

Institution: University of Gloucestershire
Unit of Assessment: UoA C-26 Sport & Exercise Sciences, Leisure & Tourism
Title of case study: Primary Care Referral Interventions for Health Improvement
<p>1. Summary of the impact</p> <p>Research undertaken by Professor Diane Crone, Professor David James and co-researchers has investigated the use of physical activity and art promotion interventions in health care, as an adjunct to treatment, to improve patient health and wellbeing. The research has had policy, practice and patient benefit. The specific areas upon which it has impacted are:</p> <ul style="list-style-type: none"> (i) Guidelines and practice for intervention development; (ii) Professional development of health and physical activity professionals in the UK and throughout Europe; (iii) Public and patient health and wellbeing improvements.
<p>2. Underpinning research</p> <p>The research is a product of commissioned or grant funded evaluation of policy, practice and outcomes in the area of health referral in primary care. The specific areas of focus are physical activity/exercise referral, and art referral. The research is summarized below.</p> <p><u>Physical activity referral research</u></p> <p>This includes large scale population-based exercise referral schemes in Somerset (1999-2005), Greenwich (2005-2009) and South Staffordshire (2009-2010). The research focussed on factors associated with patient uptake, attendance and completion of the three independent schemes. The research comprised a series of contracts awarded to the University of Gloucestershire (Crone, James and Johnston) following competitive tendering processes. These contracts also included commissioned staff training and development, and quality assurance work.</p> <p>The research contributed to a number of empirical findings (1, 2) and practice-related findings (3, 4, and 5). As such, it has helped develop a thorough understanding of the factors associated with patient engagement (uptake, attendance and completion) including referral reason, age, gender (4, 5) and a focus on complex socio-demographic factors, their measurement and association (2, 3). In addition, and most substantively, the research predominantly used an ecologically valid observational design to determine factors associated with uptake and attendance outcomes (3, 4, and 5). The primary findings were that factors associated with successful uptake and completion include gender (more women take up, more men complete), age (older), referral reason (physical reasons) and social-economic position (less deprived). Mixed method research involving patients, referrers and deliverers also confirmed the holistic multidimensional nature of 'success', rather than traditional notions of weight loss and blood pressure reduction.</p> <p><u>Art referral research</u></p> <p>Involved developing evidence of effectiveness of a county scheme in Gloucestershire, commissioned by the County Council and NHS (2007-2013). The research team (Crone, James and Tyson) contributed to the design, implementation and evaluation of an art referral intervention based in primary care. The intervention targeted patients with mild-moderate mental health problems and adopted a rigorous process and outcome evaluation design not previously used in art referral interventions. Research revealed the success of the intervention for patients and practitioners (clinicians, commissioners and artists) who identified the intervention as an alternative holistic option for the treatment of mental health problems (6). Significant improvements in mental wellbeing for patients were also found, with factors associated with positive engagement identified as gender (women), age (older) and more deprived socioeconomic groups.</p>

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The applied nature of this research has resulted in the research team being involved in intervention and pathway design, in addition to evaluation. This has been complemented by the inclusion of the research in training materials for professionals involved in such interventions and national policy recommendations.

To date **Crone** has published 48 articles, undertaken over 30 commissioned UK based research projects and secured two large EU grants totalling over a £1 million, co-authored one book, written five book chapters, and presented nationally and in the EU. Publications selected as the basis for the present impact are drawn from physical activity referral research dating back to 1999 and arts referral research dating back to 2009.

3. References to the research

Articles that have been published relating to the case study have been cited 521 times (464 since 2008) [ref: Google Scholar 23.11.13]. The case study is underpinned by the following peer reviewed publications:

1. Gidlow, C., Johnston, L.H., **Crone, D.**, **James, D.V.B.** (2005) Attendance of Exercise Referral Schemes in the UK: a systematic review. *Health Education Journal*. 64 (2): 168-186 <http://dx.doi.org/10.1177/001789690506400208> (Journal Impact Factor: 0.929, cited= 45).
2. Gidlow, C., Johnston, L.H., **Crone, D.**, Ellis, N., **James, D.V.B.** (2006) A systematic review of evidence of the relationship between socio-economic position and physical activity. *Health Education Journal*. 65: 338-367 <http://dx.doi.org/10.1177/0017896906069378> (Journal Impact Factor: 0.929, cited= 93).
3. Gidlow, C., Johnston, L.H., **Crone, D.**, Morris, C., Smith, A., Foster, C., **James, D.V.B.** (2007). Socio-demographic patterning of referral, attendance and uptake in physical activity referral schemes. *Journal of Public Health*, 29 (2): 107-113. (Journal Impact Factor: 1.993, cited= 41).
4. **James, D.V.B.**, Johnston, L.H., **Crone, D.**, Sidford, A.H., Gidlow, C., Morris, C., Foster, C. (2008). Factors associated with physical activity uptake and participation. *Journal of Sport Sciences*, 26 (2), 217-224. <http://dx.doi.org/10.1080/02640410701468863> (Journal Impact Factor: 2.082, cited= 30)
5. **Crone, D.**, Johnston, L., Gidlow, C. Henley, C. and **James, D** (2008). Uptake and Participation in Physical Activity Referral Schemes in the UK: An Investigation of Patients Referred with Mental Health Problems. *Issues in Mental Health Nursing*, 29: 1088-1097. <http://dx.doi.org/10.1080/01612840802319837> (Journal Impact Factor: 0, cited= 19)
6. **Crone, D.**, O'Connell, E.E., Tyson, P.J., Clark-Stone, F., Opher, S. and **James, D.V.B.** (2012). 'It helps me make sense of the world'; The role of an art intervention for promoting health and wellbeing in primary care: Perspectives of patients, health professionals and artists. *Journal of Public Health*. 20 (5): 519-524. <http://dx.doi.org/10.1007/s10389-012-0495-x> (Journal Impact Factor: 1.993, cited= 0)

4. Details of the impact

The reach of the research is wide and includes policy makers (national and EU), public health commissioners, local government leisure and exercise officers, leisure providers, primary care health professionals (general practitioners, nurses), fitness instructors and patients/the public. The impact is summarized below:

a. Impact on applied practice and policy/national recommendations

Practice has been influenced at local, regional, national and international levels, and the influence extends to commissioners, health practitioners, physical activity and art specialists, and patients/public themselves. The research has informed the development of policy in the

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form of toolkits and recommendations, which has resulted in more bespoke and informed commissioning and subsequent intervention design. This impact is not just the result of a linear and consecutive research-practice pathway/process; rather, over the fifteen year period practice has also informed and driven the research according to the needs of those commissioning the research and ultimately patients.

This is evidenced by the following:

- i. Provided consultancy on effective physical activity promotion in the EU in both Spain (Regional Government Department of Sport and Physical activity in Castilla-La Mancha) (2012) (Corroborating source **A**) and in the Czech Republic (2010).
- ii. Worked with the British Heart Foundation National Centre for Physical Activity and Health in the development of the Exercise Referral Toolkit (see - <http://www.bhfactive.org.uk/sites/Exercise-Referral-Toolkit/index.html>) published in 2011 (Corroborating source **B**).
- iii. Member of a cross-sector working group of clinical, commercial and third/sector-public organisations who developed the 'Active Planning Toolkit' (see - http://www.nice.org.uk/media/sharedlearning/326_nhsglos_nhs_uk.pdf) to facilitate implementation of the Centre for Public Health Excellence (NICE) "Promoting or Creating Built or Natural Environments that Encourage and Support Physical Activity" (2008) guidelines. The toolkit is recognised by NICE as having a significant impact to the work in this area going forward (Corroborating source **C**).
- iv. Presented at national conferences on physical activity pathways in 2010 (62 health professionals attended) (Corroborating source **B**) and regional public health conferences for art on referral in 2012 (South West) and 2013 (Milton Keynes) (Corroborating source **D**).
- v. Part of a group to develop a 'Commissioning Resource for Physical Activity, Mental Health and Wellbeing and Food and Nutrition for the North West of England' (see - <http://www.nwcommissioning.org/planning-for-commissioning/commissioning-for-wellness/>), for NHS North West, 2010-2011.
- vi. Adoption of the evaluation processes and documentation developed by Crone in the Art Lift, Gloucestershire project by the Bristol Art Shine referral programme (Corroborating source **D**).
- vii. Testimonies from public health and clinical professionals on the impact of research on subsequent commissioning decisions in the area of art and physical activity referral interventions (Corroborating sources **D, E, F, G**).

b. Impact on professional development

The research has influenced the professional development of exercise instructors across the UK and health professionals (doctors, nurses, public health practitioners) across the UK and EU.

This is evidenced by the following:

- i. Authored chapter and related course tutor slides and notes in the British Association for Cardiac and Pulmonary Rehabilitation (BACPR) exercise instructor manual; the resource for exercise instructors on the national BACPR Phase IV exercise instructor course. Nine regions use the manual, including Scotland, Northern Ireland and Wales, with approximately 250 instructors being trained per year (Corroborating sources **B, H**).
- ii. Content for the In2Health's UK wide professional development programme for clinicians (1200 clinicians attended per annum) includes the research (Corroborating source **I**).
- iii. Professor Crone was the lead for the EU Leonardo Funded Healthy Europe through Learning and Practice (HELP) project (see - <http://www.help-project.com/3/2/WHAT-IS-HELP?lingua=en>) which has developed an online CPD resource for health professionals across 6 EU countries. Initial impact from the needs analysis and piloting of the resource identifies that over 300 EU based health professionals have been involved in its development and piloting. Longer term impact will be known after the product is launched November 2013 (Corroborating source **A, I**).

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- iv. A central part of many of the commissioned evaluations has involved a training element for staff involved in the delivery of these interventions such as physical activity and health referral professionals.
- v. Crone is co-author of text book; Physical Activity and Health Promotion: Evidenced-based Approaches to Practice (2009).

c. Impact on patient benefit

The research has impacted on patients through improving practice and striving for evidenced based practice in primary care.

This is evidenced by the following:

- i. The applied interventions that underpin this case study have involved over 6000 patients, thereby having a direct impact on these individuals and their families within the community.
- ii. Many of the commissioned evaluation research projects have included the design of interventions enabling an evidenced based approach to intervention design. The aim is to improve the effectiveness of such interventions and thus improve individual patient uptake, attendance and completion, leading to improved health outcomes (Corroborating sources **B, D, H, G**).
- iii. The BACPR course, taken by approximately 240 fitness instructors per annum, each required to read the chapters contributed by Crone (Corroborating source **H**). These instructors teach approximately 2-3 classes a week with approximately 20-30 patients in each class. Crone's chapter and tutor resource on psychological considerations for cardiac patients will inform their practice daily. The impact on patients is therefore estimated at 6000-9000 per annum in the UK (Corroborating source **B**).
- iv. Crone's input into the content of three toolkits (two national, one regional - exercise referral, use of the built environment for physical activity and a commissioning resource) will have an impact on patients via the evidence based interventions informed by these documents (Corroborating source **C**).

5. Sources to corroborate the impact

- A.** Reader, Health and Exercise, Universidad de Castilla-la Mancha, Spain
- B.** Primary Care Project Manager, BHF National Centre for Physical Activity & Health
- C.** Director, Centre for Public Health Excellence, NICE
- D.** Health Improvement Commissioner, Gloucestershire County Council
- E.** Strategic Commissioner for Sexual Health and Well-being, Staffordshire
- F.** General Practitioner, Gloucestershire.
- G.** Public Health Specialist, Somerset County Council
- H.** Education Director, British Association for Cardiac and Pulmonary Rehabilitation (BACPR)
- I.** Consultant Physiologist (cardiology), Gloucestershire