesthesia. In 2016, the four indicators in paediatric intensive care were removed from the Paediatric indicator set and integrated into the revised intensive care indicator set. Besides 14 indicators in the Paediatric set, there are eight paediatric related indicators embedded in other CI sets. They are CI 5.1 in the Emergency Medicine indicators, CI 1.6, 1.7, 2.2, 4.2, 5.2 in the Intensive Care indicators, and CI 9.1, 10.1 in the Maternity indicators. They address the management of sepsis, ICU availability and discharge, fetal growth and Apgar scores.

As participation in ACHS Clinical Indicator program is voluntary, the sample may not represent the overall population when the number of healthcare organisations (HCOs) submitting data is small. However, individual HCOs can use the data to assess their performance and to identify areas for improvement. There were 27 HCOs submitting data in 2016, with less than five contributors to the majority of indicators. In view of the limited data submission from HCOs, ACHS is considering ceasing the data collection for the Paediatric CI set from January 2018, while the additional eight paediatric related indicators in other CI sets will remain in place for data collection.

2016 Summary Data

Appropriateness

1.1 Registered nurses with paediatric basic life support qualifications (H)

In 2016, there were 15 records from eight HCOs. The annual rate was 97.2 per 100 registered nurses. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there was one outlier record from one outlier HCO whose combined excess was nine fewer registered nurses with current paediatric life support qualifications. The outlier HCO rate was 73.7 per 100 registered nurses.

1.2 Medical practitioners with paediatric basic life support qualifications (H)

In 2016, there were three records from two HCOs. The annual rate was 87.8 per 100 medical practitioners. There were no potential gains in 2016.

1.3 Paediatric patients admitted to a paediatric ward/area (H)

In 2016, there were 24 records from 17 HCOs. The annual rate was 94.3 per 100 paediatric admissions. In 2016, the potential gains totalled 1,282 more paediatric patients admitted to a dedicated paediatric ward/area. In 2016, there were four outlier records from three outlier HCOs whose combined excess was 575 fewer paediatric patients admitted to a dedicated paediatric ward/area. The outlier HCO rate was 79.0 per 100 paediatric admissions.

Adverse events

2.1 Medication errors (L)

In 2016, there were 16 records from eight HCOs. The annual rate was 0.42 per 100 paediatric admissions. In 2016, the potential gains totalled 56 fewer paediatric adverse medication incidents due to incorrect dose, corresponding to a reduction by approximately three-quarters. In 2016, there was one outlier record from one HCO whose combined excess was 13 more paediatric adverse medication incidents due to incorrect dose. The outlier HCO rate was 0.91 per 100 paediatric admissions.

2.2 Adverse events when not in a paediatric ward/area (L)

In 2016, there were six records from three HCOs. The annual rate was 2.9 per 100 paediatric admissions. In 2016, the potential gains totalled 190 fewer adverse events involving paediatric patients, corresponding to a reduction by approximately four-fifths. In 2016, there was one outlier

record from one HCO whose combined excess was 28 more adverse events involving paediatric patients. The outlier HCO rate was 3.8 per 100 paediatric admissions.

2.3 Adverse events in a paediatric ward/area (L)

In 2016, there were eight records from five HCOs. The annual rate was 3.5 per 100 paediatric admissions. In 2016, the potential gains totalled 425 fewer adverse events involving paediatric patients, corresponding to a reduction by approximately four-fifths. In 2016, there was one outlier record from one HCO whose combined excess was 134 more adverse events involving paediatric patients. The outlier HCO rate was 8.1 per 100 paediatric admissions.

Documentation

3.1 Completed asthma action plan - paediatrics (H)

In 2016, there were six records from four HCOs. The annual rate was 88.9 per 100 separations. In 2016, the potential gains totalled 45 more paediatric patients discharged with asthma action plans. In 2016, there was one outlier record from one outlier HCO whose combined excess was 12 fewer paediatric patients discharged with asthma action plans. The outlier HCO rate was 50.0 per 100 separations.

3.2 Paediatric surgery post-procedural report (H)

In 2016, there were two records from one HCO. The annual rate was 100 per 100 separations. There were no potential gains in 2016.

3.3 Physical assessment completed by medical practitioner and documented (H)

In 2016, there were seven records from four HCOs. The annual rate was 92.1 per 100 paediatric admissions. There was relatively little variation between HCOs and so the potential gains were small in 2016.

3.4 Physical assessment completed by registered nurse and documented (H)

In 2016, there were seven records from four HCOs. The annual rate was 83.1 per 100 paediatric admissions. In 2016, the potential gains totalled 28 more paediatric patients given a physical assessment by a registered nurse within four hours of admission.

3.5 Medical discharge summary completed - paediatrics (H)

In 2016, there were four records from three HCOs. The annual rate was 91.3 per 100 separations. In 2016, the potential gains totalled 260 more paediatric patients with a completed medical discharge summary. In 2016, there was one outlier record from one outlier HCO whose combined excess was 90 fewer paediatric patients with a completed medical discharge summary. The outlier HCO rate was 86.1 per 100 separations.

Paediatric anaesthesia

4.1 Paediatric patients who fast 6 hours prior to anaesthesia (H)

In 2016, there were six records from three HCOs. The annual rate was 90.7 per 100 paediatric patients. In 2016, the potential gains totalled 80 more paediatric patients who fast for six hours prior to anaesthesia. In 2016, there were two outlier records from one outlier HCO whose combined excess was 51 fewer paediatric patients who fast for six hours prior to anaesthesia. The outlier HCO rate was 74.4 per 100 paediatric patients.

4.2 Adverse event due to non-adherence to paediatric fasting guidelines (L)

In 2016, there were three records from two HCOs. The annual rate was 0 per 100 paediatric patients. There were no potential gains in 2016.

4.3 Parent/guardian present at induction of anaesthesia (N)

In 2016, there were two records from two HCOs. The annual rate was 100 per 100 paediatric patients.

"This is the first year that the 'new' more realistic indicators are commended by the RCPA. The data is, therefore, more meaningful (although preliminary) than the previous datasets."

Pathology

Dr Bronwen Ross
Deputy CEO, The Royal College of Pathologists of Australasia;
Member, ACHS Pathology Working Party

General Comments

This is the first year that the 'new' more realistic indicators are commended by the RCPA. The data is, therefore, more meaningful (although preliminary) than the previous datasets. As this is the first report to utilise the new indicators, it is not possible to draw comparisons to previous years. It will be interesting to see how the data develops over time, and whether the outliers improve their performance. The report has a better style of commentary than previously, with any differences qualified as 'potential' and not as 'significant'.

The Pathology clinical indicator set was reviewed in 2015 by a multidisciplinary Working Party consisting of representatives from the Royal College of Pathologists of the Australasia (RCPA), the Australian College of Nursing (ACN) and the Australian Private Hospitals Association (APHA). The revised Pathology clinical indicator set has been released for data collection in July 2016.

Feature Clinical Indicators

Haematology

CI 2.2: Haemoglobin from ED - collected to in lab time less than 60 minutes (H)

The difference between the 80 and 20 percentile groups is intriguing. The 80 percentile group achieved excellent performance yet the 20 percentile group performed worse than the within lab Turnaround Time (TAT). This suggests a problem of transporting the haematology sample to the laboratory, a situation not seen with either the potassium or troponin transport from the ED.

CI 2.5: Blood group from ED - recollections (H)

Blood group recollections most often represent an error in patient ID. The high rate of 5.5% represents an area where further improvement is essential to reduce clinical delays, wastage, expense and delays to ED clearance.

Anatomical pathology

CI 3.1: AP complexity level 4 MBS item - received to validated time less than 96 hours (H)

The apparent discrepancy between Victoria and other States with respect to Level 4 biopsy TAT is noted, along with the higher average biopsy volume per Victorian laboratory. It will be interesting to see if this trend is maintained. It may possibly reflect the case mix of certain laboratories (for example the proportion of simpler GIT and skin biopsies than other more complex L4 cases such as hysterectomies).

CI 3.3: Structured reporting for Anatomical Pathology (H)

The introduction of a non-TAT index is an important development and it will be interesting to see how this data develops.

Microbiology

The Microbiology clinical indicators seem to be collectable and reported in adequate numbers.

CI 4.1: Urine microscopy for ED - in lab to validated time less than 4 hours (H)

The 80 percentile represents excellent performance. The low rate of the 20 percentile group identifies an area of necessary improvement.

CI 4.2: Urine microscopy from ED - collection to in lab time less than 60 minutes (H)

The delivery of microscopy samples to the lab is acceptable in the 80 percentile group. The rate in the 20 percentile group is a concern. ED staff should be educated to understand the importance of these samples and the need to transport them quickly to improve ED efficiency.

CI 4.3: HIV antigen-antibody screening - in lab to validated time less than 24 hours (H)

This is a new measure and it will be interesting to see how this data develops.

2016 Summary Data

Chemical pathology

1.1 Serum/plasma potassium for ED - in lab to validated time less than 40 minutes (H)

In 2016, there were 52 records from 30 HCOs. The annual rate was 63.6 per 100 requests. In 2016, the potential gains totalled 15,029 more ED serum/plasma potassium samples with in lab to validated time less than 40 minutes. In 2016, there were 15 outlier records from 13 outlier HCOs whose combined excess was 7,336 fewer ED serum/plasma potassium samples with in lab to validated time less than 40 minutes. The outlier HCO rate was 42.4 per 100 requests.

1.2 Serum/plasma potassium from ED - collected to in lab time less than 60 minutes (H)

In 2016, there were 45 records from 25 HCOs. The annual rate was 87.0 per 100 requests. In 2016, the potential gains totalled 9,209 more ED serum/plasma potassium samples with collected to in lab time less than 60 minutes. In 2016, there were 12 outlier records from eight outlier HCOs whose combined excess was 5,203 fewer ED serum/plasma potassium samples with collected to in lab time less than 60 minutes. The outlier HCO rate was 61.0 per 100 requests.

1.3 Serum/plasma troponin for ED - in lab to validated time less than 50 minutes (H)

In 2016, there were 34 records from 19 HCOs. The annual rate was 72.6 per 100 requests. In 2016, the potential gains totalled 3,529 more ED serum/plasma troponin samples with in lab to validated time less than 50 minutes. In 2016, there were 11 outlier records from 10 outlier HCOs whose combined excess was 1,592 fewer ED serum/plasma troponin samples with in lab to validated time less than 50 minutes. The outlier HCO rate was 53.7 per 100 requests.

1.4 Serum/plasma troponin from ED - collected to in lab time less than 60 minutes (H)

In 2016, there were 38 records from 21 HCOs. The annual rate was 84.5 per 100 requests. In 2016, the potential gains totalled 3,118 more ED serum/plasma troponin samples with collected to in lab time less than 60 minutes. In 2016, there were nine outlier records from six outlier HCOs whose combined excess was 1,606 fewer ED serum/plasma troponin samples with collected to in lab time less than 60 minutes. The outlier HCO rate was 57.1 per 100 requests.

Haematology

2.1 Haemoglobin for ED - in lab to validated time less than 40 minutes (H)

In 2016, there were 62 records from 34 HCOs. The annual rate was 91.8 per 100 requests. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were 13 outlier records from 10 outlier HCOs whose combined excess was 2,741 fewer ED haemoglobin samples with in lab to validated time less than 40 minutes. The outlier HCO rate was 80.3 per 100 requests.

2.2 Haemoglobin from ED - collected to in lab time less than 60 minutes (H)

In 2016, there were 60 records from 34 HCOs. The annual rate was 84.0 per 100 requests. In 2016, the potential gains totalled 19,221 more ED haemoglobin samples with collected to in lab time less than 60 minutes. In 2016, there were 16 outlier records from 11 outlier HCOs whose combined excess was 8,527 fewer ED haemoglobin samples with collected to in lab time less than 60 minutes. The outlier HCO rate was 69.0 per 100 requests.

2.3 Blood group for ED - in lab to validated time less than 60 minutes (H)

In 2016, there were 40 records from 24 HCOs. The annual rate was 50.3 per 100 requests. In 2016, the potential gains totalled 1,115 more ED blood group samples with in lab to validated time less than 60 minutes. In 2016, there were 16 outlier records from 12 outlier HCOs whose combined excess was 1,132 fewer ED blood group samples with in lab to validated time less than 60 minutes. The outlier HCO rate was 17.9 per 100 requests.

2.4 Blood group from ED - collected to in lab time less than 60 minutes (H)

In 2016, there were 48 records from 28 HCOs. The annual rate was 83.5 per 100 requests. In 2016, the potential gains totalled 1,375 more ED blood group samples with collected to in lab time less than 60 minutes. In 2016, there were eight outlier records from six outlier HCOs whose combined excess was 660 fewer ED blood group samples with collected to in lab time less than 60 minutes. The outlier HCO rate was 40.8 per 100 requests.

2.5 Blood group from ED - recollections (H)

In 2016, there were 37 records from 21 HCOs. The annual rate was 5.5 per 100 requests. In 2016, the potential gains totalled 135 more ED blood group recollections.

Anatomical pathology

3.1 AP complexity level 4 MBS item - received to validated time less than 96 hours (H)

In 2016, there were 27 records from 15 HCOs. The annual rate was 75.9 per 100 requests. In 2016, the potential gains totalled 3,376 more AP complexity level 4 MBS item samples with received to validated time less 96 hours. In 2016, there were nine outlier records from six outlier HCOs whose combined excess was 1,436 fewer AP complexity level 4 MBS item samples with received to validated time less 96 hours. The outlier HCO rate was 57.6 per 100 requests.

3.2 AP complexity level 6 & 7 MBS item - received to validated time less than 7 days within a calendar month (H)

In 2016, there were 26 records from 15 HCOs. The annual rate was 75.4 per 100 requests. In 2016, the potential gains totalled 269 more AP complexity level 6 & 7 MBS item samples with received to validated time less 7 days. In 2016, there were three outlier records from three outlier HCOs whose combined excess was 65 fewer AP complexity level 6 & 7 MBS item samples, with received to validated time less than 7 days. The outlier HCO rate was 36.4 per 100 requests.

3.3 Structured reporting for Anatomical Pathology (H)

In 2016, there were 16 records from 11 HCOs. The annual rate was 81.1 per 100 requests. In 2016, the potential gains totalled 99 more reports having least Level 3 compliance for the six specified cancers. In 2016, there were two outlier records from one outlier HCO whose combined excess was 48 fewer reports having least Level 3 compliance for the six specified cancers. The outlier HCO rate was 36.3 per 100 requests.

Microbiology

4.1 Urine microscopy for ED - in lab to validated time less than 4 hours (H)

In 2016, there were 19 records from 11 HCOs. The annual rate was 77.0 per 100 requests. In 2016, the potential gains totalled 1,639 more Urine microscopy for ED samples with in lab to validated time less than four hours. In 2016, there were seven outlier records from six outlier HCOs whose combined excess was 755 fewer Urine microscopy for ED samples with in lab to validated time less than four hours. The outlier HCO rate was 48.9 per 100 requests.

4.2 Urine microscopy from ED - collection to in lab time less than 60 minutes (H)

In 2016, there were 35 records from 19 HCOs. The annual rate was 63.5 per 100 requests. In 2016, the potential gains totalled 3,003 more Urine microscopy from ED samples with the collection to in lab time less than 60 minutes. In 2016, there were seven outlier records from five outlier HCOs whose combined excess was 1,081 fewer Urine microscopy from ED samples with the collection to in lab time less than 60 minutes. The outlier HCO rate was 24.8 per 100 requests.

4.3 HIV antigen-antibody screening - in lab to validated time less than 24 hours (H)

In 2016, there were 20 records from 12 HCOs. The annual rate was 81.1 per 100 requests. In 2016, the potential gains totalled 1,137 more HIV antigen-antibody screening samples with in lab to validated time less than 24 hours. In 2016, there were three outlier records from three outlier HCOs whose combined excess was 446 fewer HIV antigen-antibody screening samples with in lab to validated time less than 24 hours. The outlier HCO rate was 52.1 per 100 requests.

Whole of service

5.1 Point of care testing register (N)

In 2016 there were 19 submissions from 11 HCOs. Three HCOs reported not having a point of care testing register.

5.2 Misidentified episodes (L)

In 2016, there were 37 records from 20 HCOs. The annual rate was 0.43 per 100 samples. In 2016, the potential gains totalled 1,845 fewer misidentified samples, corresponding to a reduction by approximately one-half. In 2016, there were 10 outlier records from seven HCOs whose combined excess was 901 more misidentified samples. The outlier HCO rate was 0.82 per 100 samples.

Radiation Oncology

General comments

Radiation therapy is an important component of cancer treatment and has advanced significantly with continuous innovations in new technologies and concepts, which in turn have resulted in increasing quality and safety concerns. In order to keep up with advances in the field, ACHS is currently working in collaboration with the Faculty of Radiation Oncology (FRO), Royal Australian and New Zealand College of Radiologists (RANZCR), Australian Society of Medical Imaging and Radiation Therapy (AMIRT), Australasian College of Physical Scientists and Engineers in Medicine (ASMIRT), Australian Private Hospitals Association (APHA) and the Consumer Group Representative, to revise the current Radiation Oncology indicator set.

The revised set of indicators incorporates current technological and research advances in radiation therapy, highlights the importance of a multidisciplinary approach and appropriate treatment planning in improved health outcomes, and continues to address the delays involved in the consultation process. It is appropriate for radiation oncologists to take an active role in implementing and monitoring clinical indicators to drive improvements in radiotherapy practices.

We are now looking forward to the release of the revised Radiation Oncology indicator set in 2018.

The Radiation Oncology clinical indicator set is currently under review by a multidisciplinary Working Party consisting of representatives from the Faculty of Radiation Oncology, Royal Australian & New Zealand College of Radiologists (RANZCR), the Australian College of Physical Scientists and Engineers in Medicine (ACPSEM), the Australian Institute of Radiography (AIR) and the Australian Association of Private Radiation Oncology (AAPRO). The revised Radiation Oncology clinical indicator set will be released for data collection in 2018.

Feature Clinical Indicators

CI 1.1 Radiotherapy – waiting time within 28 days from the 'ready for care' date (L)

The rate for the number of patients waiting more than 28 days from the 'ready for care' date to the date of commencing radiotherapy increased to 8.58% in 2016 compared with 4.4% in 2015, however, the trend showed significant improvement in the past eight years from 2009. Three outliers were identified, and further investigation is needed to address the variation.

In the revised version 5 of the Radiation Oncology Indicator set, this 'ready for care' indicator will be split into two indicators – one for radical radiotherapy and one for palliative radiotherapy, according to the Radiation Oncology Practice Standards developed by the Tripartite Committee representing the FRO (RANZCR), the Australian Institute of Radiography (AIR), and the Australasian College of Physical Scientists and Engineers in Medicine (ACPSEM),[1] in which the maximum acceptable waiting time was set within 28 days for the radical radiotherapy and 14 days for palliative radiotherapy. It will be interesting to track changes in the waiting time according to Tripartite Committee Standards over time once the revised indicators are used.

References

1. Tripartite Committee (Representing FRO/RANZCR and AIR and ACPSEM). Radiation Oncology Practice Standards. Sydney NSW; 2011.

2016 Summary Data

Consultation process

1.1 Radiotherapy - waiting time within 28 days from the 'ready for care' date (L)

In 2016, there were 16 records from 10 HCOs. The annual rate was 8.6 per 100 patients. The fitted rate improved from 37.8 to 7.0, a change of 30.8 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 29.7 per 100 patients. In 2016, the potential gains totalled 148 fewer patients waiting more than 28 days before commencing radiotherapy, corresponding to a reduction by approximately four-fifths. In 2016, there were three outlier records from three HCOs whose combined excess was 64 more patients waiting more than 28 days before commencing radiotherapy. The outlier HCO rate was 19.9 per 100 patients.

1.2 MEBR - prospective clinical trials (H)

In 2016, there were 10 records from eight HCOs. The annual rate was 26.0 per 100 patients. The fitted rate improved from 1.4 to 22.4, a change of 21.1 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 16.1 per 100 patients. In 2016, the potential gains totalled 42 more patients receiving radiotherapy entered on prospective clinical trials. In 2016, there was one outlier record from one HCO whose combined excess was 17 fewer patients receiving radiotherapy entered on prospective clinical trials. The outlier HCO rate was 5.3 per 100 patients.

Treatment process

2.1 Staging annotation for current radiotherapy course (H)

In 2016, there were 16 records from 11 HCOs. The annual rate was 87.8 per 100 patients. In 2016, the potential gains totalled 788 more patients who have staging information about their current radiotherapy course. In 2016, there were seven outlier records from five HCOs whose combined excess was 348 fewer patients who have staging information about their current radiotherapy course. The outlier HCO rate was 71.2 per 100 patients.

2.2 Current referral letter on file (H)

In 2016, there were 16 records from 11 HCOs. The annual rate was 98.6 per 100 patients. The fitted rate improved from 93.1 to 97.0, a change of 4.0 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there was one outlier record from one HCO whose combined excess was 10 fewer patients who have a letter to the referring doctor regarding their current radiotherapy course. The outlier HCO rate was 80.0 per 100 patients.

Outcome process

3.1 IMRT for nasopharyngeal cancer (H)

In 2016, there were eight records from five HCOs. The annual rate was 95.2 per 100 patients. There were no potential gains in 2016. There were no outlier HCOs in 2016.

3.2 EBRT for prostate cancer (H)

In 2016, there were 12 records from eight HCOs. The annual rate was 85.7 per 100 patients. In 2016, the potential gains totalled 12 more patients who had definitive EBRT for prostate cancer. In 2016, there was one outlier record from one HCO whose combined excess was six fewer patients who had definitive EBRT for prostate cancer. The outlier HCO rate was 50.0 per 100 patients.

Radiology

General comments

The current indicators in the Radiology clinical indicators set version 5 were selected to be relevant to more Diagnostic Imaging (DI) Providers. The indicator set was developed in partnership with, and endorsed by, the Royal Australian and New Zealand College of Radiologists (RANZCR) with data collection having started in January 2014. The limited data collected from 2014 to 2016 is not sufficient to demonstrate trend improvements over time. A high number of outliers for all indicators was observed in the 2016 data reported, and it would be advisable for those individual outlier healthcare organisations (HCOs) submitting data to further investigate and to identify potential problems for continuous improvement.

With ongoing advances and rapidly emerging technologies in imaging practices, a multidisciplinary Working Party is being established consisting of representatives from RANZCR, Medical Imaging Nurses of Australia (MINA), Australian Society of Medical Imaging and Radiation Therapy (ASMIRT), and Australian Private Hospital Association (APHA) to review the current indicators. The revised Radiology indicator set aims to ensure they reflect the current practices and remain relevant to the majority of the DI providers of those services.

Feature Clinical Indicators

CI 1.1. Emergency department / critical care unit plain radiography reports (L)

High numbers of outliers were observed in 2016, 18 outliers were identified from 12 HCOs submitting data.

Funnel plot of excess events
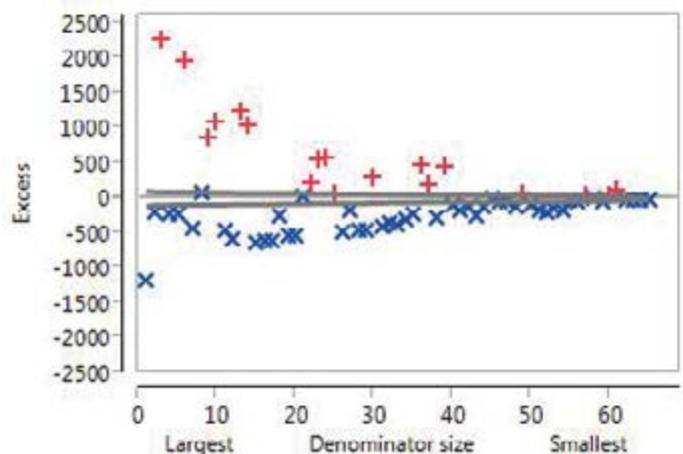
The Radiology clinical indicator set is under review by a multidisciplinary Working Party consisting of representatives from the Royal Australian and New Zealand College of Radiologists (RANZCR), the Australian Institute of Radiography (AIR), the Medical Imaging Nurses Association (MINA) and the Australian Private Hospitals Association (APHA). The revised Radiology clinical indicator set will be released for data collection in 2018.

2016 Summary Data

Report availability

1.1 Emergency department / critical care unit plain radiography reports (L)

In 2016, there were 65 records from 39 HCOs. The annual rate was 24.7 per 100 requests. In 2016, the potential gains totalled 25,681 fewer reports not available, corresponding to a reduction by approximately four-fifths. In 2016, there were 18 outlier records from 12 HCOs whose combined excess was 11,546 more reports not available. The outlier HCO rate was 56.3 per 100 requests.

1.2 Inpatient unit plain radiography reports (L)

In 2016, there were 68 records from 40 HCOs. The annual rate was 23.6 per 100 requests. In 2016, the potential gains totalled 13,725 fewer plain radiography reports not available, corresponding to a reduction by approximately four-fifths. In 2016, there were 14 outlier records from 10 HCOs whose combined excess was 5,976 more plain radiography reports not available. The outlier HCO rate was 50.7 per 100 requests.

1.3 Emergency department / critical care unit CT scan reports (L)

In 2016, there were 61 records from 37 HCOs. The annual rate was 8.2 per 100 requests. In 2016, the potential gains totalled 2,524 fewer CT scan reports not available, corresponding to a reduction by approximately four-fifths. In 2016, there were 14 outlier records from nine HCOs whose combined excess was 1,260 more CT scan reports not available. The outlier HCO rate was 21.9 per 100 requests.

1.4 Inpatient unit CT scan reports (L)

In 2016, there were 64 records from 38 HCOs. The annual rate was 11.6 per 100 requests. In 2016, the potential gains totalled 2,510 fewer CT scan reports not available, corresponding to a reduction by approximately four-fifths. In 2016, there were 10 outlier records from seven HCOs whose combined excess was 1,053 more CT scan reports not available. The outlier HCO rate was 27.6 per 100 requests.

1.5 Emergency department / critical care unit ultrasound scan reports (L)

In 2016, there were 59 records from 36 HCOs. The annual rate was 9.7 per 100 requests. In 2016, the potential gains totalled 671 fewer ultrasound reports not available, corresponding to a reduction by approximately four-fifths. In 2016, there were 10 outlier records from eight HCOs whose combined excess was 325 more ultrasound reports not available. The outlier HCO rate was 29.1 per 100 requests.

1.6 Inpatient unit ultrasound scan reports (L)

In 2016, there were 64 records from 38 HCOs. The annual rate was 15.8 per 100 requests. In 2016, the potential gains totalled 2,382 fewer ultrasound reports not available, corresponding to a reduction by approximately four-fifths. In 2016, there were 12 outlier records from nine HCOs whose combined excess was 961 more ultrasound reports not available. The outlier HCO rate was 34.7 per 100 requests.

Adverse events

2.1 Adverse events (N)

In 2016, there were 47 records from 28 HCOs. The annual rate was 0.036 per 100 imaging studies. There were no potential gains in 2016. Since it has not been specified whether high or low rates are desirable, outlier HCOs are not reported.

Report addendum

3.1 Report addendum (N)

In 2016, there were 43 records from 24 HCOs. The annual rate was 0.38 per 100 imaging studies. There were no potential gains in 2016. Since it has not been specified whether high or low rates are desirable, outlier HCOs are not reported.

"AFRM and AROC acknowledge and
are proud of the continuing high
rate of compliance with the ACHS
Rehabilitation Medicine clinical
indicators."

The Rehabilitation Medicine clinical
indicator set was reviewed in 2016
by a multidisciplinary Working
Party consisting of representatives
from the Australasian Faculty of
Rehabilitation Medicine (AFRM)
and the Australasian Rehabilitation
Outcomes Centre (AROC). The
revised Rehabilitation Medicine
clinical indicator set has been
released for data collection from
January 2017.

Rehabilitation Medicine

A/Prof Andrew Cole

President, Australasian Faculty of Rehabilitation
Medicine, Royal Australasian College of Physicians;
Member, ACHS Rehabilitation Medicine Working Party

General Comments

The Australasian Faculty of Rehabilitation Medicine
(AFRM) and the Australasian Rehabilitation Outcomes
Centre (AROC) acknowledge and are proud of the
continuing high rate of compliance with the ACHS
Rehabilitation Medicine clinical indicators (CIs). This
should be seen in the context of very high compliance
in the provision of detailed outcome data (including
data items required to calculate the CIs) to AROC, and
a strong culture of continuous improvement within the
Rehabilitation Medicine community. This demonstrates a
continuing commitment to provide evidence-based best
practice clinical care to our population of individuals
living and coping with disability.

Outcome and process measures demonstrated
by these CIs show a continued improvement, with
fewer outlier data points. This improvement is
also reflected in shorter lengths of stay and more
functional improvement for similar diagnostic groups,
demonstrated by AROC benchmarking data. Where
differences in indicator outcomes are evident between
sectors (public compared with private facilities) or
jurisdictions, they should be interpreted very cautiously,
because these data are not case mix adjusted.

Feature Clinical Indicators

CI 1.1 Functional assessment within 72 hours of admission (H)

In 2016, there were 194 records from 103 HCOs. The
aggregated rate has improved from 95.3 to 98.4, a
change of 3.1 per 100 patients over the past eight years.

Trend plot of rates and centiles by year
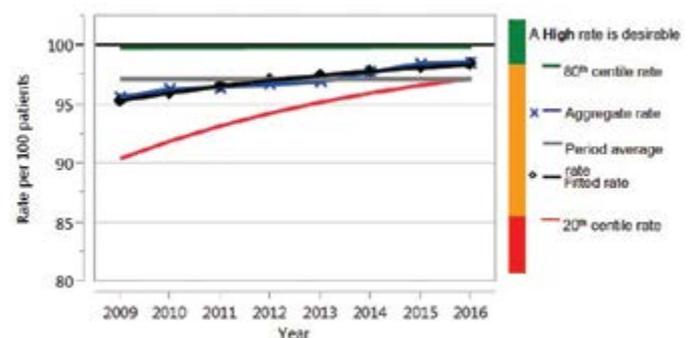
2016 Summary Data

Timely assessment of function on admission

1.1 Functional assessment within 72 hours of admission (H)

In 2016, there were 194 records from 103 HCOs. The annual rate was 98.6 per 100 patients. The fitted rate improved from 95.3 to 98.4, a change of 3.1 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 3.0 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were 24 outlier records from 18 HCOs whose combined excess was 435 fewer patients with a documented functional assessment within 72 hours of admission. The outlier HCO rate was 92.5 per 100 patients.

Assessment of function prior to episode end

2.1 Functional assessment within 72 hours before end of rehabilitation (H)

In 2016, there were 193 records from 102 HCOs. The annual rate was 97.6 per 100 inpatients. The fitted rate improved from 96.1 to 98.4, a change of 2.2 per 100 inpatients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 2.2 per 100 inpatients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were 13 outlier records from 10 HCOs whose combined excess was 902 fewer inpatients with a documented functional assessment before cessation of the rehabilitation program. The outlier HCO rate was 79.1 per 100 inpatients.

Timely establishment of a multidisciplinary team rehabilitation plan

3.1 Multidisciplinary team plan within 7 days (H)

In 2016, there were 201 records from 106 HCOs. The annual rate was 98.5 per 100 patients. The fitted rate improved from 97.1 to 98.4, a change of 1.3 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 1.3 per 100 patients. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were 23 outlier records from 20 HCOs whose combined excess was 488 fewer patients with a documented multidisciplinary rehabilitation plan within seven days of admission. The outlier HCO rate was 88.4 per 100 patients.

Multidisciplinary discharge documentation

4.1 Discharge plan on separation (H)

In 2016, there were 193 records from 103 HCOs. The annual rate was 97.2 per 100 separations. The fitted rate deteriorated from 98.4 to 97.2, a change of 1.2 per 100 separations. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were 20 outlier records from 16 HCOs whose combined excess was 1,127 fewer separations for which there is an appropriate discharge plan. The outlier HCO rate was 78.5 per 100 separations.

Functional gain achieved by rehabilitation program

5.1 Functional gain following completed rehabilitation program (H)

In 2016, there were 229 records from 120 HCOs. The annual rate was 94.8 per 100 patients. There was no significant trend in the fitted rate. There was relatively little variation between HCOs and so the potential gains were small in 2016. In 2016, there were 18 outlier records from 13 HCOs whose combined excess was 1,540 fewer patients discharged with documented evidence of functional gain. The outlier HCO rate was 62.7 per 100 patients.

Discharge destination

6.1 Return to pre-episode or new accommodation allowing for greater independence (H)

In 2016, there were 179 records from 97 HCOs. The annual rate was 86.1 per 100 patients. The fitted rate deteriorated from 89.1 to 86.9, a change of 2.2 per 100 patients. After allowing for the changing composition of HCOs contributing over the period, the trend remained significant. The rate change was 2.3 per 100 patients. In 2016, the potential gains totalled 6,077 more patients discharged to their pre-episode accommodation or one that allows for greater independence. In 2016, there were 46 outlier records from 30 HCOs whose combined excess was 3,059 fewer patients discharged to their pre-episode accommodation or one that allows for greater independence. The outlier HCO rate was 64.1 per 100 patients.

Abbreviations

ACEI	ACE inhibitor
A2RA	Angiotensin II receptor antagonist
ACIR	Australasian Clinical Indicator Report
BSI	Bloodstream infection
CABG	Coronary artery bypass graft
CHF	Congestive heart failure
CI	Clinical Indicator
CI-CLABSI	Centrally-inserted central line-associated bloodstream infection
CLABSI	Central line-associated bloodstream infection
EBRT	External beam radiation therapy
Hb	Haemoglobin
HCO	Healthcare organisation
IMRT	Intensity-modulated radiation therapy
LSCS	Lower segment caesarean section
MEBR	Megavoltage external beam radiotherapy
NICU	Neonatal intensive care unit
PI-CLABSI	Peripherally-inserted central line-associated bloodstream infection
PTCA	Percutaneous transluminal coronary angioplasty
RBC	Red blood cell
SAP	Surgical antibiotic prophylaxis
TAT	Turnaround time
VTE	Venous thromboembolism

Previous volumes in this series: