

Institution: University of Warwick		
Unit of Assessment: C17 Business and Management Studies		
Title of case study: Scaling Up Evidence-Based Healthcare Innovation in the West Midlands, Australia and India		
Period when the underpinning research was undertaken: 2010 - 31 December 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:
Graeme Currie	Professor	01/01/2011 - Present
Dimitrios Spyridonidis	Associate Professor	10/05/2016 - Present
Eivor Oborn	Professor	01/10/2012 - Present
Nicola Burgess	Reader	01/09/2007 - Present
Giovanni Radaelli	Associate Professor	24/02/2014 - Present
Tina Kiefer	Professor	01/01/2010 - Present
Andy Lockett	Professor	01/11/2010 - Present
Period when the claimed impact occurred: 2014 - 31 December 2020		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact (indicative maximum 100 words) <p>In response to the 2006 Cooksey Review of UK health funding, nationwide networks of applied health research centres were piloted from 2008 to 2013. These centres, called CLAHRCs (Collaboration for Leadership in Applied Health Research & Care), were funded by the National Institute for Health Research (NIHR) and designed to improve healthcare by more effectively translating clinical research into practice. Professor Graeme Currie was Director for CLAHRC Nottinghamshire, Derbyshire, Lincolnshire until December 2010, after which he moved to Warwick Business School (WBS).</p> <p>Drawing on research which analysed the pilot phase, Prof. Currie of WBS, with colleagues from Nottingham, developed a new implementation model, founded on organisation science research that was adopted by the West Midlands during the second phase of CLAHRCs. This research led to Prof. Currie's appointment as Deputy Director of the CLAHRC West Midlands, which ran from 2014 to 2019, supported by a GBP9,000,000 investment from the NIHR. During this period, Prof. Currie and colleagues at WBS applied and refined the implementation model, which improved knowledge brokering, distributed leadership towards the middle of the organisation and strengthened human resource management. The application of the model within CLAHRC West Midlands has resulted in evidence-based change in frontline NHS services, leading to benefits for staff and patients in maternity, musculoskeletal disease, mental health and cancer services in the region - and in Australia and India, where the model has also been adopted.</p>		
2. Underpinning research (indicative maximum 500 words) <p>Billions are spent on generating research evidence to explore what clinical interventions work to address long-term health conditions, in terms of effectiveness, cost efficiency, and patient experience. However, such research evidence is slow to trickle into frontline service delivery.</p> <p>CLAHRCs were introduced by the NIHR, which was established in response to a new research and development strategy in the NHS: Best Research for Best Health. They were designed to address the "second gap in translation" identified by the Cooksey Review of 2006; namely, the need to improve healthcare in the UK by accelerating the translation of clinical research evidence into practice. 9 CLAHRCs, each encompassing a university in partnership with local</p>		

NHS bodies, were funded and piloted over the period 2008 - 2013. WBS research has involved the application of theoretical perspectives from organisation science alongside empirical studies of the creation, translation and use of knowledge and innovation. From 2010, this expertise was applied to the CLAHRC initiatives and became a focus of new research, including:

2011 to 2014: Professors Lockett and Currie, and colleagues from WBS, were funded by NIHR to conduct intensive research studies, examining pilot CLAHRCs in the UK. The research was carried out over two overlapping time phases to capture changes in the new CLAHRCs over time. The project underpinned a published report, which provided an independent and theory-based evaluation of CLAHRCs. The findings highlighted that translation of clinical research evidence into practice was supported by knowledge brokering and distributed leadership, and that human resource management interventions in the realm of recruitment and selection, training, performance management and job design shaped this **(3.1)**.

2011 to 2012: As Director of one of the pilot CLAHRCs (Nottinghamshire, Derbyshire, Lincolnshire), Prof. Currie had implemented a model for translation of clinical research evidence into practice, which, following his move to WBS, he evaluated with colleagues from the University of Nottingham 2011 - 2012 **(3.2)**. This research demonstrated that barriers to implementation of evidence-based innovation can be overcome if knowledge is coproduced by academic and clinical service staff, taking account of the organisational context in which it is to be applied. This approach was founded on organisational science theory.

In 2013: 13 new regional CLAHRCs were competitively awarded for the period 2014 - 2019, including CLAHRC West Midlands, an ambitious initiative designed to build capacity for implementing evidence-based innovation across academia, the health service, and among public and patients in the West Midlands, and to enhance the capacity of these sectors to interact with the other. Based on WBS's previous research and expertise in this area, Prof. Currie was appointed Deputy Director of the CLAHRC West Midlands, and led a WBS-based research team working at the centre of the CLAHRC throughout the 2014 - 2019 phase. Drawing on the findings of the earlier research into "what works" for effective knowledge transfer of evidence-based innovation in complex health settings, the team undertook a comprehensive programme of applied research. This programme, conducted under a cross-cutting *Implementation and Organisational Studies* theme within the CLAHRC, delivered state-of-the-art management expertise for the implementation of evidence-based innovation across four clinical service themes, relating to maternity and child health, youth mental health, disease prevention and chronic disease.

Research conducted by the WBS team within CLAHRC West Midlands:

- i) Identified what healthcare providers should do to ensure receptive context for evidence-based innovation, including in Australia and India **(3.1, 3.2, 3.3)**, specifically how best to mobilise knowledge **(3.2, 3.3, 3.4)**.
- ii) Identified how leadership should be distributed across healthcare providers to support implementation and scale up of evidence-based innovation, including in India and Australia **(3.5, 3.6)**.
- iii) Identified what human resource policies and practices healthcare providers should implement to best engage their clinical workforce in implementing and scaling up evidence-based innovation **(3.7)**.
- iv) Identified how middle managers represent crucial conduits in scaling up evidence-based healthcare **(3.8)**.

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

- 3.1 **Currie, G., Lockett, A. and El Enany, N.** (2013) *From what we know to what we do: lessons learned from the translational CLAHRC initiative in England*. Journal of Health Services Research & Policy, Volume 18 (Number 3 Supplement). pp. 27-39.
[doi:10.1177/1355819613500484](https://doi.org/10.1177/1355819613500484); **Lockett, A., El Enany, N., Currie, G., Oborn, E., et al** (2014) *A formative evaluation of collaborations for leadership in applied health research*

- and car (CLAHRC): institutional entrepreneurship for service innovation. Health Services and Delivery Research, 2(31).
- 3.2 Rowley, E., Morriss, R., **Currie, G.** and Schneider, J. (2012) *Research into practice : collaboration for leadership in applied health research and care (CLAHRC) for Nottinghamshire, Derbyshire, Lincolnshire (NDL)*. Implementation Science, Vol.7 (No.1). p. 40. [doi:10.1186/1748-5908-7-40](https://doi.org/10.1186/1748-5908-7-40)
 - 3.3 **Currie, G., Spyridonidis, D.** and **Kiefer, T.** (2019) *From what we know to what we do : enhancing absorptive capacity in translational health research*. BMJ Leader. 4(1):18-20. [doi:10.1136/leader-2019-000166](https://doi.org/10.1136/leader-2019-000166)
 - 3.4 Swaithe, L., Dziedzic, K., Finney, A., Cottrell, E., Jinks, C., Mallen, C., **Currie, G.** and Paskins, Z. (2020) *Understanding the uptake of a clinical innovation for osteoarthritis in primary care : a qualitative study of knowledge mobilisation using the i-PARIHS framework*. Implementation Science, 15 (1). 95. [doi:10.1186/s13012-020-01055-2](https://doi.org/10.1186/s13012-020-01055-2)
 - 3.5 **Currie, G.** and **Spyridonidis, D.** (2019) *Sharing leadership for diffusion of innovation in professionalized settings*. Human Relations, 72 (7). pp. 1209-1233. [doi:10.1177/0018726718796175](https://doi.org/10.1177/0018726718796175)
 - 3.6 **Radaelli, G., Currie, G., Frattini, F.** and Lettieri, E. (2017) *The role of managers in enacting two-step institutional work for radical innovation in professional organizations*. Journal of Product Innovation Management, 34 (4). pp. 450-470. [doi:10.1111/jpim.12385](https://doi.org/10.1111/jpim.12385)
 - 3.7 **Currie, G., Spyridonidis, D.** and **Oborn, E.** (2019) *The influence of HR practices upon knowledge brokering in professional organizations for service improvement : addressing professional legitimacy & identity in healthcare*. Human Resource Management, 59(4):379-395. [doi:10.1002/hrm.22001](https://doi.org/10.1002/hrm.22001)
 - 3.8 **Currie, G., Burgess, N.** and Hayton, J. (2015) *HR practices and knowledge brokering by hybrid middle managers in hospital settings : the influence of professional hierarchy*. Human Resource Management, 54 (4). pp. 793-812. [doi:10.1002/hrm.21709](https://doi.org/10.1002/hrm.21709)

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

The pilot NIHR CLAHRC West Midlands (WM, then termed 'Birmingham and Black Country') was based on a clinical-academic tradition which focused on the production of high-quality academic publications, assuming frontline managers and clinicians would adopt guidance and evidence published in academic journals intuitively. This had limited impact upon frontline practice and clinical outcomes. Contrasting with this, during the 2014 - 2019 CLAHRC WM, Prof. Currie and the WBS research team worked alongside hospital practitioners and clinical academics to ensure evidence-based innovation was embedded in frontline practice more effectively, using approaches to implementation derived from their organisation science focused research (e.g. 3.1-2). Director of the CLAHRC WM, Richard Lilford, confirms that the research centre adopted the implementation model developed by Prof. Currie, stating, "*As a cross-cutting theme, the implementation model of coproduction and knowledge brokerage was embedded within our clinical themes/health care settings. This has been an extremely effective implementation model to deliver service change and improvements in both managerial and clinical outcomes; for example, in maternity services (BSOTS triage intervention with Birmingham Women's Hospital)) and musculoskeletal disease (StartBack intervention for lower back pain across Staffordshire)*" (5.1).

Senior Manager for CLARHC WM from University Hospitals Birmingham NHS Foundation Trust, Paul Bird, further attests to the impact of this approach, stating, "*There is no doubt that the team from Warwick Business School provided lessons from their research that caused a major restructuring of the CLAHRC in the West Midlands towards a model of translational health research that encompassed knowledge brokering in our system to draw down and use evidence for service improvement... We see the results in a step change in services ranging from maternity triage, to lower back pain interventions, to early intervention in youth mental health, right across healthcare providers in the West Midlands, with significant patient benefit*" (5.2).

Benefits arising from the 2014 - 2019 CLAHRC WM included:

The scale up of an evidence-based intervention in maternity units: Women are traditionally seen in the order in which they arrive at a maternity unit, if experiencing problems prior to, or after, birth. This differs to an accident and emergency unit where patients are triaged by clinical priority. Prof. Currie's research team supported implementation of a maternity triage system (BSOTS) by providing lessons focused upon clinical engagement, midwifery leadership and strategies to adapt the intervention for different maternity units **(3.1-5)**. Lead Clinician Sara Kenyon testified that: *"Work from the qualitative research elements helped the BSOTS team develop new knowledge about how the BSOTS tool had been implemented in different maternity units, in preparation for national and international roll out"* **(5.3)**. Following the WBS implementation support, the evidence-based triage system has been introduced in 14 maternity units, with another 27 in progress with *"54% of women seen within 15 minutes (compared to 39% before). This means the service is safer"* **(5.4)**.

The scale up of an evidence-based intervention in musculoskeletal services: Research **(3.4)**, coproduced with primary care clinicians, exemplifies the effective application of the knowledge brokerage implementation model proposed by earlier research **(3.2)** to support the scale up of a new non-surgical service model called 'STarT Back' – Stratified care for low back pain. Kryisia Dziedzic, Director of the Impact Accelerator Unit, Keele University, confirmed that *"this new model results in greater health benefits, achieved at a lower average health-care cost, with an average saving to health services of GBP34.39 per patient and societal savings of GBP675 per patient"*, and that *"your research on the implementation and scale up of primary care innovations informed efforts by our Impact Accelerator Unit (GPs, physiotherapists and patient representatives) to spread STarT Back for patient benefit"* **(5.5)**.

Scaling up the use of a Dimensions of Health and Wellbeing Tool, designed to help young people self-manage their mental health condition and access services developed by Coventry and Warwickshire Partnership NHS Trust (CWPT): CWPT provide mental health and learning disability services for more than 1,000,000 people of all ages. Despite the increasing prevalence of mental health conditions presenting in young people, services have not kept pace and youth mental health has been under-resourced, hence dubbed the 'Cinderella' of healthcare provision. This necessitates much more emphasis upon young people and their carers self-managing their condition. Drawing upon their insights about the need for distributed leadership to scale up innovation **(3.5)** and the knowledge brokering capabilities of middle managers to embed innovation in practice **(3.8)**, the research team from WBS worked alongside frontline clinicians and managers to put the Dimensions of Health and Wellbeing Tool in place to support patient self-management. Dr. Sharon Binyon, Medical Director, and Dominic Cox, Director of Strategy and Development, at CWPT, describe how WBS research alerted them to, and suggested solutions for, diffusing the innovation, stating that *"This has ensured smooth roll out of the tool with maximum patient benefit; i.e. those young people that need access to services are able to identify and get the care they need quickly, and so outcomes for them are much improved"* **(5.6)**.

Supporting Leadership and Digital Innovation at University Hospitals Coventry and Warwickshire's (UHCW): As part of CLAHRC WM research, the WBS research team worked closely with the management at board, middle and frontline levels within UHCW, an NHS Trust that manages 2 major hospitals in Coventry and Rugby, serving a population of over 1,000,000 people. UHCW CEO, Andrew Hardy, confirmed the research **(3.5-6)** had supported the hospital's Executive Board saying it *"was very useful for the board to understand the strategic context in which we work and the part that we play in it as leaders and our interaction with them. We now have a common way of trying to lead in the organisation, a common language, and actually understanding what we are about, and that feeds directly into patient care"* **(5.7)**.

CEO Hardy added that the research **(3.6-8)** had also *"brought attention to the role of the middle manager - what the tensions are, the pressures in house and how you deal with that and the effects it can have as well"* **(5.7)**. This insight led UHCW to commission a leadership development programme, which embeds lessons from research to support a newly-constituted clinical directorate leadership team to enhance their capability to develop supportive HR

practices for their departments (3.7). The Hospital also changed its existing distributed leadership development programme delivered to frontline staff, to drive evidence-based service innovation, based on WBS research insights (3.5). CEO Hardy recognised the contributions made by the WBS team to improving leadership across the organisation more broadly, linking this to a recently awarded, improved rating of 'Good' from the Care Quality Commission (5.7).

Additionally, CEO Hardy confirmed (5.7) that the research (3.5), conducted alongside Consultant Clinical Oncologist, Penny Kechagioglou, informed UHCW's digital healthcare innovation strategy, enabling digital technology to be embedded in the oncology care pathway across different organisations and professions, with improvements to services and clinical outcomes.

The implementation model and innovation approaches have been applied internationally, improving health service delivery in India and Australia: In India, WBS researchers worked with the Schizophrenia Research Foundation (SCARF), a non-governmental, not-for-profit organisation providing psychiatric care and rehabilitation services across the whole of Tamil Nadu State. The body of WBS research (3.1-8) supported SCARF with the implementation and scale up of an early intervention services for young people with psychosis (5.8). SCARF Director, Dr. Thara Rangaswamy, said insights from research outcomes had been "eye-opening", writing that: *"Through incorporating lessons learnt from your implementation science research, we have improved our services, reaching 10-15% more people than we have done before to reduce prospects of serious mental health among this group"* (5.9).

In Australia, WBS research (3.1-4) has supported Monash Partners Academic Health Science Centre (MP AHSC) and other AHSCs across Australia to improve implementation and scale up of evidence-based healthcare innovation. Director MPAHSC, Prof. Helena Teede, confirmed that the research insights had been *"invaluable"*. She added that reciprocal exchange of ideas had *"informed and accelerated our impact in implementation and healthcare improvement"* and the research had made a *"national impact on the thinking and evolution of AHSCs [the Australian equivalent to CLAHRCs] across Australia"* (5.10).

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

- 5.1 Letter from Prof. Richard Lilford, Director of NIHR CLAHRC for Birmingham and Black Country (pilot), West Midlands (second phase) and Applied Research Centre (ARC) West Midlands (third phase) (11 January 2021).
- 5.2 Letter from Paul Bird, Head of Programme Delivery, University Hospitals Birmingham (13 March 2020).
- 5.3 Letter from Sara Kenyon, Clinical Research Lead BSOTS, Birmingham Women's Hospital (12 March 2020).
- 5.4 Kenyon, S., et al., (2017) The design and implementation of an obstetric triage system for unscheduled pregnancy related attendances: a mixed methods evaluation *BMC Pregnancy Childbirth* 17, 309, <https://doi.org/10.1186/s12884-017-1503-5>.
- 5.5 Letter from Krycia Dziedzic, Director of Impact Accelerator Unit, Keele University (28 April 2020).
- 5.6 Letter from Dr. Sharon Binyon, Medical Director, and Dominic Cox, Director of Strategy and Development, CWPT (27 April 2020).
- 5.7 Letter from Prof. Andrew Hardy, Chief Executive, UHCW (10 March 2020).
- 5.8 Radhavan, V., Chandrasekaran, S., Singh, S., Sood, M., Chadda, R.K., Shah, J., Iyer, S., Meyer, C., Mohan, M., Birchwood, M., Maden, J., Currie, G., Ramchandran, P., Rangaswamy, T., Singh, S.P. (2020) Community stakeholders' perspectives on youth mental health in India: Problems, challenges and recommendations. *Early Intervention in Psychiatry*, <https://doi.org/10.1111/eip.12984>.
- 5.9 Letter from Dr. Thara Rangaswamy, Director SCARF, India (13 March 2020).
- 5.10 Letter from Prof. Helena Teede, Monash Health Partners AHRTC, Australia (12 April 2020).