Allied Health Professional case studies: Physiotherapist

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Annual Physiotherapy Review Project – Working to create an efficient, patient centered and cost-effective service to those with profound and multiple learning disabilities in the community

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Description

The Southampton City Community Learning Disability Health Team provide care to those with learning disabilities in the community. Changes within the NHS has led to adults with learning disabilities being open to the team under an 'Episodes of Care' philosophy. This results in service users only being open to the physiotherapy team when the person and, or their family/ support staff notice that there is a problem that needs addressing. Since adopting this approach the Physiotherapy team noted that in many cases service users were referred at a late stage of their current complaint. Late referral results in a person experiencing more complex care needs (e.g. dysphagia risks, respiratory care needs, chronic pain) and increases the support required from NHS services.

The Annual Physiotherapy Review project seeks to take a preventative approach, assessing and documenting changes in condition such as weight, posture, contractures and scoliosis annually. The aim being early identification of deterioration of posture and respiratory care to enable appropriate and timely support to resolve the issue. This approach is in line with NICE guidelines *Care and support of people growing older with learning disabilities* NG96 (2021). The potential benefits of this proactive annual review approach include, reducing risk of, hospital admission, increased care packages and increased equipment needs, whilst maximising the efficiency of NHS work force resources.

Context

The project developed due to repeat referrals into the Learning Disability (LD) Physiotherapy service with examples of service users requiring new equipment (such as wheelchairs/sleep systems/standing aids) due to late identification of postural changes and or worsening contractures.

The aim of the project was to achieve early identification and treatment of postural and physical health changes in adults with profound and multiple learning disabilities (PMLD) in Southampton. This is important, as respiratory conditions remain the most significant cause of premature mortality in people with learning disabilities (Leder 2020). Poor postural management impacts on respiratory care as scoliosis will impact on rib cage deformity and lung volumes. These individuals are also often

reliant on others (family/paid carers) to recognise changes to tone, contractures and spinal changes due to the level of their communication difficulties. Expressing pain can often be difficult for these individuals and is very often "under recognised and under treated" in those with learning disabilities and there is a misconception that people with a learning disability have a 'higher pain threshold' (Doody and Bailey 2007)

There were three primary objectives to be achieved through the Annual Physiotherapy Review:

- Ensure efficiency of service within the resources available
- Create a person-centered service
- Cost efficiency

It is well known and documented that people with learning disabilities are more at risk of deterioration in their health, which forms the basis of the NHS GP Annual Health Check scheme (NHS UK 2021). Heslop et al., (2014) found 'avoidable deaths from causes amenable to change by good quality health care were more common in people with learning disabilities (37%) than in the general population of England and Wales (13%)', and that people with 'more severe learning disabilities have been recognised as having shorter life expectancies than those with mild learning disabilities'.

Method

The project identified those people in Southampton with PMLD and complex physical health needs who were at risk of late identification of their complex health needs. An original caseload of 49 service users were involved with the project in 2019 (x1 RIP prior to assessment x1 moved out of area).

An assessment form was then designed based alongside the GP LD annual health check and postural care assessments. The reasoning was to identify those with postural needs but also to collect simple health data such as blood pressure and weight, as evidence has shown that GPs have difficulties completing these assessments for people with PMLD due to lack of appropriate equipment, which may then lead to late recognition of deteriorating physical health. This is also in keeping with a 'making every contact count' approach.

A detailed 12 page assessment was completed including, but not limited to:

Area assessed	Assessment/Measurement	Notes
Weight	Weighing via sit on or hoist scales	GPs often do not have access to this equipment
Height	Measuring tape with S/U lying on their bed	Where this was not possible an ulna length was taken and converted as per the 'MUST' www.bapen.org.uk
BMI	Calculation kg/m^2	
Medication/ Drug charts	Review of medication specifically pain relief and anti-spasmodic	Liaison with GP required
Skin Care	Review of pressure points and high risk of breakdown	Specific assessments around shoulder blades, sacrum and calcaneum
Blood pressure and cardiovascular function	Sphygmomanometer where able Electronic wrist cuff if unable to use sphygmomanometer	An assessment GPs find challenging due to spasticity of upper limbs. Often spasticity is reduced following physiotherapy assessment so easier to access the upper arm to complete

		assessment. Service users often lying in bed also helps aid with relaxation to complete assessment.
Respiratory	Auscultation Pulse oximetry	Auscultation will consider scoliosis and potential lung fields dependent on individual's deformities. Use of toes when unable to gain reading via finger.
Physical Disabilities	Use of OCE 'part B' range of movement with 'postural deformities' assessment chart	In line with postural findings: Review of wheelchair Review of slings Review of sleep systems Review of standing frames/walking aids
Pain	Pain noted during assessment at certain joints	As with 'medication' section review pain relief where required

An annual review was completed by a physiotherapist with these service users, discussions were held with family members/support workers in relation to the findings of the assessment and an appropriate care plan was developed with the service user and their main support team.

In 2020, the review was streamlined to a 2 page document in order to make the process more efficient, and sought to assess key subjective and objective information of the service user's condition from the past 12 months.

Assessment	**Notes**
Changes to health over the past 12 months	Any notable health issues that require escalating
Changes to medication over the past 12 months	Anything that may impact on physiotherapy recommendations
Wheelchair specifications and needs	Any changes noted or required
Sling specification and needs	Review slings for wearing and fraying and replace
Critical measures – specifically changes over the past 12 months	Are ranges of movement reducing over last 12 months and require intervention
Respiratory Assessment	To review service user's baseline respiratory
Weight/BMI	To review any changes and liaise with family/support team or GP if required
Postural deformity chart	To review postural management – specifically sleep systems/equipment needs

Once the assessment had been completed, it was decided whether or not the service user was suitable for discharge, or whether they were referred onto the physiotherapy caseload.

Outcomes

Outcome of the assessments:

2019

47 service users were offered an assessment as they met the criteria for the project.

Percentage	Number	Outcome
4%	1	Refused review
27%	13	Already open and receiving physiotherapy intervention
31%	15	Review complete – deemed suitable for discharge
41%	20	Physiotherapy needs identified => referral for physiotherapy intervention It is unlikely these needs would have been identified without the physiotherapy review

2020

45 service users were offered an assessment as they met the criteria for the project

Percentage	Number	Outcome	Comments
16%	7	Refused review	Mainly due to Covid-19 pandemic
15%	7	Already open and receiving physiotherapy intervention	
49%	22	Review complete – deemed suitable for discharge	
20%	9	Physiotherapy needs identified => referral for physiotherapy intervention	x 5 of these the physiotherapy team were already aware of – annual reviews were worked around this. x 4 'new referrals' found previously undetected needs at this time.

Intervention Identified from assessments:

2019			2020	
Number	Referral Reason		Number	Referral Reason
8	Specialist mobility; Standing aids (such as Quest 88) walking aids (such as buddy roamer, Meywalk) etc.		1	Specialist mobility; Standing aids
8	Postural management including sleep systems		3	Transition into adult services
4	Moving and Handling		2	Moving and Handling
			2	Sling reviews
			1	Review of exercise programme
24	**Referrals made into the wheelchair service**		**2**	**Referrals made into the wheelchair service**

Health issues that have been highlighted through the project

- Weight loss/gain – advice given and x2 referrals to GP/Dietitian
- x1 unexplained weight loss led to further investigations regarding cancer – negative following screening.
- Respiratory assessments have identified x2 chest infections prior to support staff knowledge ensuring timely intervention from GP.
- Poor activity levels secondary to physical disability – x8 service users were signposting to leisure activities to promote more active lifestyles for those wheelchair users who have limited community access to activity.
- Three examples where standing/mobility activities had stopped due to equipment failures and staff unable to work out how to solve this. Support was provided to fix/replace this equipment to re-start these activities – improvements on musculoskeletal, digestion, respiratory and cardiovascular function.
- Reduction of referrals (22 in 2019 to 2 in 2020) to wheelchair services reducing NHS costs and time for clinicians. Also improving quality of life for service users ensuring they are using appropriate seating.

Key learning points

Offering a proactive Physiotherapy annual review to those with complex physical health needs associated with profound and multiple learning disability and communication difficulties appears to result in earlier identification of postural care needs and earlier provision of equipment to prevent further deterioration of posture. Early identification and support for these needs is likely to reduce the risk of:

- Respiratory conditions resulting in reduced acute hospital admission
- Health conditions, specifically cardiovascular function and bowel management associated with physical inactivity
- Pressure sores
- Pain

Areas for improvement

Issue	What we have done
Support Staff unaware of historical recommendations	Re-sent recommendations Offered teaching if required
Concerns with lack of 'flexibility' with physiotherapy recommendations	Incorporated recommendations into activities of daily living as opposed to a separate 'activity' such as bathing, dressing etc.
Challenges to complete physiotherapy recommendations such as aquatic therapy, specialist gyms, sitting activities due to: Staffing Finances Transport	Liaison with adult services/CHC to improve issues where able. Negotiated recommendations where these issues were unable to be resolved to reduce pressure on families/support staff.

What went well?

Positive feedback received from carers and other health professionals:

- "Reassured me that I am doing the physiotherapy recommendations right!"
- "Always feel the staff are supported by the physiotherapy team – but I like that this is being more 'proactive' and not waiting for us to raise issues/concerns"
- "Such a good idea, should have been done years ago – you can pick up problems we don't notice before they get too bad"
- "A brilliant idea"
- "We know the physiotherapy recommendations are important, but this helps us ask any questions or clarify any concerns without having to call the physiotherapist out specifically"
- Feedback from a 48 hour panel following a death of a service user highlighted the excellent work and practice by the physiotherapy team and all members of the panel were supportive of the annual review project.

Challenges:

- The increase in workload in year 1 had been predicted, but still impacted on the service as referrals were also entering the service – effectively placed an additional 20 cases to our caseload in 2019.
- Getting feedback about the project from families and support staff was a challenge. Questionnaires were attempted, but not completed. A telephone follow-up was completed with many, however we recognise that the feedback may be biased towards the physiotherapy team as families/support staff may not wish to be seen as being 'negative'.
- Getting feedback from GPs has been difficult. The aim was to align the physiotherapy review with the GP annual health check to ensure they had appropriate information 1 month prior to the annual health check – this was not deemed possible.
- Covid-19 meant a delay in completing assessments in 2020 with many families refusing assessment due to shielding – telephone contact was maintained and advice was given to these families in line with the assessment that had been completed the previous year. Specifically, for those whose activities had stopped such as hydrotherapy, rebound therapy and accessible gyms.
- The Southampton Physiotherapists have been in the team for many years so have good knowledge of the service users with PMLD. Challenges will be faced by others who may not have the relevant information to start identifying those who meet the PMLD criteria this may make starting the project more challenging

Future plans to embed this initiative:

Although still in relative infancy, the number of physiotherapy referrals into the service from the annual reviews is reducing, showing that whilst the caseload increased for 1 year, the subsequent years have led to reduction in workload. Postural and health care needs are being met in a timely way, ensuring proactive intervention to those who are most vulnerable to undetected health

changes in our society. Equipment and treatment have been provided to many service users that has helped improve their quality of life, whilst minimising long-term care cost to the NHS.

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Developing cancer prehabilitation and rehabilitation programmes to optimise physical and psychological health and reduce healthcare utilisation.

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Description & Context

These pilot programmes were designed to evaluate and demonstrate the effects of multimodal prehabilitation and rehabilitation on the health-related quality of life (QoL) of people affected by cancer. Programmes were delivered by a Lead Senior Physiotherapist and an Allied Health Professional (AHP) Cancer Assistant Practitioner. People diagnosed with colorectal or breast cancer, and listed for surgery, were invited to join programmes consisting of education and supervised exercise specific to each tumour site. Upon completion of the programmes people reported an improved QoL, reduced fatigue, anxiety and depression. People who completed the breast cancer shoulder programme reported a reduction in upper limb disability.

Following colorectal prehabilitation, people demonstrated an improvement in their physical fitness levels reflected by a reduction in average hospital length of stay by at least two days. Post-surgery, where a rehabilitation component was not provided, people reported regression in pre-intervention levels of fatigue, anxiety and depression, highlighting a need for a restorative component to treatment optimisation approaches. Moreover, people attending the programme reported that the peer support of others with a similar diagnosis had a positive effect on their motivation and emotional wellbeing.

The NHS Long Term Plan[1] outlines an ambition to enhance cancer survival and QoL. It is recommended that to achieve this, people should have access to physical, nutritional and psychological optimisation[2]. Within a Macmillan funded two-year scoping project, two AHP-led pilot programmes were developed based on the requirements of people affected by cancer in a district general hospital in North Derbyshire, a breast prehabilitation and shoulder rehabilitation programme and a colorectal prehabilitation programme. These particular tumour sites were selected as patients require contrasting management approaches and primary treatment is delivered at Chesterfield Royal Hospital (CRH). Studies have demonstrated clinically significant physical and psychological health improvements in both tumour sites[3,4,5], with reduced healthcare utilisation post-operatively[5,6], the pilot interventions provided an opportunity to explore and test these concepts locally.

The aim of the pilot programmes was to deliver personalised, AHP-led interventions which would:

- Increase treatment options for people considered “high-risk for surgery”.
- Improve post-operative outcomes.
- Improve QoL and experience throughout and after treatment.
- Reduce length of stay.
- Support the cancer pathways.

Treatment complications lead to poorer health related QoL, increased length of stay (LoS) and increased overall expenditure on health care[7]. Advanced age and frailty are associated with increased risk of developing post-surgical complications, longer LoS and discharge to a care facility[8]. Approximately 30% of people in North Derbyshire are aged 65 years or older, compared to the national average of 18%[9], suggesting a need to optimise the local population prior to cancer treatment.

People affected by cancer in North Derbyshire report that they do not know what they can do to improve their own treatment outcomes. Up to 82% of people undergoing cancer treatment do not meet physical activity guidance and many patients do not understand the benefits of lifestyle changes to mitigate the long-term risks of cancer treatment[10]. Fatigue, managing symptoms, nutrition and “how to be more active” are among the top five information needs reported by people affected by cancer in North Derbyshire during holistic needs assessments[11]. AHPs are well placed to support people with all aspects of their physical wellbeing, however prior to these pilot interventions, there were only very limited AHP services implemented within cancer pathways at CRH.

Method

Each programme was co-developed with the respective MDT to define pathways which would allow the minimum required time to stimulate fitness improvements, whilst minimising delays to surgery. Patient and public involvement was also incorporated throughout, utilising surveys, interviews and focus groups. A key focus from this feedback was to provide information at the right time and minimise hospital attendances. The unique requirements of each patient group resulted in two very different programmes.

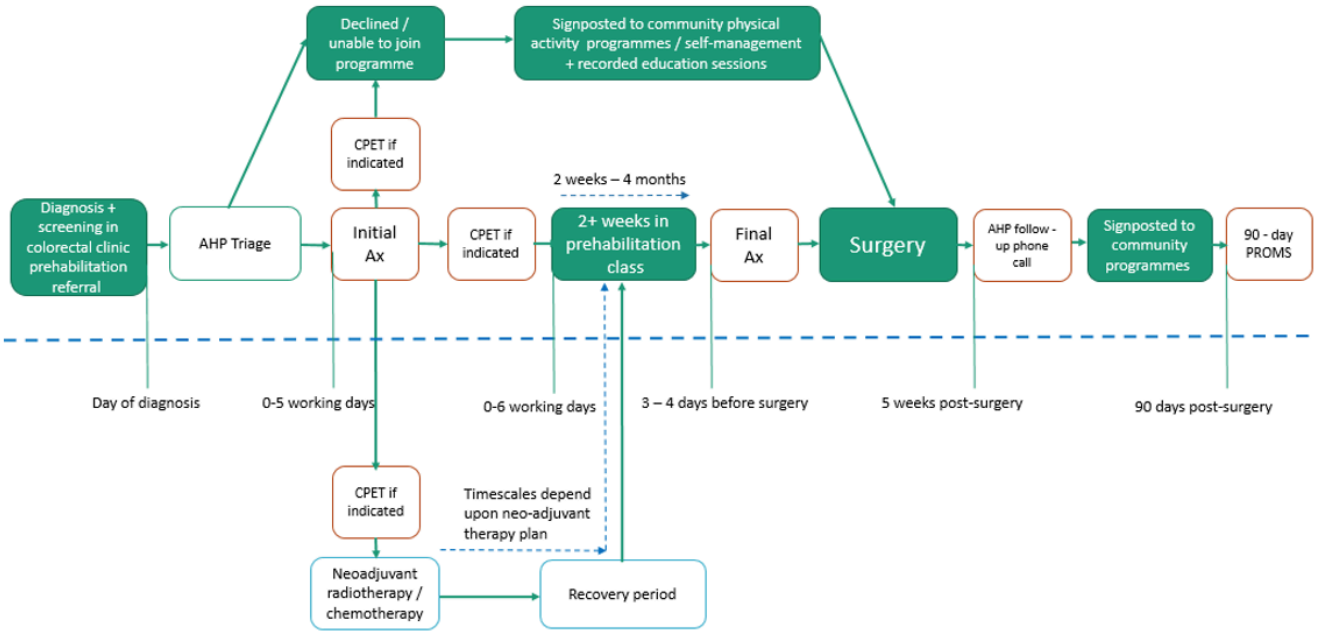


Figure 1: Colorectal Prehabilitation Pathway

Colorectal cancer

The colorectal programme (figure 1) provides supervised exercise for people considered "high risk" for surgery, those considered lower risk are also invited to join or are provided with a home exercise programme. Education sessions are provided before each class covering four core themes, to help people to prepare for their surgery (figure 2).

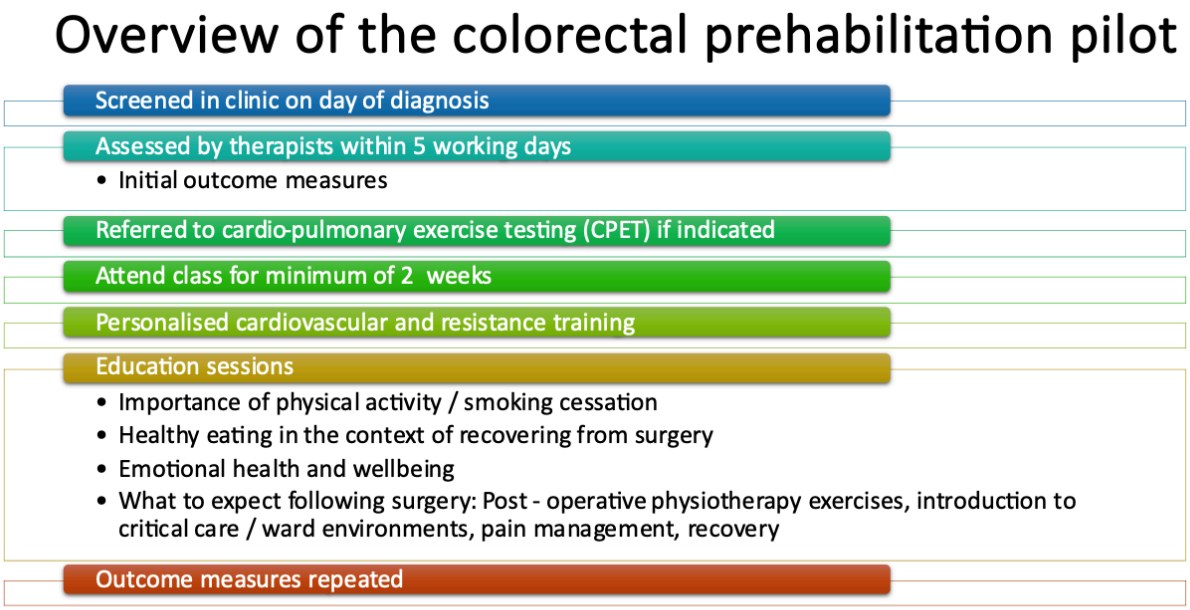


Figure 2: Overview of the colorectal prehabilitation pilot

Following surgery, people are visited on the ward by the team and where indicated, ward-based rehabilitation is provided. Working with therapists with whom patients already have an established rapport eliminates barriers to early mobilisation, particularly where people are anxious or experiencing delirium. Each person is contacted by telephone five weeks following surgery for a progress check and at this point are sign-posted to local physical activity or other wellbeing programmes as required.

Breast cancer

In the breast cancer programme, every person who will undergo primary breast cancer surgery is invited to join an online webinar (figure 3) which contextualises the importance of physical and emotional wellbeing and signposts to relevant local services, to increase resilience to treatments.

Figure 3: Breast prehabilitation webinar content

People considered at "high risk" (figure 4) of developing shoulder problems[5,12] are provided with an outpatient physiotherapy appointment approximately seven days following their surgery.

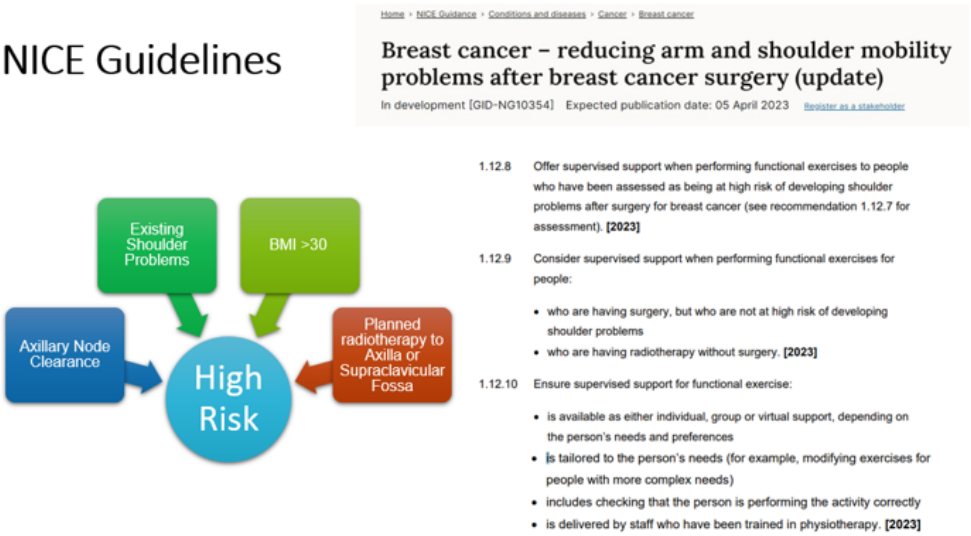


Figure 4: High risk of developing shoulder problems and relevant NICE guidelines

Outcome measures (figure 5) were chosen to reflect physical improvements, the perceived impact upon each person's quality of life and to benchmark with other established services and current evidence. Physical testing takes place during assessments, with questionnaires completed for each patient related outcome measure (PROM). PROMs are then repeated via post following discharge, to evaluate the longer-term impact of interventions.

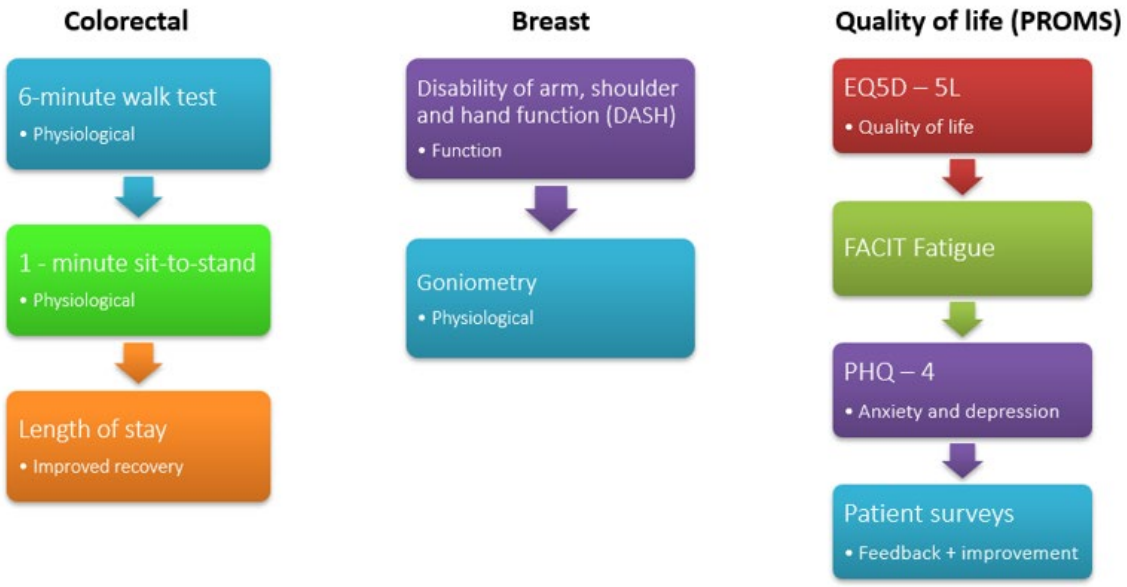
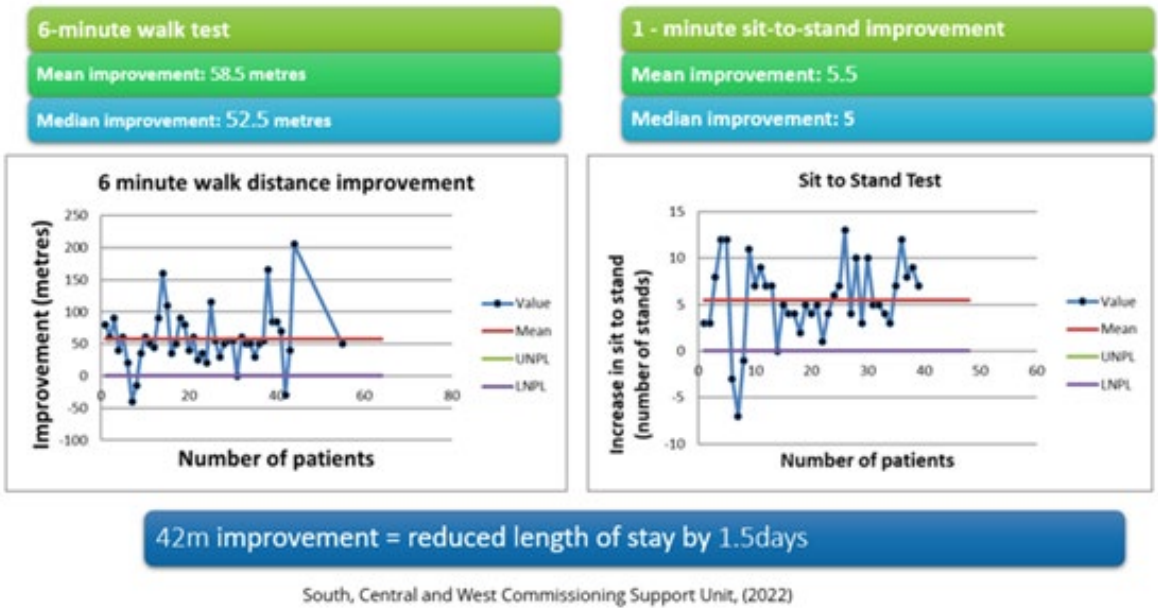


Figure 5: Outcome measures for pilot programmes

Outcomes

Colorectal programme

People demonstrated clinically significant improvement in fitness reflected by improvement in six-minute walk tests (6MWT) and one minute sit-to-stand scores (figure 6).



South, Central and West Commissioning Support Unit, (2022)

Figure 6: Colorectal prehabilitation physical outcome measure results

The average length of stay was reduced by two days versus CRH legacy data (figure 7) and correlates with an average 6MWT distance improvement above 42 metres, as demonstrated in other independently evaluated services[6].

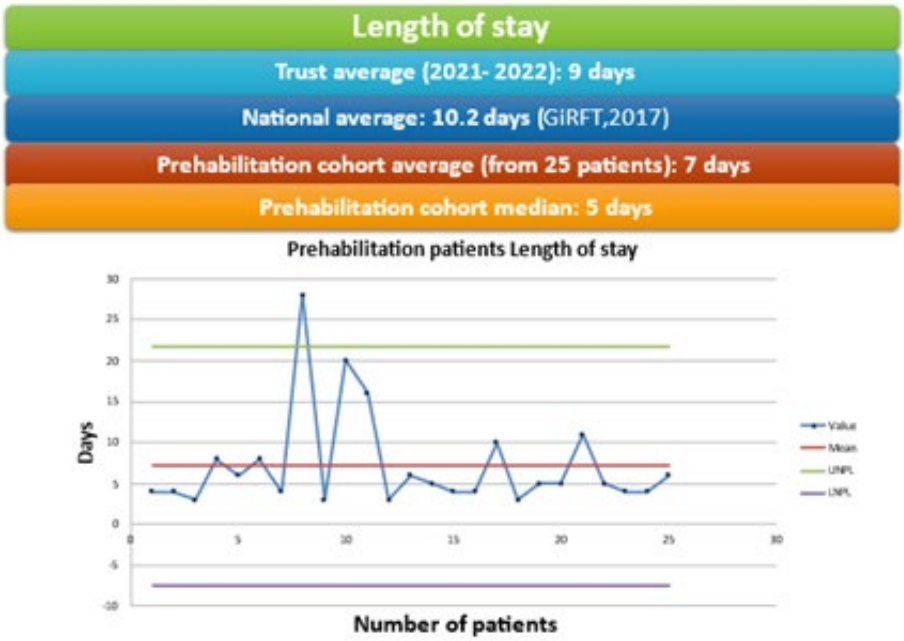


Figure 7: Length of stay comparisons

Breast programme

DASH scores improved with clinical significance at the point of discharge, which compares well with the study on which the programme was based[5]. However, outcomes in the study are based on surveys at 12 months, in this programme surveys are returned between four and six months.

PROMS

A clinically significant QoL improvement was observed in both programmes[13], whilst anxiety and depression scores reduced to within a "normal" range on final assessment following the colorectal prehabilitation programme (figure 8). This suggests that, despite being closer to surgery, people feel better prepared and less anxious and depressed, potentially contributing to enhanced recovery times (as demonstrated in multimodal prehabilitation randomised control trials in colorectal cancer patients)[14].

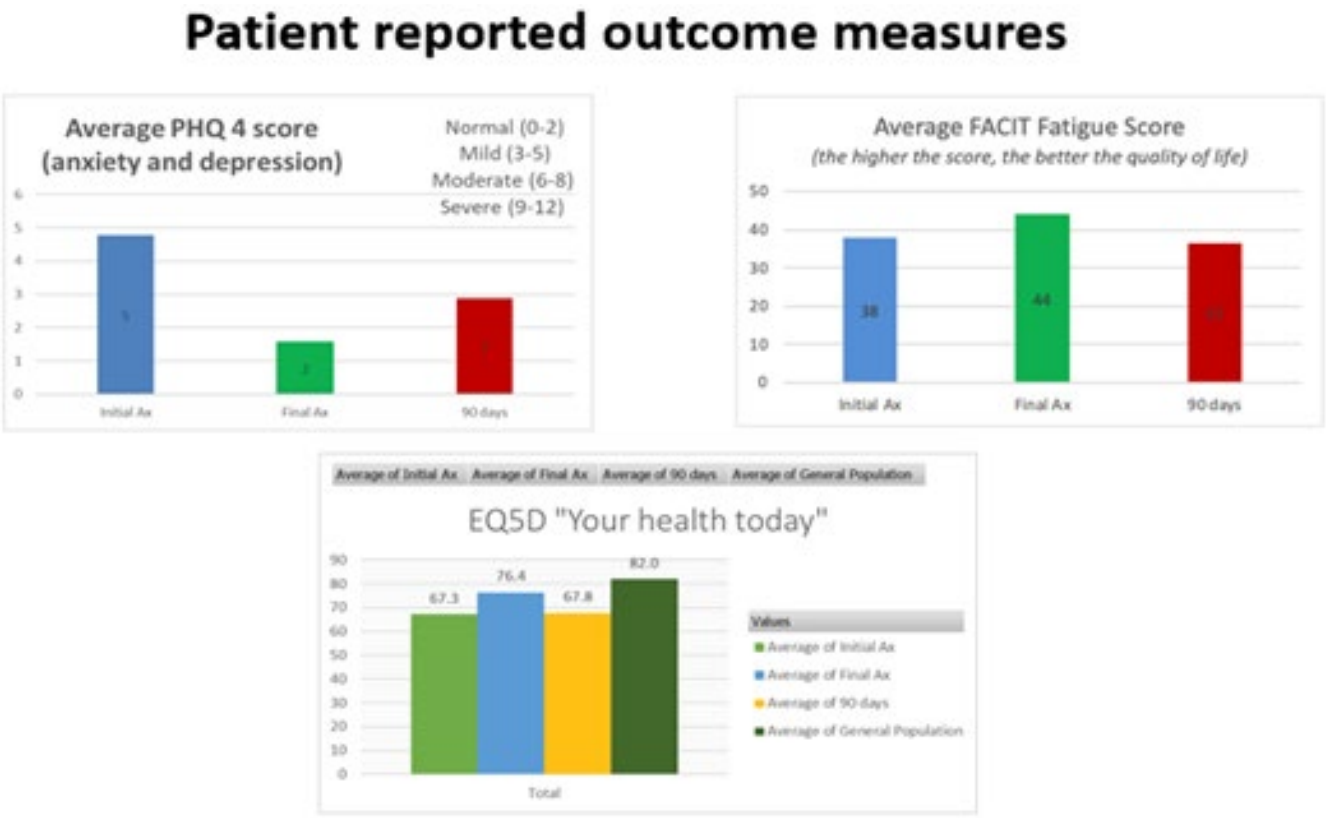


Figure 8: Patient reported outcome measures

Patient and staff evaluation

A number of themes were highlighted during evaluation of the interventions (figure 9).

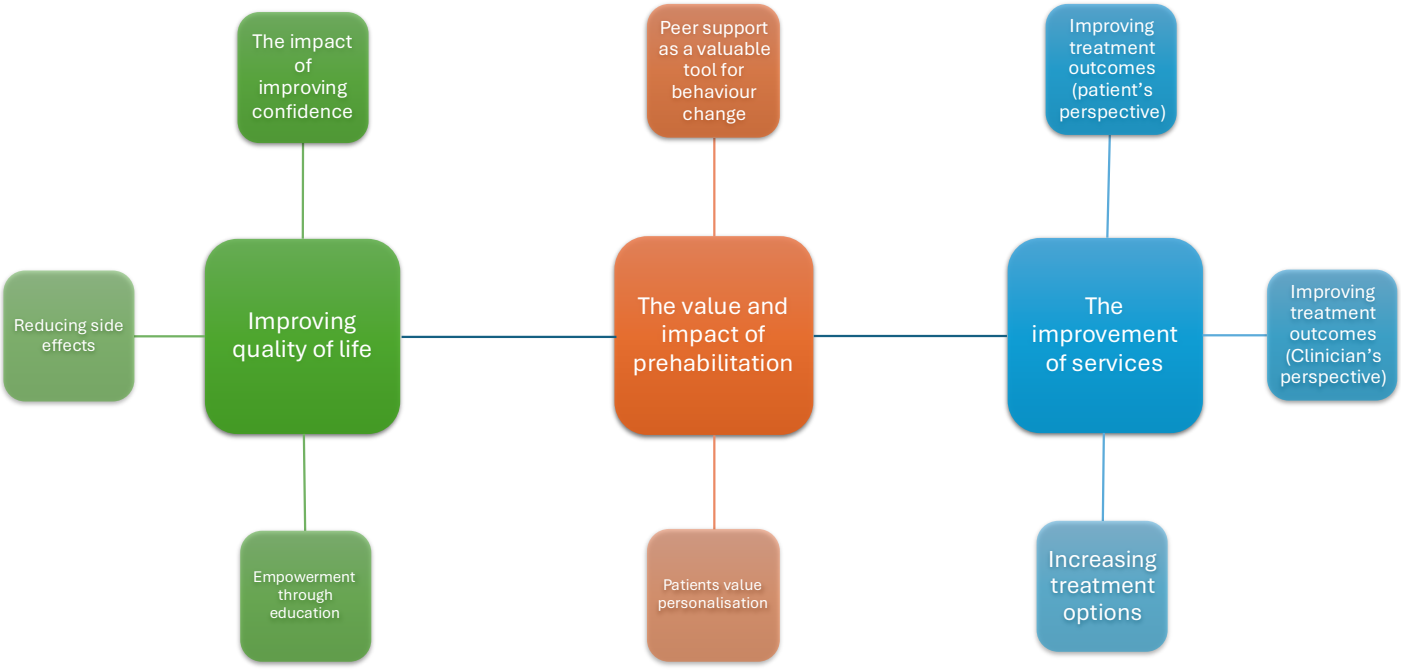


Figure 9: Thematic map of service evaluation

Patients highly valued the opportunity to partake in each programme, citing the opportunity to be supported by others sharing a similar experience particularly beneficial. Improved 6MWT values combined with education, reportedly made people feel more confident, better prepared for and less anxious about their treatment. 92% of patients reported a better understanding of what to expect from surgery and 100% would recommend the programme to others.

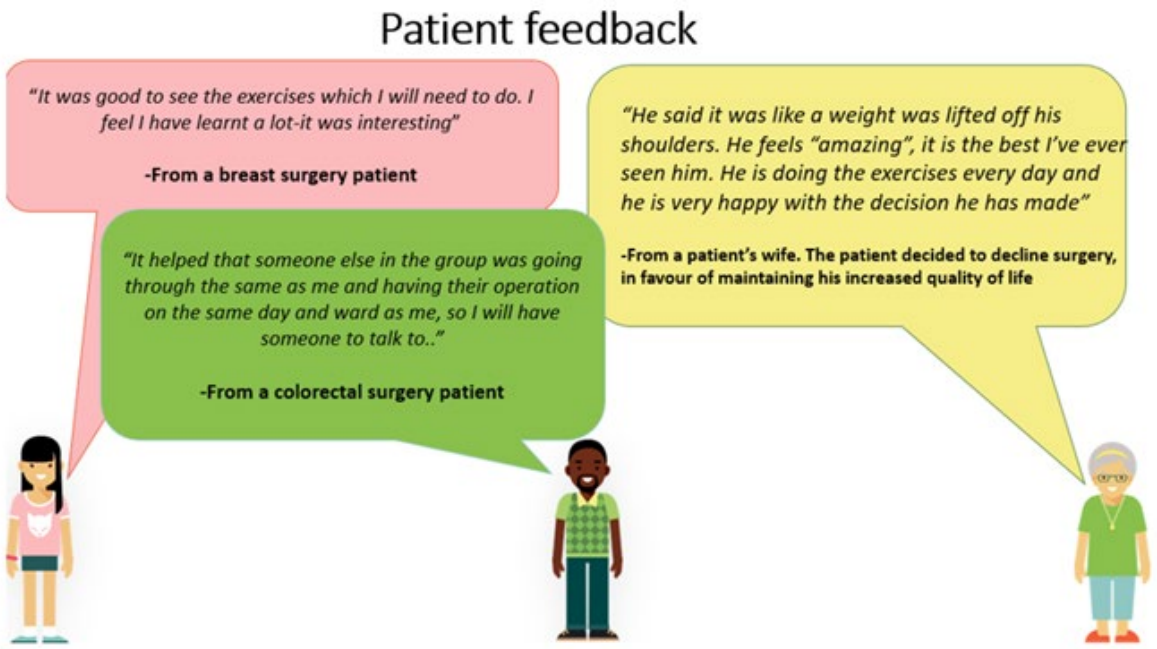


Figure 10: Patient feedback

The results observed in physical and patient reported outcome measurement are echoed in feedback surveys of people who have completed the programme. Physical improvements and peer support contribute to improved QoL and longer-term behaviour changes (figure 10).

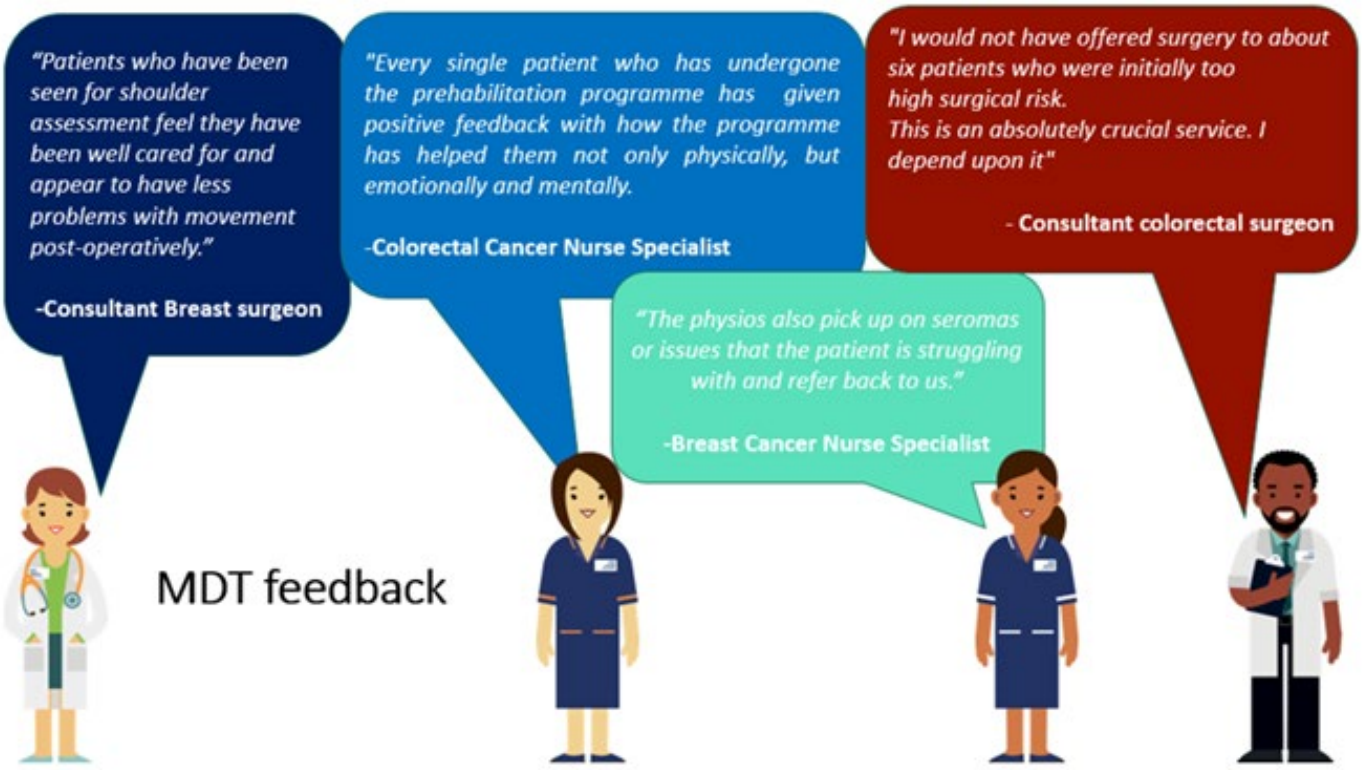


Figure 11: MDT Feedback

Crucially, the MDTs of each tumour site have seen the impact of the interventions on their patient groups, enabling an ongoing collaborative approach. AHPs were not involved in either pathway prior to these pilot programmes but are now considered to be integral to each pathway, as part of high-quality patient care (figure 11).

Return on investment

Capacity	Length of stay (CRH)	Re-admissions (CRH)	ED attendances (CRH)	Critical care (CRH)
Colorectal	296	15	15	22
Breast	-	-	20	-

Table 1.1: Estimated capacity savings at CRH through prehabilitation / rehabilitation programmes

Based on the evidence of these pilot interventions, relevant RCTs[5] and independent evaluations of larger scale services[6], it is hypothesised that bed capacity would be increased by a minimum of 296 days and 22 critical care days at CRH, with reduced re-admissions and ED attendances (Table 1.1). Based on economic analyses[5, 6] and 2022/23 tariff tables, financial savings would be expected as consequence of the efficiencies associated with improved outcomes (table 1.2).

Tumour site	Estimated annual financial savings
Colorectal	£152,179
Breast	£27, 090

Table 1.2: Estimated cost savings for from CRH prehabilitation /rehabilitation programmes

The implementation of AHP-led programmes shows a positive influence on the capacity of cancer MDTs by adding an extra network of professionals to support case management. Those patients who do experience side effects receive rehabilitation and support, improving outcomes and reducing calls and clinic appointments longer term.

Key Learning Points

Despite the challenging financial climate, the impact of these interventions on people's QoL, in combination with the efficiency savings to the healthcare system has resulted in substantive funding of an "Oncology Prehabilitation and Therapy Service" at CRH. The service will see these pilot interventions developed into comprehensive services; however, work is ongoing to develop programmes to support other tumour sites, to minimise healthcare inequalities. Much has been learned throughout this process in terms of gaps in healthcare provision, service development and maximising the effectiveness of behaviour change interventions (figure 12).

Figure 12: Learning points from pilot oncology prehabilitation and rehabilitation programmes

Perhaps the key learning point is the power of peer support in motivating people to make and sustain a behaviour change and the long-lasting effect this can have. This is something that the team is very keen to promote and underpins the ethos of the Oncology Prehabilitation and Therapy Service. There were initial challenges in engaging the MDT in the absence of established AHP roles within cancer pathways. This was overcome over time through engagement exercises identifying perceived gaps in the pathways; from a clinician's and patient's perspective, providing an opportunity to highlight how AHPs may provide services to fill these gaps. Ultimately, delivering successful pilot interventions as a proof of concept, served to develop trust and understanding and now AHPs are considered a key part of each respective MDT.

Final advice

For those looking to do similar work in future, the advice would be to cast a wide scoping net, learn from what others are doing (or would like to do!) Select outcome measures which allow benchmarking with other services, but also provide information that is clinically useful. Communicate the vision and the progress that you make to all stakeholders; to generate support and engagement with the intervention longer term. Peer support is invaluable to patients, but also for healthcare professionals, so develop a support network of people working on similar projects.

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