

Impact case study (REF3)

Institution: University of Worcester		
Unit of Assessment: 4 Psychology, Psychiatry and Neuroscience		
Title of case study: Enhancing health provision and informing lifestyle choices for young people experiencing first episode psychosis		
Period when the underpinning research was undertaken: 2013-2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Jo Smith	Professor of Early Intervention and Psychosis	April 2014 - Oct 2019, now Professor Emeritus. Prior to this Smith was employed by NHS Worcestershire Health and Care Trust but her research was focused in the unit.
Eleanor Bradley	Professor of Health Psychology	Aug 2013 – present
Justine Bold	Senior Lecturer (Nutrition)	Aug 2008 – present
Lisa Griffiths	Senior Lecturer (Sport & Exercise Science)	Sep 2011 - Jul 2019
Period when the claimed impact occurred: 2015-2020		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact		
<p>An exercise and lifestyle intervention for young people (aged 16-25) experiencing a first episode psychosis, developed in partnership between an interdisciplinary research team at the University of Worcester and Worcestershire Health and Care NHS Trust, has been shown to bring both economic benefits for service providers and significant health benefits for users. The intervention has been rolled out across Worcestershire by a dedicated team (and extended to all outpatient and inpatient mental health service users) but has also been adopted more widely in the UK and internationally thanks to a coordinated good practice dissemination programme.</p>		
2. Underpinning research		
<p>Smith has an established reputation in early intervention in psychosis for children and young people. Her research in this area has highlighted the economic value of EI services for children and adolescents (R1) and demonstrated the efficacy of specific interventions, for example a vocational rehabilitation intervention (R2).</p> <p>In her joint role at the University and the Worcestershire Health and Care NHS Trust, Smith led on a successful bid to the Health Foundation (G1) in 2014 to develop, deliver and evaluate the first 'real-world' physical health intervention to young people with psychosis in the UK entitled <i>SHAPE (Supporting Health and Promoting Exercise)</i>. The project brought together a multi-disciplinary team of exercise scientists (Griffiths), nutritionists (Bold) and health psychologists (Bradley).</p> <p>Physical health problems are common in young people with psychosis who typically have a poorer quality of life with higher rates of premature cardiovascular disease and metabolic disorders (such as Type 2 diabetes) leading to a reduced life expectancy. The mortality gap</p>		

compared to their non-psychotic peers is widening and this has been primarily due to a sedentary lifestyle, poor diet composition, higher rates of obesity and smoking. The team's research has shown that those recently diagnosed with psychosis are at increased risk for cardiometabolic disorders (R3). Yet in many UK EI services, physical health monitoring is not systematic and care plans fail to address physical health risks.

The SHAPE intervention consisted of a 12-week programme, with weekly, 90-minute sessions comprising a healthy behaviour education session, followed by a facilitated exercise session. 27 participants were recruited to the pilot. Anthropometric data from participants was collected at baseline, 12 weeks, and 12 months post-intervention. Health behaviours and clinical measurements were assessed at baseline and 12 months.

Mean baseline data suggests participants were at an increased health risk on entry to the program, with elevated values in mean body mass index (BMI; 70% overweight/obese), waist circumference, resting heart rate, and triglycerides. 50% reported smoking daily, 64% ate less than 5 fruits/vegetables per day, and 52% of participants were prescribed highly obesogenic antipsychotic medications i.e., Olanzapine (R3). At 12 weeks and 12 months, contrary to expectations that these would be elevated, no changes were observed in mean BMI, waist circumference or any other clinical variable ($p > 0.05$). At 12 months, participants reported a positive impact on health behaviours including improved diet, increased physical activity levels, and cessation of substance use, alcohol use, and smoking. Focus groups captured participant experiences, engagement with and satisfaction with the program, including challenges/barriers to program adherence. Overall, the research showed that the programme supported participants to attenuate their physical health risk which was sustained at 12 months follow up (R4).

3. References to the research

1. McCrone, P., Singh, S.P., Knapp, M., Smith, J., Clark, M., Shiers, D. and Tiffin, P.A. (2013) *The Economic Impact of Early Intervention in Psychosis Services for Children and Adolescents*. *Early Intervention in Psychiatry*, 7 (4), pp. 368-373. <https://doi.org/10.1111/eip.12024>
2. Craig, T., Shepherd, G., Rinaldi, M., Smith, Jo, Carr, S., Preston, F. and Swaran, S. (2014) *Vocational Rehabilitation in Early Psychosis: Cluster Randomised Trial*. *The British Journal of Psychiatry*, 205 (2), pp. 145-150. <https://doi.org/10.1192/bjp.bp.113.136283>
3. Smith, J., Griffiths, L., Band, M. and Horne, D. (2020) *Cardiometabolic Risk in First Episode Psychosis Patients*. *Frontiers in Endocrinology*. <https://doi.org/10.3389/fendo.2020.564240>
4. Smith, J., Griffiths, L., Band, M., Hird-Smith, R., Williams, B., Bold, J., Bradley, E., Dilworth, R. and Horne, D. (2020) *Early Intervention in Psychosis: Effectiveness and Implementation of a Combined Exercise and Health Behavior Intervention within Routine Care*. *Frontiers in Endocrinology*. <https://doi.org/10.3389/fendo.2020.577691>

Grants

1. Smith, J. (2014) SHAPE (Supporting Health and Promoting Exercise), Health Foundation, £70,493.

Reference 4 is included in the output submission for UoA3.

4. Details of the impact

The evaluation of the SHAPE programme (Source A) showed the clear clinical benefits of the intervention. The programme:

- effectively supported weight maintenance
- reduced harmful lifestyle behaviours such as tobacco and alcohol use
- increased physical activity levels.

An economic evaluation of the programme (Source B) highlighted a wide range of potential costs savings derived from:

- improved clinical outcomes for users
- improved “quality of life years” for users (QALY)

Following the success of the pilot programme, in 2017 Worcestershire Clinical Commissioning Group extended the delivery of the SHAPE intervention to all outpatient mental health service users in the county and introduced three new permanent job roles (Physical Health Lead, Physical Activity Health Coordinator, Physical Activity Support Worker) to oversee, deliver and support the delivery of the SHAPE intervention across Worcestershire at a cost of £70,000 (Source C). The introduction of the programme, with associated referral processes, has enabled the Trust to improve their collection of physical and mental health data, with associated benefits for service users, but also Trust performance against nationally identified performance measures, e.g. CQUINs, and national initiatives, e.g. Making Every Contact Count; Don't just screen, intervene (Source C).

The ongoing delivery of the programme was supported by the SHAPE project team through:

- the development of a new clinical health assessment form to standardise screening, now used as part of the standard clinical assessment process in Worcestershire.
- the design and delivery of a one day training course entitled 'Physical Health Training for Mental Health Nurses' which provides an overview of the NHS Commissioning for Quality and Innovation (CQUIN) responsibilities and training for physical health assessments (blood pressure, body mass index, waist circumference) for mental health care professionals to assess and monitor patient physical health (Source D).

The SHAPE team received an additional £30,000 funding from a Health Foundation *Spreading Improvement* grant to disseminate further the findings of the project and the resources developed. This supported the development of a 'mySHAPE' website to provide patients, carers, providers and commissioners online access to physical health care information for individuals with psychosis and to give healthcare providers free access to all SHAPE intervention programme materials, allowing them to deliver the SHAPE programme in their region.

The SHAPE team adopted a wider dissemination programme which saw them deliver to both academic and practitioner audiences regionally, nationally and internationally. This included: NHS National Learning Network (April 2015); Health Services Journal (HSJ) Value in Healthcare Congress (May 2016); American College of Sports Medicine Annual Meeting, Boston, USA (June 2016); IEPA 10th International Conference on Early Intervention in Mental Health, Milan, Italy (October 2017); West Midlands Early Intervention Psychiatry regional network (March 2017); NICE Shared Learning Awards (June 2017).

The SHAPE intervention has been recognised in the NICE Shared Learning Database which underlines how the intervention addresses recent NICE guidance and quality standards - NICE CG178, NICE CG155, NICE QS80, NICE QS102 (Source E). The intervention is also highlighted in the King's Fund learning network for *Integrated Physical and Mental Health* (Source F). Further, the intervention was identified as a key area of evidence in the British Association for Psychopharmacology (BAP) Guidelines (co-authored by Jo Smith) on the management of weight gain, metabolic disturbances and cardiovascular risk associated with psychosis and antipsychotic drug treatment (Source G).

The SHAPE programme has now been delivered (and continues to be delivered, including online during the Covid pandemic) in a number of NHS trusts across the Midlands:

- North and South Worcestershire (Worcester, Malvern, Evesham, Kidderminster, Redditch, Bromsgrove)
- Dudley and Walsall
- Hereford (in partnership with a local fitness centre provider (Halo) and offered to service users from a range of different adult mental health services (not restricted to the FEP / EI service)
- Coventry and Warwickshire Partnership NHS Trust

The SHAPE programme has thus been delivered to 38 groups of service users across 4 NHS trusts in the West Midlands.

SHAPE has also informed the development of a similar programmes nationally, e.g. in the Cumbria, Northumberland, Tyne and Wear NHS Foundation Trust, and internationally, in Australia and Portugal. This wider impact on the SHAPE programme is articulated by Dr David Shiers, lead for the National Early Intervention in Psychosis Programme (2004-2010), who states: “the SHAPE programme continues to play an important role in influencing other healthcare professionals within EIP services, [and] made a compelling case for how services can help tackle this health inequality by addressing health risks in the critical first few years of psychosis and its treatment” (Source H).

To sum up, the research described in section 2 has had the following impacts on health and wellbeing:

- the development of a new lifestyle intervention trialled with users which demonstrated a positive outcome for users and healthcare providers alike
- informed decisions taken by a health service and improved provision of health services
- influenced the content of CPD for health professionals
- raised awareness of the importance of exercise in the treatment of mental health and early cardio-metabolic risk for young people with FEP

5. Sources to corroborate the impact

- A. [Supporting health and promoting exercise \(SHAPE\) programme for young people with psychosis. Final Report. 2014.](#)
- B. [Economic Assessment of the ‘Supporting Health and Promoting Exercise’ Programme](#)
- C. Letter from Chris Burton, Physical Health Activity Co-ordinator, Herefordshire and Worcestershire Health and Care NHS Trust
- D. Physical Activity Nurse Clinical Champions - PHE clinical training to improve local outcomes
- E. [NICE Shared Learning Database \(2017\) SHAPE: Supporting Health and Promoting Exercise in Young People with Psychosis](#)
- F. [Kings Fund’s Integrating physical and mental health learning network](#)
- G. [BAP Guidelines on the Management of Weight Gain, Metabolic Disturbances and Cardiovascular Risk Associated with Psychosis and Antipsychotic Drug Treatment](#)
- H. Letter from Dr David Shiers, Honorary Reader in Early Psychosis, University of Manchester