

All colonoscopies are not created equal: why Australia now has a clinical care standard for colonoscopy

Maintaining the quality of colonoscopies is vital if promised reductions in colorectal cancer are to be achieved

In many ways, colonoscopy has been a transformative health technology. By allowing the early identification and removal of polyps, it reduces colorectal cancer incidence and mortality. Evidence for population screening using a faecal occult blood test and follow-up colonoscopy was based on randomised controlled studies that found a reduction in colorectal cancer mortality of 28–32% with flexible sigmoidoscopy.¹ It is estimated that by 2040, the National Bowel Cancer Screening Program will prevent 92 200 cases of colorectal cancer and 59 000 deaths, using conservative modelling based on current participation of just 40%.² These benefits are substantial, given that bowel cancer is the second highest cause of cancer death in Australia and participation in the National Bowel Cancer Screening Program is increasing.³ However, without high quality and appropriate use of colonoscopy, patients may be exposed to avoidable adverse outcomes without significant benefit. These include procedural and sedation-related complications, missed cancers, missed adenomas (hence increased risk of bowel cancer), and adverse patient experience. Further, overuse of the procedure in patients who are unlikely to benefit from it results in low value care and reduces access for patients in greater need. In order to ensure the maximum benefit to the Australian population, the Australian Commission on Safety and Quality in Health Care has developed a Colonoscopy Clinical Care Standard (www.safetyandquality.gov.au/our-work/clinical-care-standards/colonoscopy-clinical-care-standard).

In 2016–17, more than 800 000 colonoscopies were conducted in Australia — or one colonoscopy for every 32 Australians. The number of colonoscopies reimbursed by the Medicare Benefits Schedule, in which no polyp was removed (item no. 32090), increased 51% in the 10 years from 2004–05 to 2014–15, while colonoscopies with polypectomy (item no. 32093) increased 177% in the same period.⁴

Despite increased use, differences in access may be contributing to inequalities in bowel cancer incidence and outcomes. While 75% of colonoscopies are carried out in private hospitals,⁵ only 50% of Australians have private health insurance.⁶ The Australian Atlas of Healthcare Variation (Box 1) has shown a 30-fold variation across geographical areas in rates of Medicare-funded colonoscopies across Australia, and variation by remoteness and socio-economic status, with people residing in outer regional and remote areas having substantially lower rates.⁷

In light of these findings, we need to ask whether better value can be provided to the Australian population. Are

eligible patients referred and selected for colonoscopy in a manner appropriate to their risk? Cancer Council Australia guidelines for colorectal cancer screening¹ and surveillance⁸ (for release in 2018) provide guidance on appropriate screening and surveillance intervals. This guidance is based on evidence of the epidemiology of disease, individuals at risk and likely benefit. Ensuring that referral for colonoscopy for screening or surveillance is based on best evidence could increase clinician and patient confidence in their decisions about colonoscopy and lead to better value care for patients, both directly and indirectly, from better triage and use of scarce resources. Standardised referral processes could facilitate the appropriate selection of patients for colonoscopy.

These considerations led to the development of a national clinical care standard for colonoscopy. The Australian Commission on Safety and Quality in Health Care develops clinical care standards for specific health care conditions when there is concern about unwarranted variation in provision of care, quality, or preventable patient harm. Unlike clinical practice guidelines, clinical care standards focus on specific components of care that are priorities for quality improvement. They are accompanied by quality indicators to help clinicians and health services monitor and improve the quality of care. Expert multidisciplinary advisory groups support the Commission in the development, championing and implementation of the standards. When national initiatives exist, the standards aim to complement, rather than compete with them. Previous clinical care standards have aligned with Australian clinical guidelines, clinical audits and clinical quality registries.

The Colonoscopy Clinical Care Standard identifies nine key factors critical to high quality colonoscopies and outcomes in adults (Box 2), and reflects the guidelines from Cancer Council Australia for bowel cancer screening and surveillance^{1,8} and the guidelines from the Australian and New Zealand College of Anaesthetists for procedural sedation and peri-operative care.^{9,10} The standard addresses appropriate referral and timely assessment, adequate bowel preparation, procedural quality, safe use of sedation, patient-centred care and communication, and surveillance intervals based on best evidence. It is also the first clinical care standard to align with existing certification and planned recertification quality improvement initiatives for procedural skills.

The most common indication for colonoscopy in adults is bowel cancer screening or surveillance. The benefits of colonoscopy in colorectal cancer prevention depend on adenoma detection; hence, the standard aims to maximise

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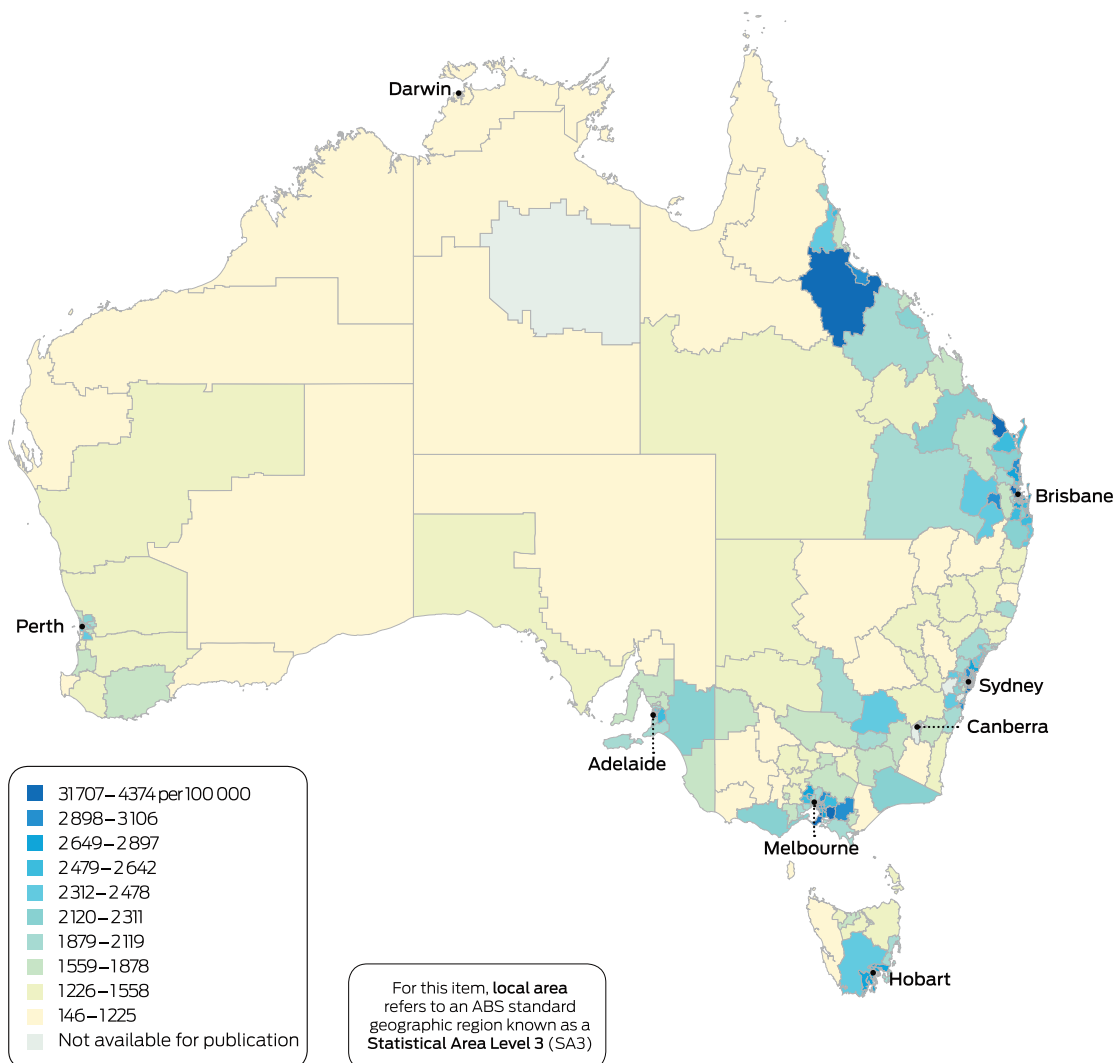
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1 Fibre-optic colonoscopies funded by the Medicare Benefits Schedule per 100 000 people, age standardised, by local area, 2013–14



Source: Atlas of Healthcare Variation, Australian Commission on Safety and Quality in Health Care. National Health Performance Authority analysis of Department of Human services Medicare Benefits statistics 2013–14 (data supplied 12 Aug 2014) and Australian Bureau of Statistics Estimated Resident Population (30 June 2013). ♦

adenoma detection and supports monitoring of adenoma detection rates as a quality indicator. Adenoma detection relies on operator skills and on patient, technical and system factors.¹¹ Variation between clinicians in adenoma detection rates has consistently been demonstrated, with rates of between 7.4 and 52.5% in one study.¹² Missed adenomas are associated with higher interval cancer rates (cancer occurring before the next surveillance colonoscopy).¹¹ Smaller polyps (< 5–10 mm) and sessile serrated adenomas (which have a flat appearance) are the most likely to be missed. Both adenoma detection and caecal intubation rates are recognised quality indicators — the latter because interval cancers in the proximal bowel have been associated with lower caecal intubation rates.¹¹ Far from being aspirational, mandatory quality assurance monitoring of these indicators and increased adenoma detection have recently been associated with reduced risks of interval colorectal cancer (hazard ratio [HR], 0.63; 95% confidence interval [CI], 0.45–0.88; $P = 0.006$) and cancer death (HR, 0.50; 95% CI,

0.27–0.95; $P = 0.35$). For those colonoscopists who improved most, there was a reduction in interval cancer from 25.3 to 7.1 per 100 000 patient-years of follow-up.¹³

In Australia, colonoscopy training, using these quality indicators and specified performance targets, is certified by the Conjoint Committee for the Recognition of Training in Gastrointestinal Endoscopy — a national body comprising representatives of the Royal Australasian College of Physicians, the Royal Australasian College of Surgeons and the Gastroenterological Society of Australia. A voluntary recertification program for colonoscopists documents quality indicators for continuing professional development. The clinical care standard supports clinician certification and recertification as requirements for colonoscopy services in order to improve the consistency of both quality measurement and procedures.

Another predictor of high quality colonoscopy addressed in the standard is the adequacy of bowel preparation.

2 Colonoscopy Clinical Care Standard: key components

Quality statement	What is required*
Initial assessment and referral	The referral document enables the timely and accurate assessment of patients according to clinical urgency and appropriateness
Appropriate and timely colonoscopy	Colonoscopy is offered to patients who are most likely to benefit from the procedure, within a timeframe concordant with their risk and in line with current Australian clinical practice guidelines
Informed decision making and consent	Patients receive adequate information and time to consider the risks and benefits of colonoscopy before providing informed consent and before starting bowel preparation for the procedure
Bowel preparation	Care is taken to ensure adequate bowel preparation so that patients who present for colonoscopy have a clear bowel that enables a thorough examination
Sedation	Safe and appropriate sedation is provided to patients undergoing colonoscopy
Clinicians	All clinicians who provide care to a patient having colonoscopy are credentialled, skilled and working within their scope of practice. Colonoscopists have met certification and ongoing recertification requirements of their professional body
Procedure	The procedure is performed to optimise detection and management of disease to minimise adverse outcomes, and its outcomes are documented in the patient's health record
Discharge	Patients are monitored during recovery, are discharged safely, and given information about the outcomes of the colonoscopy and arrangements for follow-up
Reporting and follow-up	Results of the colonoscopy are effectively communicated to patients and referring clinicians Patients are offered follow-up treatment or ongoing surveillance in accordance with evidence-based guidelines

* For the full clinical standard, see www.safetyandquality.gov.au/ccs or www.safetyandquality.gov.au/our-work/clinical-care-standards/colonoscopy-clinical-care-standard. ◆

the bowel preparation between the day before and the morning of the colonoscopy (3–6 hours before the planned start of the procedure).¹⁵ While there is no consensus on the most effective agent, adverse effect profiles, patient comorbidities and previous patient response should guide selection.

Other colonoscopy-related adverse events include infection, perforation (about one per 1000 screening colonoscopies) and risks associated with sedation and anaesthesia. The guidelines of the Australian and New Zealand College of Anaesthetists provide relevant recommendations for procedural sedation, including assessment of at-risk patients, clinical roles and staffing, facility requirements and monitoring during recovery.^{9,10}

Clinical care standards are the responsibility of health service organisations and individual clinicians. The quality and safety of care for patients undergoing colonoscopy are further supported by the National Safety and Quality Health Services Standards against which all hospitals and day procedure facilities are assessed for accreditation. All colonoscopies in Australia should be undertaken in adequately equipped accredited facilities that meet the requirements of the National Safety and Quality Health Services Standards in domains such as infection prevention, clinical communication, partnering with consumers and the provision of evidence-based care, including relevant clinical care standards.

Inadequate bowel preparation has been associated with a 47% lower likelihood of adenoma detection, compared with adequate preparation — defined in terms of the proportion of the bowel visible — (odds ratio, 0.53; 95% CI, 0.46–0.62; $P < 0.001$).¹⁴ Poor bowel preparation results in longer or repeated procedures, with further cost and risk to the patient. Bowel preparation is the most unpleasant part of a colonoscopy procedure for most patients and can be a disincentive to participate in future screening and surveillance.

Research on bowel preparation, including diet and laxative regimens, continues to advance and there are international evidence-based guidelines.¹⁵ Split-dose regimens are recommended, as they result in higher quality colonoscopy examination compared with ingestion of the entire preparation on the day or evening before the colonoscopy.¹⁵ These regimens typically involve splitting the standard dose of

Consumers have a right to information about what to expect from bowel preparation, sedation and colonoscopy, as well as the results of their procedures, in a format they understand. This information, pitched to average health literacy levels, can help patients share decisions, provide fully informed consent, participate in bowel preparation and manage their ongoing screening and surveillance needs. The standard emphasises that patients and referring clinicians should receive procedure reports and clear follow-up instructions to promote both appropriate clinical follow-up and custodianship of information for future colonoscopies.

Implementation of the Colonoscopy Clinical Care Standard across Australia is needed to ensure the quality use of colonoscopy, with important implications for reducing bowel cancer incidence and mortality. Two areas remain for future consideration. First, while a high quality procedure cannot be done quickly, there is no effective measure to ensure that

adequate time is dedicated to each colonoscopy and that the number of procedures per list reflects human factors relating to performance. Second, we should remember that lifestyle risk factors, including physical inactivity and high body mass index, account for 51% of bowel cancer disease burden.³ Concurrent action on lifestyle risk factors and enhancing the quality of colonoscopy could greatly further reduce the human and health system costs of colorectal cancer.

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