

<b>Institution:</b> LONDON METROPOLITAN UNIVERSITY		
<b>Unit of Assessment:</b> 3: Allied Health Professions, Dentistry, Nursing and Pharmacy.		
<b>Title of case study:</b> Supporting cancer survivors to move more and shaping approaches to intervention development.		
<b>Period when the underpinning research was undertaken:</b> January 2015 to October 2019		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b>  Dr Justin Webb	<b>Role(s) (e.g. job title):</b>  Senior Lecturer in Public Health	<b>Period(s) employed by submitting HEI:</b> 24 <sup>th</sup> April 2017 to present
<b>Period when the claimed impact occurred:</b> April 2017 to September 2020		
<b>Is this case study continued from a case study submitted in 2014?</b> N		

### 1. Summary of the impact (indicative maximum 100 words)

There are 2.5 million people living with or beyond cancer in the UK. Physical activity has multiple benefits for cancer survivors yet 77% of UK cancer survivors are not active to levels recommended by the British Association of Sport and Exercise Sciences. Our research developed and tested a remote print-based intervention supported by Internet tools which significantly improves physical activity in UK cancer survivors. Our intervention has been identified as 'best practice' and included within guidance from Public Health England on physical activity and the Scottish Government's cancer strategy. Further, NHS Trusts, local authorities and country sports partnerships signpost cancer survivors to our intervention, which is distributed by Macmillan Cancer Support. The testing and evaluation of our novel intervention has informed and influenced the practice of other national long-term condition charities in the creation and evaluation of support for patients.

### 2. Underpinning research (indicative maximum 500 words)

The research underpinning this impact case study was led by Dr. Justin Webb in collaboration with Jenna Peal from Macmillan Cancer Support and partners from the University of Surrey, Prof. Chris Fife-Schaw and Prof. Jane Ogden. Previous evidence supports the role of physical activity in the self-management of cancer. Physical activity can improve many common side-effects of cancer treatment, both during and following treatment, including fatigue, psychological distress, as well as improving physical function and health-related quality of life. Increased physical activity is associated with improved survival and reduced disease recurrence with a dose-response relationship reported. Work by Webb and colleagues at Macmillan Cancer Support on the barriers and motivators to physical activity in cancer survivors also reports a sense of regaining control of, and some normalcy in, the lives of those living with and beyond cancer (3.1).

In person physical activity opportunities specifically designed for cancer survivor are rarely available in practice and are inaccessible for most cancer survivors in the UK (3.1). Remote-based interventions have shown promise; however, they are under-researched, particularly print-mail-based interventions supported by Internet tools.

The applied research led by Webb redeveloped an existing print-based intervention. This research applied behavioural science through a public health lens to develop an accessible population-level multicomponent intervention to improve physical activity in cancer survivors, achieving the standards set by the National Institute of Health and Care Excellence (NICE).

The new intervention, the Move More Pack, a print-based intervention supported by Internet tools, was developed by Webb following discussions with cancer survivors on the barriers and motivators to physical activity, analysis of a survey of 1,011 UK cancer survivors (3.1), a systematic search

## Impact case study (REF3)

and review of the literature, and underpinned by theories of behaviour change (3.2). The Move More Pack was 'highly commended' at the 2017 British Medical Association (BMA) Patient Information Awards and won the award for self-care. The BMA representative said "What a fantastic resource. The guide is well-put together with solid examples of professional and user involvement. A sound evaluation is planned. Not only is this a valuable resource for people living with cancer and their carers, but it would be great for the general public to use as well. I particularly liked the space given for the user to track their goals and activity, something that would encourage people to keep the book and read it" (3.3). The Move More Pack was certified by the Health and Social Care Information Standard.

Following the development of this intervention, a randomised waiting-list control trial (RCT) with cost-consequence analysis was undertaken by Webb between March 2017 and September 2018 involving 207 cancer survivors across tumour sites and stages to test the efficacy of the new intervention at improving physical activity. Significant improvements in physical activity were reported, over 12-weeks with changes maintained at 24-weeks over a standard letter recommendation with an intervention unit cost of GBP8.19 (3.4).

A process evaluation was conducted by Webb who acted as the principal investigator with co-authors supporting data analysis. The process evaluation was conducted in addition to the RCT and cost-consequence analysis, to understand intervention use, the mechanisms of impact, the perceived benefits and the contextual factors influencing these, identifying for whom it is a useful resource. The process evaluation used mixed methods, based on guidance from the UK Medical Research Council, including 181 questionnaire responses on intervention use and physical activity improvement over 12-weeks, 56 open-text responses and 17 semi-structured interviews

Findings indicate that the Move More Pack is most useful for those undergoing treatment, identified as a teachable moment, with a positive attitude to fighting cancer with the printed components more impactful than the Internet-tools as they were more tangible and accessible; healthcare professionals can support the effective distribution of the Move More Pack to those likely to benefit from its use (3.5).

### 3. References to the research (indicative maximum of six references)

3.1 TNS-BRMB, Webb, J [ed.] (2016) *What motivates people with cancer to get active?* London: Macmillan Cancer Support. Available at <https://www.webcitation.org/6taiRkTHG>

3.2: Webb, J, Fife-Schaw, C, Ogden, J, and Foster, J (2017). The effect of the Move More Pack on the physical activity of cancer survivors: Protocol for a Randomized Waiting List Control Trial with Process Evaluation. *JMIR research protocols*, 6(11), e220. doi:10.2196/resprot.7755

3.3: BMA. (2017). *BMA Patient Information Awards 2017. Programme and award winners*. London: BMA.

3.4: Webb, J, Fife-Schaw, C, and Ogden, J (2019a). A randomised control trial and cost-consequence analysis to examine the effects of a print-based intervention supported by internet tools on the physical activity of UK cancer survivors. *Public Health*, 171, 106–115. doi: 10.1016/j.puhe.2019.04.006

3.5 Webb, J, Peel, J, Fife-Schaw, C, and Ogden, J (2019b). A mixed-methods process evaluation of a print-based intervention supported by internet tools to improve physical activity in UK cancer survivors. *Public Health*, 175, 19–27. doi: 10.1016/j.puhe.2019.06.013

### 4. Details of the impact (indicative maximum 750 words)

The research and intervention developed by Webb and colleagues has:

1. Improved physical activity in cancer survivors;
2. Informed national policy guidance on physical activity from Public Health England (PHE) and been included within the Scottish Cancer Strategy,

3. Influenced the professional practice of third sector organisations operating at a national level on the development of interventions to support people with other long-term conditions to become physically active.

### **Impact on health and wellbeing**

Webb's RCT and cost-consequence analysis included 207 UK cancer survivors across tumour sites and stages of the cancer journey and demonstrated that the Move More Pack, a low cost intervention, significantly improves physical activity in UK cancer survivors at 12-weeks with changes maintained at 24-weeks. Use of the Move More Pack is not influenced by age, tumour site or cancer status.

The process evaluation of the Move More Pack demonstrated that when delivered during a teachable moment motivation to be active increased in people with cancer and their families, positively impacting on physical activity and on other lifestyle behaviours; a 61-year-old woman in remission from breast cancer in 2018 said "It gave me the motivation and confidence to move more and get fitter. The knock-on effect has been a huge improvement in my routine and eating habits ... but not just my own habits! My husband was coerced into joining me in this quest, we are both feeling fitter and healthier" (3.5).

As a remote intervention, the Move More Pack provides physical activity support to cancer survivors at very little cost. The importance of the pack's accessibility for users is demonstrated by comparison to the limited number of face-to-face services available for cancer survivors specifically to support physical activity behaviour change. Macmillan Cancer Support and Sport England jointly funded six such physical activity services specifically for cancer survivors in 2016 and 2017 at a cost of £1,288,935, engaging 4,500 cancer survivors over two years, at approximately GBP107,411 per programme engaging 375 cancer survivors per annum (GBP286.43 per person per annum) (Sport England, Get healthy get active project summaries, n.d.). The one-off cost of the Move More Pack is GBP8.19 per person. The ongoing costs of the Move More Pack are covered by Macmillan Cancer Support with no cost to cancer survivors. (5.1)

In the 12 months from October 2018 to September 2019, the Move More Pack was distributed to 22,000 cancer survivors by Macmillan Cancer Support (5.1). A former Project Manager for Macmillan Cancer Support said "The research conducted on the Move More Pack supports Macmillan's evidence-based approach to intervention design and evaluation. The RCT has demonstrated that it is possible to support cancer survivors across the UK to feel the benefits of physical activity at a cost of just £8.19. This research has directly impacted the lives of the 22,000 cancer survivors who have made use of this intervention over the last 12-months and long may that continue" (5.1).

During the national lockdown from March 2020, brought about by the COVID-19 pandemic, person-to-person interactions and support for cancer survivors were reduced to focus health resources on the pandemic. As a result, and in a change to previous practice, local authorities and county sports partnerships, including Oxfordshire, Derbyshire, Buckinghamshire and Milton Keynes actively promoted the Move More Pack as a resource to support physical activity at home for cancer survivors (5.2). NHS Trusts across the UK signposted cancer survivors to the Move More Pack, including North Bristol NHS Foundation Trust, University Hospitals Southampton NHS Foundation Trust, The Christie NHS Foundation Trust, and University College London Hospitals NHS Foundation Trust, who have also included the pack as part of their guide on emotional wellbeing during the pandemic (5.3).

From January 2020, NHS England and NHS Health Improvement have advocated the use of the Move More Pack as part of the living with and beyond cancer agenda (5.4).

### **Impact on policy**

In 2018, the Scottish Government included use of the Move More Pack in their 'Beating cancer: ambition and action' cancer strategy update, specifically in the ongoing action to "improve health

### Impact case study (REF3)

and reduce the risk of secondary disease or a second primary cancer” by ensuring “that physical activity advice and services . . . are available for people recovering from cancer.” (5.5, p23). The Healthy and Active Rehabilitation Programme (HARP) in Ayrshire, which has incorporated the Move More Pack into its delivery of rehabilitation services, reported in 2018 “a 40% increase in the number of people meeting activity guidelines and a further 78% moving towards their activity target.”(5.5). In July 2019, PHE launched the *All Our Health* framework to provide guidance for health and care professionals to promote health and wellbeing as part of everyday practice. PHE published physical activity guidance as part of the *All Our Health* framework on 16 October 2019 identifying the Move More Pack as ‘good practice’ in the *Professional resources and tools* section (5.6).

#### **Impact on the design of professional services**

Webb’s research on the development and evaluation of the Move More Pack was distributed to the Richmond Group of Charities, a collaboration of 14 leading third sector organisations which support people with long-term conditions, including Versus Arthritis and the British Lung Foundation (BLF). The practice of both charities on the development of behavioural change interventions to improve physical activity in people suffering from musculoskeletal conditions (Versus Arthritis) and those with a chronic lung condition (BLF) has been informed by the evidence-based approach taken in Webb’s applied research.

During 2018 and 2019 the BLF developed a remote behaviour change service including the development of a printed resource and the distribution of e-newsletters modelled on the Move More Pack, with guidance provided by Webb throughout. The final intervention was co-created with healthcare professionals and people with a lung condition in a workshop facilitated by Webb on 21 August 2018. The intervention development process was written up as a case study and published as a short communication in the journal *Perspectives in Public Health* (5.7). The Behaviour Change Lead for the BLF stated “The approach taken on the development and testing of the Move More Pack is seen as best practice in the sector” (5.8). Between 31 January and 16 March 2020, 161 people with a chronic lung condition have accessed this intervention and have been supported to become more active (5.8).

Versus Arthritis is focusing on developing a practical, impactful and sustainable long-term programme of physical activity using recommendations from existing physical activity evidence, insight, learning and practical experiences. Webb presented the Move More Pack applied research to the Senior Clinical Policy Advisor for Versus Arthritis on 26 November 2018; this discussion directly fed into the creation of a new Physical Activity Strategic Programme Manager post (5.9). The newly appointed Strategic Programme Manager for Versus Arthritis stated “The research on the Move More Pack has been highly influential in the development of the Versus Arthritis approach to reduce physical inactivity in people with musculoskeletal conditions” (5.9). Versus Arthritis have continued to use the intervention development approach outlined in Webb’s research to develop an intervention strategy to support people with arthritis to move more. Webb has facilitated four intervention strategy development workshops for the charity helping them to secure GBP375,000 of funding from Sport England to put the intervention strategy into practice across the UK over a 12 month period (May 2020 to May 2021) with an additional GBP625,000 agreed in principle, for an additional two years, based on the first years performance. In September 2020 online interventions have been created including top tips, blog posts, information from healthcare professionals, Facebook live question and answer sessions, user generated videos and personalised emails to those with a musculoskeletal condition. Additional work is planned including online peer support, physical activity monitoring and an activities hub, stimulated by Webb’s Move More Pack research.

#### **5. Sources to corroborate the impact** (indicative maximum of 10 references)

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5.1 Testimonial letter - Macmillan Cancer Support 2 January 2020

5.2 Local authorities and sports partnerships’ advice on staying active at home

5.3 NHS Trusts’ guidance on living with cancer

5.4 NHS England and NHS Health Improvement “Living with and beyond cancer” Jan – Feb

**Impact case study (REF3)**

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5.5 Scottish Government. (2018). Beating cancer: Ambition and action. Scottish cancer strategy update. Edinburgh. Health and Sport Committee. Retrieved Sep 11, 2020, from

[https://www.parliament.scot/S5\\_HealthandSportCommittee/General%20Documents/20180426\\_Beating\\_Cancer\\_Ambition\\_and\\_Action\\_April\\_2018.pdf](https://www.parliament.scot/S5_HealthandSportCommittee/General%20Documents/20180426_Beating_Cancer_Ambition_and_Action_April_2018.pdf)

5.6 Physical activity: applying All Our Health. (2019). In [www.gov.uk/government/publications/](http://www.gov.uk/government/publications/). Retrieved Oct 20, 2019, from [www.gov.uk/government/publications/physical-activity-applying-all-our-health/physical-activity-applying-all-our-health](http://www.gov.uk/government/publications/physical-activity-applying-all-our-health/physical-activity-applying-all-our-health)

5.7 Peel, J., Webb, J. and Jones, A. W. (2020). A remote behaviour change service for increasing physical activity in people with chronic lung conditions: intervention development using the Behaviour Change Wheel, *Perspectives in Public Health*, 140(1), 16–21.

doi: [10.1177/1757913919880928](https://doi.org/10.1177/1757913919880928).

5.8 Testimonial letter - British Lung Foundation 23 March 2020

5.9 Testimonial letter - Versus Arthritis 3 April 2020