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| <b>Institution:</b> The University College of Osteopathy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                   |                                              |
| <b>Unit of Assessment:</b> A3 Allied Healthcare Professions, Dentistry, Nursing and Pharmacy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                   |                                              |
| <b>Title of case study:</b> Expanding osteopaths' scope and skills in biopsychosocial models of healthcare.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                   |                                              |
| <b>Period when the underpinning research was undertaken:</b> 2014 to 2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                   |                                              |
| <b>Details of staff conducting the underpinning research from the submitting unit:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                   |                                              |
| <b>Name(s):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Role(s) (e.g. job title):</b>  | <b>Period(s) employed by submitting HEI:</b> |
| Dr Dawn Carnes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Professorial Research Fellow      | 05/03/2019 to present                        |
| Dr Hilary Abbey                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Head of Research                  | 13/03/2000 to present                        |
| Dr Jerry Draper-Rodi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Senior Research Fellow            | 02/02/2010 to present                        |
| Mr Steven Vogel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Deputy Vice-Chancellor (Research) | 18/09/1989 to present                        |
| <b>Period when the claimed impact occurred:</b> 2016 to 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                   |                                              |
| <b>Is this case study continued from a case study submitted in 2014?</b> N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                                              |
| <p><b>1. Summary of the impact</b> (indicative maximum 100 words)</p> <p>This case study describes the cumulative impact of a portfolio of research on osteopaths' abilities to provide biopsychosocial care for patients with musculoskeletal conditions. Studies into patient outcomes and practitioner training generated empirical data about skills needed to transition from practitioner-led physical treatment to the multimodal approaches required in current guidelines. Beneficiaries included 703 patients in COPERS groups, 370 patients and 230 practitioners on OsteoMAP courses, and 563 practitioners participating in CPD courses or workshops. Ongoing impacts include funded research to develop osteopaths' skills, an applied neuroscience project, and cultural shifts in practitioners' engagement with biopsychosocial healthcare approaches.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                   |                                              |
| <p><b>2. Underpinning research</b> (indicative maximum 500 words)</p> <p>Patients with persistent musculoskeletal pain report better outcomes from multidisciplinary care and programmes which include self-management than from physical therapy alone. DC was Project Manager for the COPERS trial (Coping with persistent Pain, Effectiveness Research in Self-management; ISRCTN24426731), assessing the effectiveness of a new psychological support intervention (1 <a href="#">Taylor et al 2017</a>). Group programmes were delivered to 703 patients, randomised into three-day courses based on cognitive behaviour therapy (CBT) or usual care with relaxation CDs. Patients baseline health was low, pain-related disability was high, and 23% were on strong opioid medication. Data were obtained from 88% of participants and adherence was 70%. At six months, significant improvements included anxiety, depression, self-efficacy, acceptance and social integration, with a cost-effectiveness ratio of £5,786 per quality adjusted life year, but no significant changes in pain disability, intensity or global health were observed. At a similar time, HA co-developed a pilot study to assess the feasibility of providing psychologically informed 'Living Well with Persistent Pain' (LWPP) courses for patients at the UCO (2 <a href="#">Nanke &amp; Abbey 2017</a>). Fifteen patients participated six, two-hour group self-management sessions based</p> |                                   |                                              |

on 'third wave' CBT. At three months, thematic analysis of interviews indicated satisfaction was high, but patients missed opportunities to link self-care skills with osteopathic treatment and questionnaires showed wide variance in pain acceptance and activity levels.

Results from LWPP were used to develop 'OsteoMAP' (Osteopathy, Mindfulness and Acceptance Programme; ISRCTN04892266), funded by the Department of Health to assess the effect of integrating psychological interventions with individualised osteopathic care. HA was the PI and DC's experience of using CBT in COPERs supported her role as project board advisor and leading the independent fidelity evaluation (3 [Carnes et al 2017](#)). 80 student osteopaths were trained and supervised in delivering six session courses for 256 patients, and 80 qualified osteopaths attended separate four-day training on OsteoMAP principles. Patient sessions and practitioner training were evaluated for competence and adherence. At the UCO, osteopaths were >90% adherent in 8 of 12 clinical competences. 86% of patients attended 3+ sessions and 95% were satisfied and reported changes in pain coping and psychological flexibility at 6 months

To expand biopsychosocial (BPS) knowledge, a scoping review of guidelines and systematic reviews addressing BPS factors in non-specific low back pain (NSLBP) was conducted (4 [Draper-Rodi et al 2018a](#)). It identified ten assessment methods and 55 modifiable and non-modifiable variables, including 19 biological, 13 psychological and 23 social factors. Prognostic factors useful for patient education and goal setting were then incorporated into an e-learning course for NSLBP management (5 [Draper-Rodi et al 2018b](#)). Participants were 45 experienced clinicians who graduated before BPS principles were introduced into osteopathic education. Training based on the Behaviour Change Wheel focused on osteopaths' willingness to update knowledge beyond biomechanical factors. Course content and quality was assessed in with formative and confirmative evaluations. Trial feasibility and adherence were found to be good, and the e-learning intervention was well accepted (6 Draper-Rodi et al, submitted paper).

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

1. Taylor SJC, **Carnes D**, Homer K, Kahan BC, Hounsborne N, Eldridge S, et al. (2016) Novel Three-Day, Community-Based, Nonpharmacological Group Intervention for Chronic Musculoskeletal Pain (COPERS): A Randomised Clinical Trial. *PLoS Med* 13(6): e1002040. <http://doi.org/10.1371/journal.pmed.1002040>
2. Nanke L, **Abbey H** (2017). Developing a new approach to persistent pain management in osteopathic practice. Stage 1: A feasibility study for a group course. *International Journal of Osteopathic Medicine*, 26, 10-17. <https://doi.org/10.1016/j.ijosm.2017.10.001>
3. **Carnes D**, Mars T, Plunkett A, Nanke L, **Abbey H** (2017). A mixed methods evaluation of a third wave cognitive behavioural therapy and osteopathic treatment programme for chronic pain in primary care (OsteoMAP). *International Journal of Osteopathic Medicine*. <http://doi.org/10.1016/j.ijosm.2017.03.005>
4. **Draper-Rodi J, Vogel S** & Bishop A (2018a). Identification of prognostic factors and assessment methods on the evaluation of non-specific low back pain in a biopsychosocial environment: a scoping review. *International Journal of Osteopathic Medicine*, 30, 25-34. <https://doi.org/10.1016/j.ijosm.2018.07.001>
5. **Draper-Rodi J, Vogel S** & Bishop A (2018b). Design and development of an e-learning programme: An illustrative commentary. *International Journal of Osteopathic Medicine*, 29, 36-40. <https://doi.org/10.1016/j.ijosm.2018.07.002>

6. **Draper-Rodi J, Vogel S, Bishop A.** Effects of an e-learning programme on osteopaths' back pain attitudes: a mixed methods feasibility study. *BMC Pilot and Feasibility Studies* (submitted March 2020; delayed by Covid; under minor revision).

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

Concerns have been raised about limited effects and increasing costs of pharmacological management for chronic pain. The COPERS trial (Taylor et al 2016) reported positive outcomes in anxiety, depression, self-efficacy, acceptance, and social integration. Results informed a new trial protocol to assess effects of COPERS interventions on opioid medication use (**Source 1** [Sandhu et al 2019](#)). DC subsequently led several courses to promote CBT pain management skills (**Source 2** [Carnes 2020](#)). COPERS groups did not include physical therapy and reported no impact on pain intensity or disability. Similar findings in Nanke & Abbey (2017) prompted development of OsteoMAP as an integrated, individual intervention (Carnes et al 2017). From 2013-16, 256 patients participated in six-week self-management courses delivered by 80 osteopaths and students on clinical placements. 80 qualified osteopaths attended separate four-day training courses. OsteoMAP is innovative in enabling osteopaths to integrate third wave CBT into patient-centred care for individuals and has potential to create sustained behaviour changes, and results in [Abbey et al 2020](#) (**Source 3**) demonstrated significant improvements in quality of life, coping, psychological flexibility and mindfulness (n=79).

Twenty osteopaths who attended initial OsteoMAP training attended two-day advanced courses and ten practitioners participated in six-week supervised clinical training at the UCO and ESO clinics. Training was requested in France, Spain and Sweden but postponed due to limited staff capacity. Development of a one-year Postgraduate Certificate was also delayed by COVID workload but aims to increase practitioner capacity to expand patient services. The Osteopathic Foundation expressed preliminary interest in funding outcomes research after the current single case experimental design study has demonstrated feasibility. From 2017-20, OsteoMAP courses continued at the UCO (104 patients; 35 students) and in [a new clinic at the European School of Osteopathy](#) (11 patients; 25 students; **Source 4**). To raise awareness, 'MadeatUni' nominated OsteoMAP as one of 100 university 'Nation's Lifesaver' projects influencing public life (**Source 5**, [webpage](#) 1,600 views, [video](#) 440 views).

In line with Association for Contextual Behavioural Science principles, [training manuals and patient resources](#) were made open access to ACBS members (**Source 6**). OsteoMAP was aligned with [Tyreman's work on values based practice](#) (GOsC 2015), and impact extended into other professions in an international conference in 2016 (**Source 7**), with presenters and 90 participants from the UK, Ireland, Australia and New Zealand including physiotherapists, psychologists, mindfulness teachers, GPs, representatives from the GOsC and the Department of Health. OsteoMAP has been disseminated in conferences and workshops in the UK, Italy, France, Spain, Sweden, the Netherlands and Australia, and a [British Association of Counsellors and Psychotherapists coaching division](#) meeting (**Source 8**). HA is collaborating with the Centre for Osteopathic Medical Excellence on [a model of osteopathy based on neurophysiological mechanisms of active inference](#). Three abstracts were accepted for 'Frontiers in Psychology' (theoretical, conceptual and case study), due for publication in 2021.

Psychosocial factors are strong predictors in NSLBP but therapists often focus on biological factors and report limited confidence in using BPS approaches ([Delion & Draper-Rodi 2018](#); [Inman & Thomson 2019](#)). An e-learning training course reported positive impacts on attitudes to back pain management and was used to develop OSCAR (Osteopathic Single CASE Research). This innovative study will develop research skills in practising osteopaths, using the e-learning

programme, and is funded by the Osteopathic Foundation (**Source 9**). This study will generate data from practice to compare BPS management for NSLBP with standard osteopathic care. Anticipated impacts will be transferable skills for 10 osteopaths and improved outcomes for 60 patients. To strengthen BPS skills, staff have also delivered conference presentations and skills workshops at the 2018 Institute of Osteopathy Convention in London; in Paris 2016, 2018 and 2020; and Nantes in 2018 and 2019. SV has been a member of the [EDISC](#) faculty since 2017, promoting interdisciplinary best care for back pain, and JDR is working on guidelines for remote consultations with the Spine Society of Europe (EUROSPINE). Best practice for remote consultations was disseminated to 2,500 practitioners in free patient management webinars during the pandemic, followed by an open access clinical update (**Source 10 Hohenschurz-Schmidt et al 2020**). SV and JDR contributed sessions to OT's personal 'Words Matter' podcast project. Since 2016, JDR has been Head of CPD and has strengthened emphasis on the evidence underpinning popular BPS-oriented courses at the UCO (Table 1).

Table 1: CPD courses 2017-2020

|                                          | Year | Participants |
|------------------------------------------|------|--------------|
| Psychologically informed pain management | 2017 | 18           |
|                                          | 2018 | 30           |
|                                          | 2019 | 40           |
|                                          | 2020 | 349          |
| Biopsychosocial healthcare approaches    | 2017 | 20           |
|                                          | 2019 | 90           |
|                                          | 2020 | 16           |

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

1. Sandhu HK, Abraham C, Alleyne S, Balasubramanian S, Betteley L, Booth K, and **Carnes D** et al (2019). Testing a support programme for opioid reduction for people with chronic non-malignant pain: the I-WOTCH randomised controlled trial protocol. *BMJ Open* e028937. <https://doi:10.1136/bmjopen-2019-028937>
2. **Carnes D** (2020). UCO/NCOR online conference on evidence-informed osteopathy and pain management. <https://cpd.uco.ac.uk/fullincorconference>
3. **Abbey H**, Nanke L, Brownhill K (2020). Developing a psychologically informed pain management course for use in osteopathic practice: The OsteoMAP cohort study. *International Journal of Osteopathic Medicine*. Online at: <https://doi.org/10.1016/j.ijosm.2020.09.002>
4. Link to ESO Clinic website for OsteoMAP courses <https://www.eso.ac.uk/osteomap-our-six-week-course-for-those-with-chronic-pain/>
5. MadeAtUni video on UCO website <https://www.youtube.com/watch?v=c9fFDn2eqGM>  
<https://madeatuni.org.uk/university-college-osteopathy/integrating-mindfulness-osteopathy-chronic-pain-patients>
6. OsteoMAP protocol and training resources on the ACBS website [https://contextualscience.org/chronic\\_pain\\_management\\_in\\_manual\\_therapy\\_osteomap](https://contextualscience.org/chronic_pain_management_in_manual_therapy_osteomap)
7. OsteoMAP Conference Presenter Schedule, April 2016
8. David S (2020), presentation to BACP coaching division network event on 07/12/20 <https://www.bacp.co.uk/search/Events?q=Network+Meetings>
9. Draper-Rodi J (2019). SCED Research Proposal and Osteopathic Foundation funding.
10. Hohenschurz-Schmidt D, Scott W, Park C, Georgios Christopoulos G, **Vogel S** and **Draper-Rodi J** (2020). Remote management of musculoskeletal pain: a pragmatic approach to the implementation of video and phone consultations in musculoskeletal practice. *Pain Reports Online* 5(6): e878. <https://doi:10.1097/PR9.0000000000000878>