THE IMPACT OF YOUR GIVING

Let's Beat Bowel Cancer

2025 Report

Colorectal cancer remains a significant public health challenge, marked by high rates of incidence and continued challenges in its effective diagnosis, treatment, and management. Let's Beat Bowel Cancer (LBBC) has played a leading role in bowel cancer research and prevention since it was established in 2001. While significant progress has been made, bowel cancer is still the second highest cause of cancer-related death in Australia and more work needs to be done.

As we have detailed in this report, several milestones were reached over the last 12 months, reinforcing our commitment to advancing colorectal cancer care through innovative research. The opportunity to deliver tangible impact to patients is what motivates us and maintaining this drive will be crucial as we enter an important phase of our research. The preclinical models and reference datasets generated over the past decade have now reached critical mass for translation into clinically meaningful applications. We look forward to this exciting period and thank our donors for their support of this important program. Together with your support we are improving the health outcomes of our patients and the community.

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PERSONALISED MEDICINE USING COLORECTAL CANCER ORGANOIDS

Professor Paul McMurrick, in partnership with researchers at Monash University, is investigating finding the right treatment for an individual patient's cancer faster by growing their tumours in the laboratory.

Professor McMurrick explains "Essentially, we've taken a portion of the tumour from patients who have an aggressive subtype of bowel cancer and grown them into mini tumours, which allow the team to quickly determine how effective drugs are likely to be for each individual patient."

The information provided by the organoids determines which treatments are effective and prevent patients from experiencing unnecessary side effects from other treatments. In our team's recent research, we have discovered a specific protein that may help some tumours resist chemotherapy. By identifying these protein-positive cells in the lab-grown organoids, our research team can better predict which patients might not respond well to standard treatments and adjust their care accordingly.

The organoid research team can grow the tumours in the lab quickly, test a panel of drugs, and give feedback to the oncologist. This can guide treatment decisions for patients before they commence therapy in the hospital.

PROMS FOR COLORECTAL CANCER: PATIENT PERSPECTIVES FOLLOWING SURGERY

Prof McMurrick and his research team have continued to lead efforts towards patient-reported outcome measures (PROMs) for colorectal cancer. Developed in line with standards set by the International Consortium of Health Outcomes Measurement (ICHOM), these PROMs respond to growing evidence suggesting that the physical and psychological needs of patients remain unmet, despite greater emphasis on their quality-of-life through improved treatment options.

To validate PROMs, a retrospective analysis of 512 patients undergoing colorectal surgery at Cabrini Health was conducted, revealing notable differences in how patients viewed their postoperative outcomes. Incorporating symptomatic, physical, and psychological metrics, results from the study indicated a strong correlation between patient responses and the type of surgery performed.

As a result of this study, we have now launched Victoria's first prospective PROMs program for all patients undergoing surgical treatment for colorectal cancer at Cabrini Health. Preliminary analysis of the first 100 patients demonstrates that preoperative PROMs offer valuable clinical insight and help identify unmet symptom burden, particularly among patients under 65 years of age and those with rectal cancer. These findings highlight the potential for PROMs to be integrated into routine preoperative assessment, supporting improved risk stratification and enabling more personalised, patient-centred care.

The ability to identify nuanced differences across patient groups both pre and post-operatively reinforces the important role PROMs can play when properly integrated into routine care. Capturing otherwise overlooked information, they allow clinicians to deliver timely interventions aligned to the precise needs of individual patients. As the Department oversees their continued adoption, PROMs will serve as vital tools that not only enhance immediate treatment outcomes, but also long-term patient satisfaction and recovery, setting new benchmarks for holistic and compassionate colorectal cancer care.

PREDICTING PATIENT OUTCOMES FOR COLORECTAL CANCER

Accurately providing a prognosis for patients with colorectal cancer is a difficult process. The complexity of its biology alongside the diverse ways in which symptoms manifest makes it difficult to establish a single set of criteria upon which patient outcomes can be predicted. This is further complicated by the difficulties associated with detection, leading to late-stage diagnoses where only 60% of patients survive past five years.

Despite these obstacles, work towards improving predictive analysis methods for colorectal cancer has been an ongoing priority for Prof McMurrick and his research team.

Promising insights in predicting patient outcomes can be provided through the use of tissue microarrays (TMAs). Prof McMurrick and his research team have taken tumour tissue, matched to outcome data, on more than 1200 Cabrini bowel cancer patients. Capable of scale and speed through their ability to simultaneously evaluate multiple tissue specimens cost-effectively, TMAs offer a window through which the biology of each patient's cancer can be better understood. The recent integration of artificial intelligence (AI)-enabled algorithms is furthering this research, having the potential to predict cancer recurrence with unprecedented accuracy.

A subset of samples will also undergo advanced biomarker testing, using cutting edge technology to explore immune and tumour microenvironment in even greater detail. By combining biomarker data with powerful AI tools, the team hopes to better predict which patients are at higher risk of their cancer returning, paving the way for more tailored and effective treatment plans.

In combining TMAs and AI-enabled tools, optimised treatment will be just one component of an integrated colorectal cancer platform, capable of also improving rates of prevention, early detection and timely intervention. This would allow clinicians to proactively halt colorectal cancer before late-stage progression, improving the chance of survival for individual patients while reducing its overall disease burden on the Australian population.

PERSONALISED CARE MODELS FOR LEFT- AND RIGHT-SIDED COLORECTAL CANCER

Colorectal cancer can develop in different parts of the large bowel, and where it starts can affect how it behaves and how early it is detected. Cancers on the right side of the bowel (which includes the beginning of the colon) tend to grow quietly and may go unnoticed for longer. They often cause vague symptoms like tiredness due to low iron levels, because the bleeding can be hidden rather than obvious. In contrast, cancers on the left side of the bowel (closer to the rectum) are more likely to cause noticeable symptoms earlier, such as changes in bowel habits, visible blood in the stool, or even blockage. These differences happen not just because of the location, but also due to the way the cancer cells behave and grow.

As personalised medicine grows in prominence, Prof McMurrick and his team have sought to better understand and develop suitable interventions for these varying types of colorectal cancer. Research has uncovered distinct differences based upon the location of tumours, including critical factors influencing patient survival.

Published in Scientific Reports, the study revealed that patients with right-sided colorectal cancer experienced higher mortality rates and relapse than those with left-sided tumours across all stages of cancer progression. Furthermore, patient characteristics such as age, body mass index, and comorbidities were found to impact survival outcomes more than previously thought.

These findings show the necessity of personalised treatment approaches by recognising right- and left-sided colorectal cancer as distinct entities both biologically and clinically. Doing so will enable clinicians and patients to reach more comprehensive conclusions and subsequently informed decisions so as to develop treatment strategies better aligned with individual needs. For the healthcare system more broadly, enhanced disease stratification allows for targeted, evidence-based policies to address the projected increase in colorectal cancer incidence and prevalence over the coming decades.

Thank you

On behalf of the entire Let's Beat Bowel Cancer team, we sincerely thank you for your leadership in philanthropy that is enabling Cabrini to develop personalised treatment strategies for colorectal cancer patient care, now and for the future.

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Cabrini FOUNDATION

LET'S BEAT BOWEL CANCER

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