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COMMENTARY

REFLECTIONS ON THE BENEFITS AND BARRIERS IN DEVELOPING AND IMPLEMENTING A NOVEL DIGITAL ENDOSCOPIC REFERRAL PATHWAY

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ABSTRACT

ISSUE

Gastrointestinal endoscopies are commonly requested, with variable alignment to accepted indications. A healthcare network had several, variable, paper-based referral management practices, with consequent variation in care delivery.

INTERVENTION

A digital, single-entry point referral pathway with embedded triage criteria and real-time reporting was implemented.

OUTCOMES

Thus far, 14,588 referrals managed, with 10,939 exited, 25.3% without a procedure. Additionally, the "on-rate" for new outpatient appointments for relevant units decreased by 56.8%.

CONCLUSION

Endoscopic referrals and care delivery can be managed safely and efficiently across sites using a purpose-designed digital pathway. Changing established workflow was challenging, with iterative refinements ongoing.

KEYWORDS

endoscopy, digital platform, harm minimisation, low-value procedures, outpatient clinics

THE ISSUE

Gastrointestinal (GI) endoscopies are amongst the most commonly requested and provided medical procedures. Over 900,000 colonoscopies alone are performed annually in Australia [1]. As GI symptoms are extremely common [2], and Australia has a National Bowel Cancer Screening Program (NBCSP) [3-5], there is a wealth of local evidence for when endoscopies are indicated and conversely, when they are not. Reducing the delivery of these unindicated procedures,

commonly referred to as 'Low Value Care' (LVC), is an important aspect of creating better value in healthcare for individuals, the community and funders/taxpayers [6].

Attempts have been made to reduce LVC with guidelines and by promotion of initiatives such as 'Choosing Wisely' [7,8], but without systems to underpin these, they are aspirational and only influence willing/engaged clinicians and do so inconsistently. There are substantial data in each edition of the Australia Commission on Safety and Quality in Health Care (ACSQHC) Australian Atlas of Healthcare Variation Series [9] suggesting poor adherence to guidelines for both upper GI endoscopy and colonoscopy. This is likely due to the procedure delivery process being contingent on multiple 'uncontrolled' decision points, including consumers, progressing via General Practitioners, triaging clinicians, and endoscopists, making substantial variation in care delivery almost inevitable. Additionally, processing and managing large volumes of referrals, including those representing LVC, almost certainly leads to harm by delaying care for those in whom an endoscopy is indeed needed for diagnosis and/or ongoing management

In designing a solution to these well-documented problems, a systems-based approach to GI endoscopic service delivery, with embedded referral criteria, transparent documentation and consistent decision-making seems logical. Here an attempt to implement a systematic pathway for the delivery of GI endoscopic services is presented, along with the barriers and benefits encountered.

STARTING POINT

Two healthcare sites in a single healthcare network, with up to seven discrete clinical units could receive and/or deliver endoscopic services. There were multiple discrete, non-transparent triage practices, variable waiting times and progression journeys for referrals/people. Some referrals were declined, some routed to initial outpatient review and some to various facilitated access pathways, with multiple different sub-waiting lists. Referrals were paper-based and physically moved amongst various locations at the two sites. There was no ability to report on total time from referral to 'decline decision' or procedure delivery, or to report total referral volumes, indications, acceptance rates, outpatient referral rates or treat-in-turn adherence. In addition, there was no ability to provide network-level reporting on wait times for specific indications, such as NBCSP participants.

INTERVENTION

An administrative review process was undertaken to map the flow of endoscopic referrals at each site and for each unit. Site-and unit-based processes were compared and possible efficiencies identified. Key administrative functions were identified and noted. Internal and external guidelines for referral triaging were reviewed and a guidance for internal use was developed.

Workshops involving all units were undertaken over a 12-month period, with administrative, nursing and medical staff invited. Virtual attendance was facilitated and recordings made to support participation. The new administrative and triage workflows were documented and consulted on. Senior medical staff from both sites were invited to develop and review the triage guideline documents for use by qualified endoscopic nursing staff.

A digital platform using Novari ACT™, was employed to enable a single entry and management point for all referrals, so these could be tracked from receipt to decline decision (with referring doctor notified), or accepted, booked and procedure delivered. The platform was customised for local needs as identified during consultation as described above. The platform also provided reporting information for all referrals on lead time, in-process and lag time metrics, including total time from referral to pathway exit and data by requested indication.

Once referrals were administratively verified and confirmed by nurse triage to align to a recognised indication, consumers were invited to complete their own health assessment questionnaire digitally. If all answers were in the 'green zone' (as designated according to local existing triage practice), consumers were provided with detailed information regarding their procedures. This included preparation (tailored to their bowel habit using a visual of the Bristol Stool Scale) and invited

to provide consent digitally - meaning they could be triaged, screened for general health risks, be given all the appropriate information and provide consent digitally. This saved them time, avoided travel and made a prior outpatient clinic review unnecessary. Any issues detected during this process could be managed by an experienced endoscopy nurse or escalated for medical staff review (by a consultant).

OUTCOMES TO DATE

The pathway commenced in Oct 2023. To February 2025, 14,588 referrals were received; with 10,939 exited from the pathway, 8,170 with a procedure delivered and 2,769 (25.3%) without (judged unindicated). In February 2025, 3,649 referrals remained within the pathway at various stages. Common reasons to decline a referral included: outside guidelines, too old (beyond guideline age for surveillance), too comorbid and too soon/repeat not indicated. It is now possible to report in real-time on referral inflows, outflows and progress along the pathway. Over the first seven months of the new pathway, net referral rates to gastroenterology and colorectal outpatient clinics were reduced by 56.8% and 54.1% respectively, compared to May-October 2023. At present, about 50% of the referrals now arrive using the digital form, making triage and administrative processes faster.

WHAT WAS SUCCESSFUL

Introducing a unified pathway across units and sites with a single digital entry-point and a unified queue transformed referral processing, replacing variable, paper-based workflows with a consistent, transparent, trackable system, providing real-time reporting. Creating a new nursing role, for experienced clinical endoscopy nurse specialists, empowered to apply standardised triage guidelines, proved particularly effective, removing duplicates and ensuring faster, more consistent triage while maintaining clinical oversight. Embedding agreed criteria into the platform enabled early exit of low-value referrals, easing demand and reducing pre-endoscopy clinic reviews. These changes delivered more equitable, timely, guidelines-aligned care and demonstrated how a system-based, multidisciplinary, digital approach can successfully address entrenched inefficiencies in public health endoscopic service delivery. Essentially, the new process enabled an assurance framework around endoscopic referral management and service delivery.

CHALLENGES

Implementing change is hard, and the new pathway highlighted several practical and cultural hurdles innate in system-level change. Some medical staff expressed discomfort over loss of autonomy in triage decisions, despite being invited to develop triage criteria, the documentation of these and efforts to embed guideline-based flexibility, perhaps related to changing longstanding local practices. Many medical staff worked part-time in this health service, making meaningful engagement in consultations, even virtually, more problematic. The absence of a clearly endorsed decision-maker sometimes created ambiguity about who should resolve issues where uncertainties arose, slowing progress. Finally, collaboration across professional boundaries, bringing together administrative, nursing and medical staff, required ongoing negotiation of roles, expectations and communication styles, which at times delayed progress, despite a genuine shared goal to address/improve endoscopy waitlists and referral issues.

CONCLUSIONS

A single digital entry point for endoscopic procedures is feasible and can be done. It enables a health service to deliver a more consistent and reliable service and to have the data to support a robust assurance framework. It can reduce harm and save costs by reducing LVC, in the endoscopy suite and outpatients. This creates additional internal capacity for progressing referrals for those in need without additional resources consumed. This approach helps avoid capacity and waitlist issues recently highlighted in NSW [10] making implementation worth considering more broadly.

References

1. Australian Commission on Safety and Quality in HealthCare. Why the Colonoscopy Clinical Care Standard is needed 2020. Available: https://www.safetyandquality.gov.au/standards/clinical-care-standards/colonoscopy-clinical-care-standard/why-colonoscopy-clinical-care-standard-needed

2. Almario CV, Ballal ML, Chey WD, Nordstrom C, Khanna D, Spiegel BM. Burden of gastrointestinal symptoms in the United States: results of a nationally representative survey of over 71,000 Americans. Official journal of the American College of Gastroenterology | ACG. 2018 Nov 1;113(11):1701-10.
3. Worthington J, Feletto E, Lew JB, Broun K, Durkin S, Wakefield M, et al. Evaluating health benefits and cost-effectiveness of a mass-media campaign for improving participation in the National Bowel Cancer Screening Program in Australia. Public health. 2020 Feb 1;179:90-9.
4. Hewitson P, Glasziou P, Watson E, Towler B, Irwig L. Cochrane systematic review of colorectal cancer screening using the fecal occult blood test (hemoccult): an update. Official journal of the American College of Gastroenterology | ACG. 2008 Jun 1;103(6):1541-9.
5. Australian Institute of Health and Welfare. National bowel cancer screening program monitoring report 2024, summary. Australian Institute of Health and Welfare. 2024.
6. Scott IA, Duckett SJ. In search of professional consensus in defining and reducing low-value care. Medical Journal of Australia. 2015 Aug 17;203(4).
7. Grimshaw JM, Patey AM, Kirkham KR, Hall A, Dowling SK, Rodondi N, et al. De-implementing wisely: developing the evidence base to reduce low-value care. BMJ quality & safety. 2020 May 1;29(5):409-17.
8. Cassel CK, Guest JA. Choosing wisely: helping physicians and patients make smart decisions about their care. Jama. 2012 May 2;307(17):1801-2.
9. Australian Commission on Safety and Quality in HealthCare. The Fourth Atlas of Healthcare Variation 2021. Available: https://www.safetyandquality.gov.au/publications-and-resources/resource-library/fourth-atlas-healthcare-variation-2021-gastrointestinal-investigations-full-chapter
10. Thomson A. "Not manageable": Patients waiting up to a year for cancer diagnoses at Sydney hospital, 2025. The Sydney Morning Herald.