

# CIC Cancer Project – early PROMs findings reveal striking variations in patients' outcomes of colorectal cancer care between two sites in Western Australia



Angela Ives<sup>1</sup>, Lesley Millar<sup>1</sup>, Mary Theophilus<sup>2</sup>, Christobel Saunders<sup>3</sup>

<sup>1</sup> The University of Western Australia, Perth, Australia, <sup>2</sup> Medical School Curtin University, <sup>3</sup> Melbourne Medical School, University of Melbourne, Australia

## Who we are...

The Continuous Improvement in Care – Cancer (CIC Cancer) Project is a multi-institutional program of research that seeks to bring value-based health care (VBHC) to public and private healthcare settings in Western Australia (WA) across four tumour streams – including colorectal cancer (CRC) – and five hospital sites. To achieve this aim, patient-reported outcomes (PROMs) based on the ICHOM standard datasets are collected electronically via an open source, informatics system embedded within the IT environments of public and private sites.

Data visualisation allows PROMs to be used during individual patient consultations to highlight issues and understand how a patient is coping. De-identified data is also routinely extracted, and in-depth analysis undertaken to identify trends in patient symptoms and function.

## Anecdotally...

Clinical teams reported that when the patient completed PROMs, prior to/during an appointment, this started a discussion – particularly when a nurse-led interaction was included in the standard consultation process.

Analysis of EORTC-QLQ-C30 PROMs collected from colorectal cancer patients was undertaken to determine the reasons why.

## What we found... demographics and treatment

A total of 219 CRC patients were recruited to the CIC research project at diagnosis (baseline). These were split 2:1 across – Site A (privately operated hospital) and Site B (publicly operated teaching hospital).

- Half of the participants had completed PROMs at both baseline and six months (Table 1).
- The age profile was similar at both sites, but Site A had fewer females.
- Type/extent of treatment, disease stage were similar for both sites although overall up to 20% of disease stage data was not reported.
- More stomas were undertaken at Site A – 36/95 (37.9%) vs. Site B – 14/51 (27.4%).
- There was some crossover of medical personnel across sites.

Table 1: Demographic profile

|                                 | Site A                              | Site B                              |     |
|---------------------------------|-------------------------------------|-------------------------------------|-----|
| Total number of patients:       |                                     |                                     |     |
| Baseline                        | 150                                 | 69                                  | 219 |
| Completed Month 6 PROMs         | 77                                  | 29                                  | 107 |
| Completed Year 1 PROMs          | -                                   | 31                                  | 31  |
| Completed Year 2 PROMs          | -                                   | 20                                  | 20  |
| Completed Year 3 PROMs          | -                                   | 15                                  | 15  |
| Mean age at diagnosis/baseline: | 68.1 years (SD 14.6)                | 67.2 years (SD 12.3)                |     |
|                                 | Range 25.5 – 90.7 years             | Range 33.6 – 92.5 years             |     |
| Sex:                            | Female 68 (45.3%)<br>Male 82 (54.7) | Female 37 (53.6%)<br>Male 32 (46.4) |     |

Figure 1: Function scores (higher is better) for EORTC-QLQ-C30



Figure 3: Global Health status scores (higher is better) for EORTC-QLQ-C30



## What we found... PROMs

- A review of the EORTC-QLQ-C30 scores found that all function scores – physical, role, emotional, cognitive, and social – for Site A improved at six months compared to Site B. This improvement was seen regardless of the baseline score (Figure 1).
- In addition, all symptom scores – fatigue, nausea and vomiting, pain, dyspnoea, insomnia, appetite loss, constipation, diarrhoea, and financial difficulties – for Site A improved at six months when compared to Site B; again, regardless of baseline scores (Figure 2).
- Despite the global health status being lower at Site A at baseline, the improvement in global health status was greater than at Site B at six months (Figure 3).

Figure 2: Examples of symptom scores (lower is better) for EORTC-QLQ-C30



## Reason for identified differences in PROMs scores...

- The key difference appeared to be the **increased involvement of nurse specialists in the review and assessment of patient's well-being** at Site A, where they provided continuous support as well as coordinated care to navigate the healthcare system.
- Nurse specialists asking their patients the PROMs questions potentially allowed **provision of immediate support and ongoing identification and management of patient's needs**.

## In conclusion...

Although this PROMs analysis is exploratory it suggests a nurse-led interaction leads to early and improved outcomes for patients, but further research is needed.

It is hoped a trial will be commenced at Site B to further clarify this effect.

