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Why we need prehabilitation: Evidence from CREW

Dr David Wright – Senior Research Fellow

Macmillan Survivorship Research Group

Funded by MACMILLAN CANCER SUPPORT

Acknowledgements

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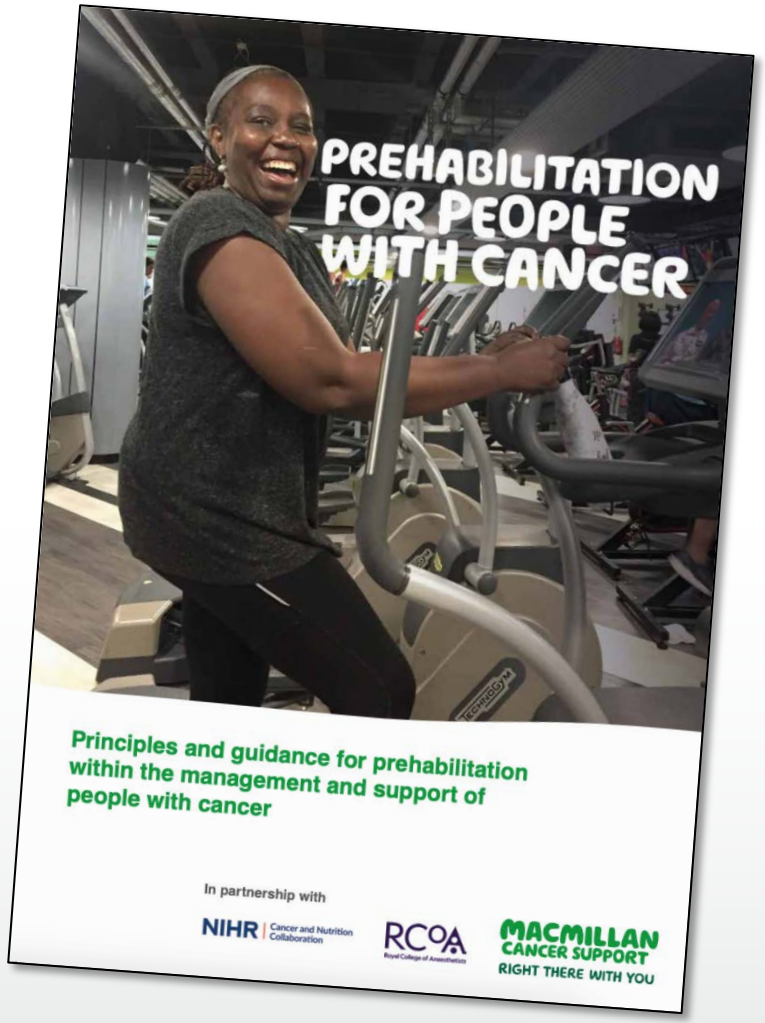
Prehab for People with Cancer

Helping people by:

- promoting healthy behaviours
- providing needs based prescribing
- building resilience to treatment
- enhancing physical and mental health and well-being
- supporting people to live as full a life as possible



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What's the evidence?

- How do we know **pre-treatment** factors matter?
- What **pre-treatment** factors matter?

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CREW
Understanding the recovery and wellbeing of those affected by colorectal cancer

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ColoREctal Wellbeing (CREW) Study Objectives

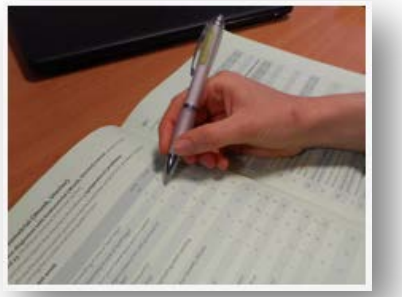
1. Plot natural history of recovery of health and well-being

2. Investigate whether/how health needs change over time

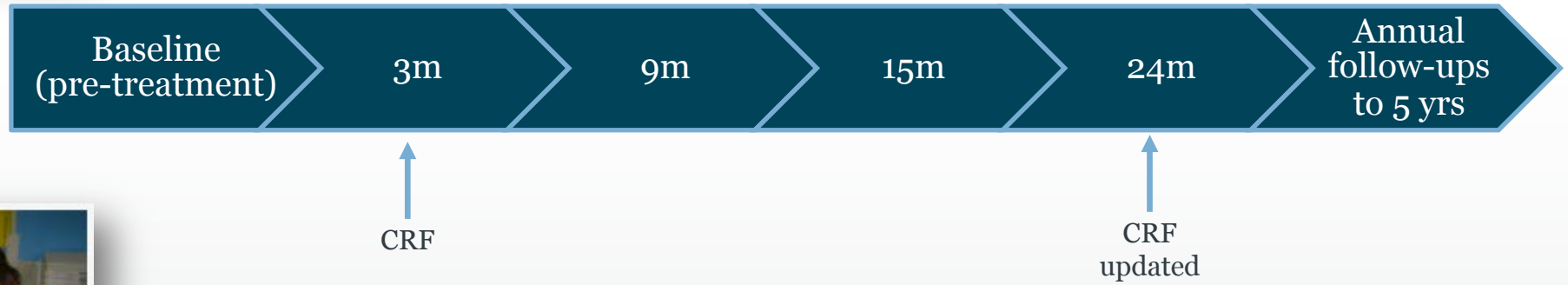
3. Explore what influences recovery of health and well-being, and determine who is most at risk of poor/protracted recovery

Fenlon et al. (2012). *BMC Health Serv Res*, **12**: 90

Data collection



Questionnaires: validated Patient Reported Outcome Measures (PROMs), sociodemographic and socioeconomic questions, and open-ended questions



Case Report Forms (CRFs): clinical information from medical records including diagnosis, treatment, recurrence

Fenlon et al. (2012). *BMC Health Serv Res*, **12**: 90

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Study design and sample

Prospective, longitudinal cohort study of 1,000 CRC patients

29 hospitals across England, Wales, Scotland

Questionnaire response rate 71-88%

Mean age 67 yrs (range 32-95). 57% male

Awaiting primary curative intent surgery (Dukes' stage A-C)

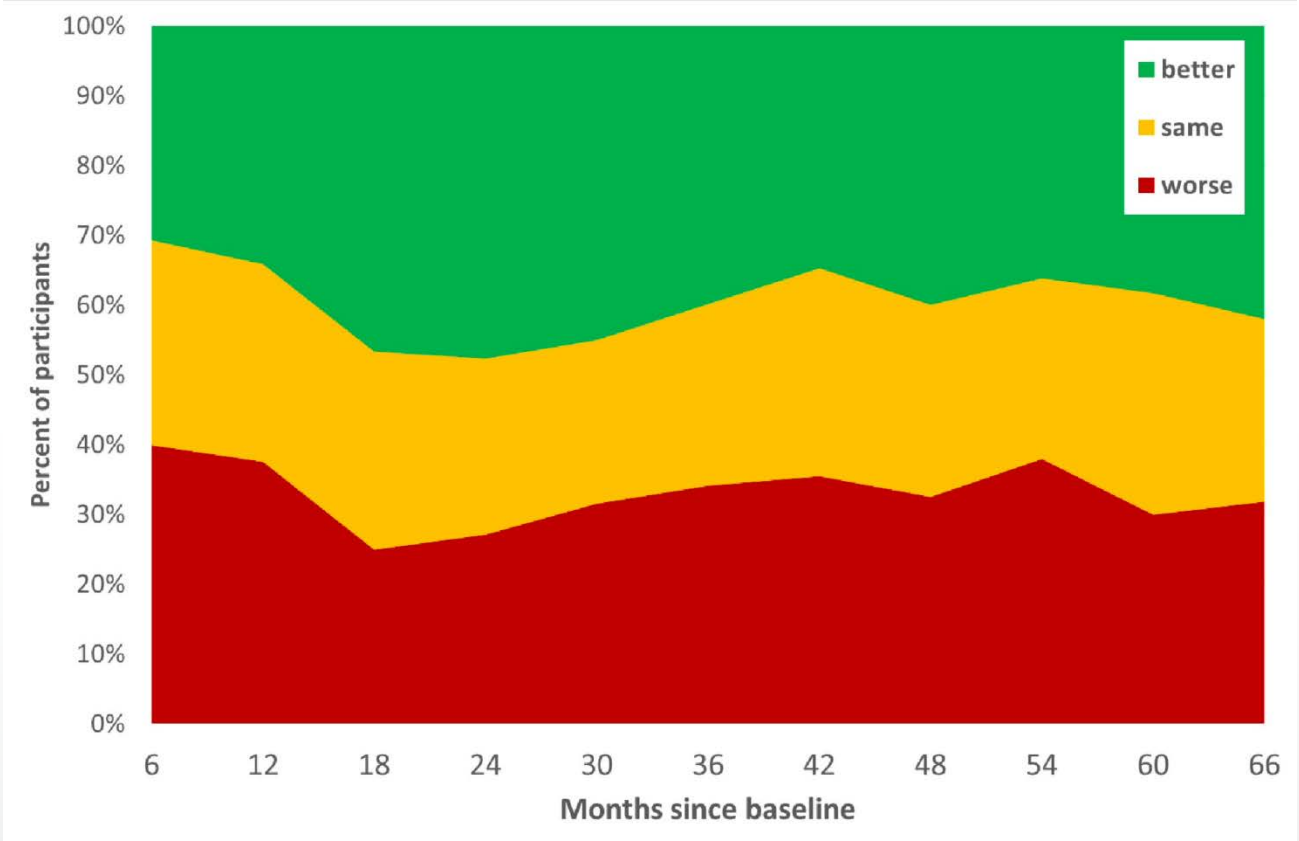
Recruitment Nov 2010-March 2012

Minimum dataset on 91% of all eligible people

65% colon; 35% rectal. 36% had a stoma (most temporary)

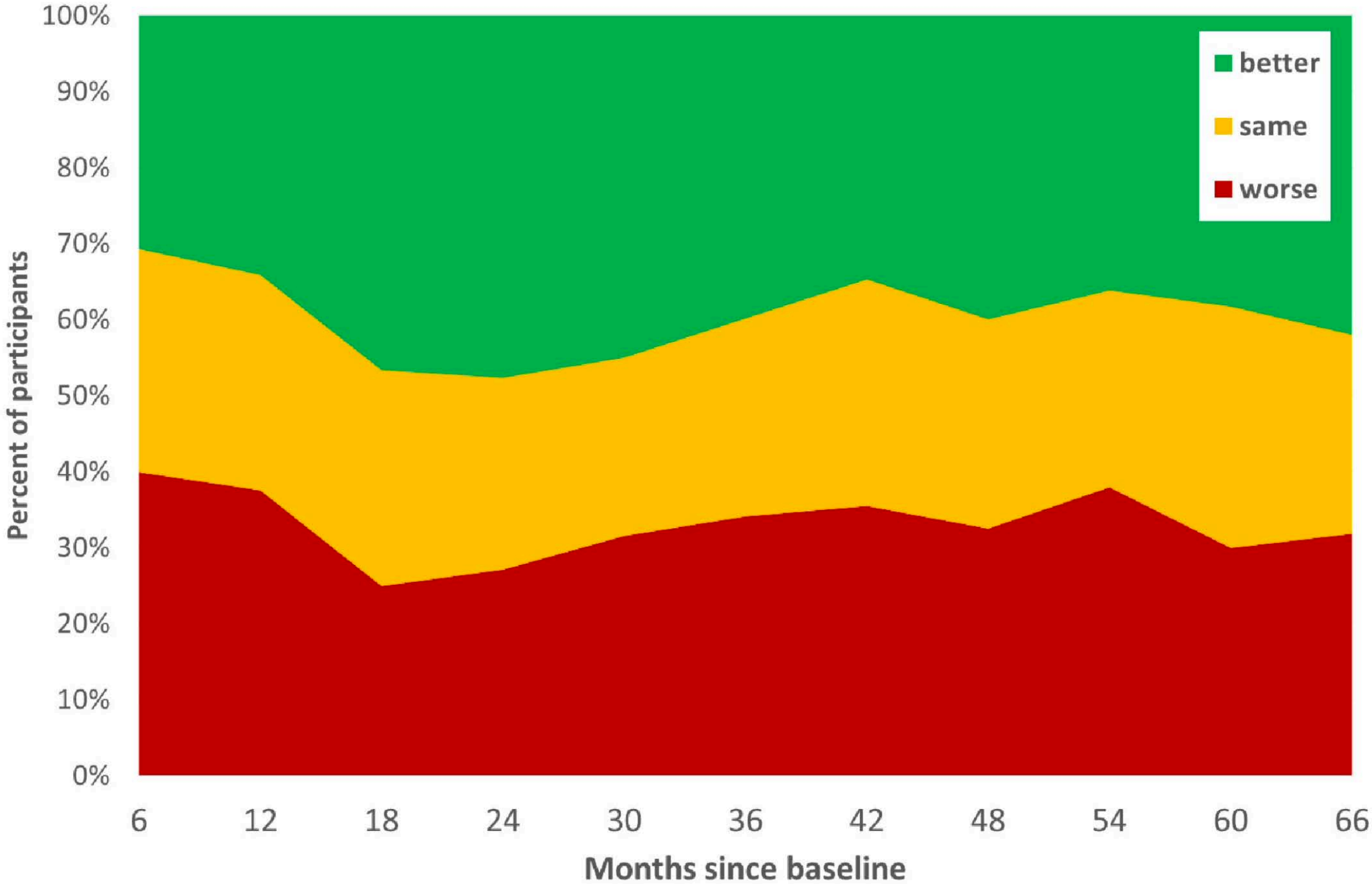
Recovery of health and wellbeing

- Around 70% recover well. Around 30% do less well. This is still the case 5 years after surgery
- **Psychosocial factors** as good a predictor as stage at diagnosis for long-term recovery of health and wellbeing
- **Depression** and **low self-efficacy at diagnosis** were the most consistent predictors of poor health and wellbeing outcomes



Changes in quality of life (QLACS-GSS) compared to baseline

Wheelwright et al. (2020). *Plos One*, **15** (4)


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent of participants
better
same
worse
6
12
18
24
30
36
42
48
54
60
66
Months since baseline

Self-efficacy (low confidence to manage)

- 40% reported low self-efficacy throughout 5 years
- Baseline factors associated with lower self-efficacy:

Greater neighbourhood deprivation	Living alone	More comorbidities
Worse pain and fatigue	Lower positivity	Greater negativity

Grimmett et al. (2017). *Journal of Cancer Survivorship*, **11 (5)**: 634-642

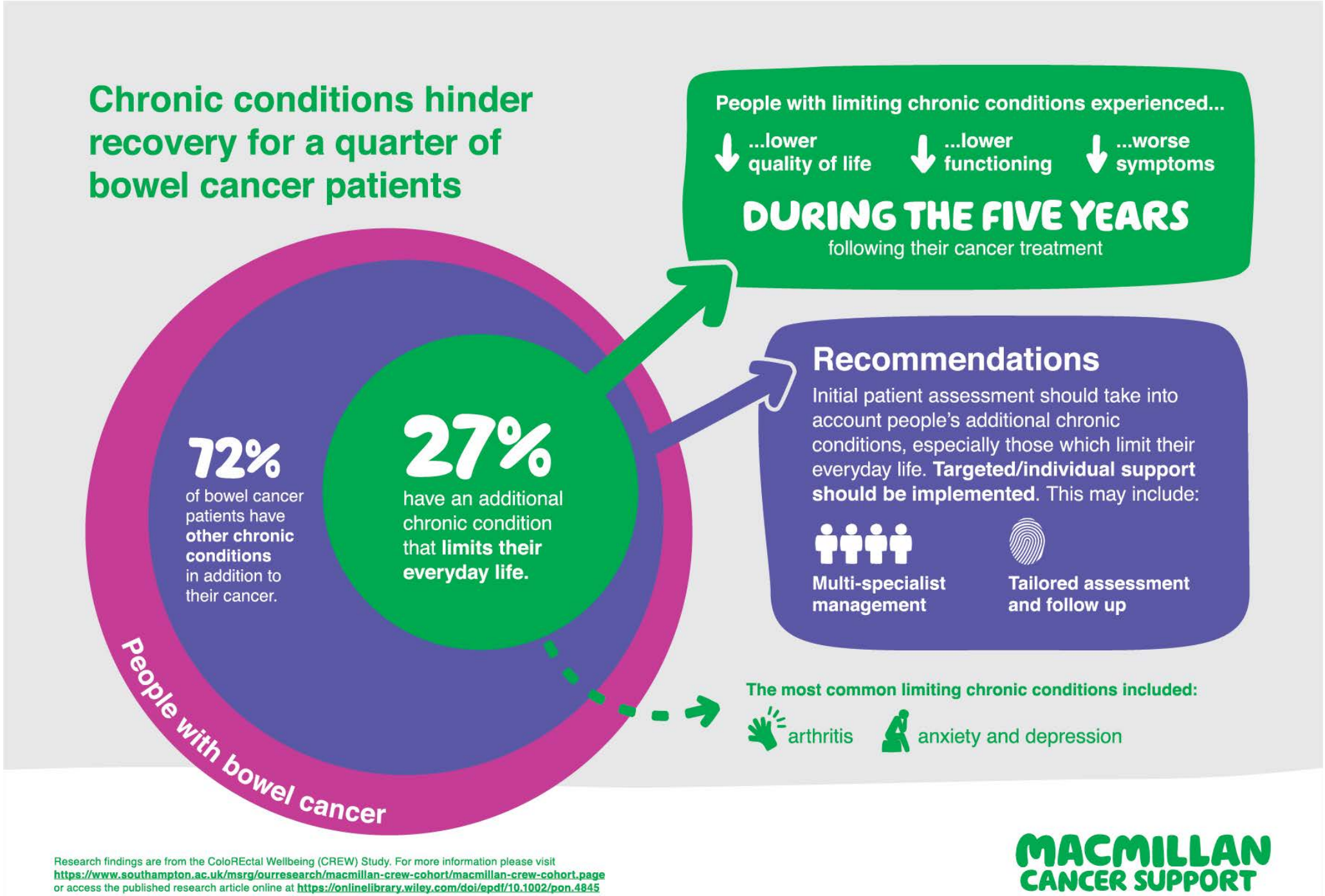
Depression

- 21% scored above cut-off for clinically significant on CES-D at baseline
- 15% scored above cut-off on CES-D after 5 years
- Estimated 3% in the general population

Anxiety

- 39% scored above the clinical cutoff for anxiety on STAI
- 20% scored above cut-off on STAI at 5 years
- Estimated 6% in general population

Calman et al. Manuscript in preparation.



Cummings et al. (2018). *Psycho-oncology*, **27** (10): 2427-2435

Who's at risk of poor outcomes and needs support?

Those with:

- Depression
- Low confidence to manage illness-related problems
- Comorbidities impairing everyday life
- Unmet needs
- Insufficient social support

So, what's the evidence for prehab?

'Psychosocial factors including self-efficacy, an individual's belief in their innate ability to achieve goals, and depression before surgery predict recovery trajectories in quality of life, health status and wellbeing following colorectal cancer treatment'.

'This has significant implications for colorectal cancer management as appropriate support may be improved by early intervention resulting in more positive recovery experiences.'

Prehabilitation for People with Cancer, 2019

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Data Access

We welcome requests for access to the CREW database from researchers and others. For details, see **www.horizons-hub.org.uk/access_data.html**

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Health Economics

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Why health economics matters

- Clinical effectiveness and cost are central health and social care policy
- We live in a world of
  - high demand
  - multiple interventions
  - limited resources
- economics assesses how society allocates resources among alternative applications

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Different types of health economics

Cost minimisation	Intervention consequences are equivalent: which is cheaper?
Cost effectiveness	Comparing interventions by a common outcome (e.g. life year saved)
Cost utility	Cost / benefits of interventions with >1 outcome (e.g. QALY)
Cost benefit	Both intervention cost and consequences are seen in money terms: which is cheaper?
Cost consequences	Different outcomes that cannot be reduced to single benefit measure

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Social support and Unmet Needs

- Low and declining social support associated with poor mental health and low QOL
- Perceived social support declined in 30% of participants
- 25% of CREW participants reported at least one moderate/severe unmet need 15 months and 2 years after surgery
- Unmet needs most commonly physical (e.g. pain) or psychological (e.g. anxiety)
- Unmet needs associated with poorer QoL

Haviland et al. (2017). *Psycho-oncology*, **26** (12): 2276-2284
Sodergren et al. (2019). *Journal of Cancer Survivorship*, available online

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