

IMPLEMENTING THE 'MY PREHAB PROGRAM': HOW DIGITAL TECHNOLOGY HELPED TO BRIDGE THE HOSPITAL-COMMUNITY GAP AND STREAMLINE HOSPITAL PROCESSES

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PROBLEM

Surgery is a key component of healthcare systems, however, a patient's journey to surgery can be long and complicated. Public patients awaiting non-urgent surgery, frequently experience significant periods on 'hidden' outpatient and surgical waitlists [1]. Post-operative complications are also common, affecting 20% of procedures, placing a substantial burden on both patients and the healthcare system. These complications are associated with worse psychosocial outcomes, delayed function recovery, financial costs and reduced patient flow [2-4]. With increasingly constrained resources, an ageing population and growing burden of chronic disease, there are challenges in providing accessible, affordable, and safe elective surgery. Prehabilitation (prehab) is any intervention prior to surgery aimed at improving health and wellbeing and developing physiological reserve to cope with the stress of surgery [5]. With a clear need for earlier health optimisation, the challenge was supporting patients to prepare well for surgery without dedicated funding to support on-site, in-person prehab.

APPROACH

A multidisciplinary team of primary healthcare clinicians, hospital-based staff and consumers co-designed the My PreHab Program (MPP). MPP was designed to bridge hospital and community settings and turn the traditionally 'passive' wait time into a proactive period, where patients had autonomy over their health outcomes. It aimed to support those awaiting elective surgery through health

screening and provision of quality evidence-based information at the beginning of the surgical journey. To achieve this at scale and without allocated on-site resourcing, digital technology was leveraged, with the development of an open-access website (www.calhn-prehab.sa.gov.au) and hospital-specific digital pathways created with Personify Care. Utilising digital technology provided the opportunity for rapid dissemination, uptake and upscaling with minimal additional expense. Medical and allied health content experts assisted with developing health information, with existing evidence-based resources and community programs identified. The hospital-specific pathway core components included a comprehensive health screen, summary report, tailored prehab information and resources and automated 'check-ins'.

To support the successful implementation of this novel prehab initiative, a grant from The Hospital Research Foundation Group enabled the employment of a project administrative officer and a clinical manager for a three-year period. MPP was integrated into existing workflows through comprehensive process mapping, ensuring efficient resource utilisation and sustainability. Implementation was iterative, incorporating patient and clinician feedback for continuous improvement. Clinical cohorts with high referral volumes, identified as most likely to benefit from the intervention, were prioritised. Unit champions were identified and where possible, essential workflows were digitised to incentivise provision and sustainability of MPP.

LEARNING

Incorporating a co-design approach, facilitated the development of a holistic program by integrating lived experience and expertise with professional experience. The website and digital pathway content and structure then met consumer needs while aligning with both health service and primary care priorities. For example, consumers identified a need for information on equipment and community services, which are not typically part of standard prehab interventions.

A comprehensive implementation strategy, with a dedicated implementation team (clinical manager and project administrative officer), promoted integration and localised ownership of MPP digital pathways. Effective strategies included thorough process mapping, integration of the new model of care with existing processes, identification of local champions, audits and feedback, and tailoring prehab content to the needs of the clinical cohort. Although similar, no workflows across sites, units or clinical cohorts were the same, and successful implementation and subsequent integration required a flexible approach and adaptable digital software.

An iterative approach to implementation led to continuous improvement of the content and hospital-specific pathway design, resulting in improved patient and surgical unit adoption. Feedback was received via regular, scheduled patient quantitative and qualitative feedback questionnaires, phone calls to participants and open communication channels with surgical units as well as scheduled meetings. Additionally, the hospital-specific digital pathways and open-access website were monitored with regular audit of user metrics and review of information accessed.

IMPACT FOR PRACTICE

From 01/07/2022 to 30/11/2024, MPP's hospital-specific digital pathways were implemented across two major hospitals in a broad variety of clinical cohorts. This included non-urgent joint replacement, complex hernia repairs, bariatric management, all non-urgent spinal procedures, body contouring and breast reduction surgery as well as cancer cohorts that received neoadjuvant therapy prior to surgery (colorectal, upper gastrointestinal and hepatobiliary cancer). During this period, just over 2000

patients participated in MPP, with a registration rate of 79%. These pathways are now owned and managed by the respective units, with no ongoing requirement for additional staff. As a result, most patients from these clinical cohorts now receive timely, targeted health information on maximising conservative management options, care navigation to local community health services (including their GP) and education about the public health surgical journey. The open-access website had 6,073 site sessions, with 3,674 unique visitors from across Australia and around the world. From a population health perspective, the benefits include improved health literacy, chronic disease management and potential surgery avoidance.

Surgical outcomes from the joint replacement cohort (n=560) show that MPP participants' average length of stay was 23 hours shorter than those who didn't receive the program and had surgery during the same two-year period (MPP: n=108, non-MPP: n=452, p=0.015). Fewer hospital acquired complications were also observed for MPP participants (MPP=3.9%, non-MPP=7.4%, p=0.224). This suggests that the statistically significant reduction in length of stay may not solely be attributable to fewer medical events but also influenced by expectation-setting regarding discharge readiness.

By undertaking comprehensive process mapping, tailoring pathways to existing workflows, responding to feedback, and incorporating a flexible implementation approach, unexpected efficiencies were observed. In many cases, existing unit workflows were streamlined through digitising existing processes or maximising the scope of the digital technology. For example, some units utilised the early health screening to support triage decision making and the identification of surgical risk (e.g., body mass index). Others digitised existing paper questionnaires, significantly reducing questionnaire response windows from up to three months to the day of registration. Patient reported outcome measures were embedded into digital pathways, ensuring timely provision and improved access to cohort data, and cohort specific handouts and outpatient appointment reminders were included.

FUNDING

This work was supported by The Hospital Research Foundation Group [2021/57-QA25315]

ETHICS CLEARANCE AND ORGANISATION APPROVALS

From July 1, 2022, the project was regarded by CALHN HREC as an evaluation of a quality improvement initiative and have provided publication approval (approval #18901).

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