Institution: University of Leicester		
Unit of Assessment: 17		
Title of case study: Combining social science and organisation theory for lasting impact on healthcare quality and safety		
Period when the underpinning research was undertaken: 2006–2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s): Graham Martin	**Role(s) (e.g. job title):** Professor of Health Organisation and Policy	**Period(s) employed by submitting HEI:** 2009–2018
Period when the claimed impact occurred: August 2013 – Present		
Is this case study continued from a case study submitted in 2014? N		

1. Summary of the impact

Healthcare systems worldwide struggle to deliver consistent, high-quality care to all, with patients too often being let down or harmed as a result. Professor Graham Martin's work at the University of Leicester (UoL) in the organisation and delivery of healthcare and the role of professionals as agents of positive change has provided critical insights to support the success and efficacy of quality and safety improvement initiatives in healthcare. Professor Martin's contribution as a member of the Social Science Applied to Healthcare Improvement Research (SAPPHIRE) Group at UoL, in collaboration with clinicians world-wide, has informed UK and international healthcare policy. Ground-breaking research into culture and behaviour in the NHS has underpinned the outcomes of the Francis Inquiry into care quality failures at Mid Staffordshire NHS Foundation Trust and the development of the 'clinical communities' model that draws together communities of practice to address specific problems. Martin's organisational research applied to the design of holistic geriatric care pathways has improved patient outcomes significantly, reducing the number of hospitalisations in over 85-year-olds by 10%.

2. Underpinning research

Social science research undertaken by SAPPHIRE in the College of Life Sciences with colleagues in at the College of Social Sciences, Arts and Humanities at UoL has addressed long-standing issues relating to consistency in the provision of quality healthcare across the world. Successive programmes of research aimed at developing and implementing successful improvement approaches in healthcare have used social science and sociological theory, in combination with mixed methods, to focus on different levels of the healthcare system: from the micro-interactions between individual patients and their care providers, to the organisation of healthcare institutions and systems as a whole.

Professor Martin, who was a researcher in SAPPHIRE between 2009 and 2018, led research that directly addresses the challenges of implementing successful healthcare quality and improvement from an organisational perspective. His research demonstrates the value of processes and behaviours that disrupt established assumptions about quality and safety and organisational performance **[R1]**. **[R1]** focuses on the value and challenge of 'soft intelligence', which is more typically associated with organisational sense-making and dialogical understandings of knowledge. This research within a healthcare setting has also contributed to novel understandings of organisational theory, for example, the role of context on individuals' sense-making **[R2]**. Martin's interdisciplinary collaborations with clinicians and social scientists across UoL use social science and organisational theory in combination with mixed methods to focus on different levels of the healthcare system: from micro-interactions between individual

patients and their care providers, through to the design of healthcare organisations and systems as a whole **[R3]**.

The collaborative nature of this work has enabled Martin to contribute to a large body of impactful research. This research has demonstrated the criticality of caring cultures and improving organisational systems in NHS England by ensuring staff *"feel valued, respected, engaged and supported"* **[R4]**, underlining the need for clear objectives and credible 'theories of change' in improvement work and intervention development **[R5]**; emphasising the problems with adopting improvement tools and approaches without consideration of their fit with local organisational culture and history **[R5]**; identifying the challenges and unintended consequences in measurement and reporting for safety and quality **[R1]**; and conducting evaluations of measures to activate patient involvement in their own care.

Martin contributed to research undertaken to embed and evaluate the Hospital-Wide Comprehensive Geriatric Assessment (How-CGA) project **[R6, G4, G5].** The How-CGA toolkit enables health services to respond at multiple levels (strategic, operational and clinical). This toolkit is delivered via professional communities, such as the Specialised Clinical Frailty Network, a clinically led quality improvement collaborative co-founded by UoL clinical colleague Professor Simon Conroy in 2015. It facilitates the adoption of 'frail friendly' care pathway mechanisms throughout the entire healthcare system. Martin et al show in **[R6]** that How-GCA is an effective, and cost-effective, care model for older people with frailty. The development and validation of the hospital frailty risk tool outlined in **[R6]** is powerful, as for the first time it can potentially make frailty and its consequences routinely and systematically visible, at the individual patient, service, hospital and commissioning levels.

As part of a team funded by the Health Foundation **[G2, G3]**, Martin's work has led to the development of a new improvement model: the 'clinical community'. This novel method for organising communities of practices to inform improvement initiatives takes the best aspects of existing approaches while addressing their key shortcomings **[R7, R8]**. The 'clinical community' approach enables the best of 'bottom-up', network-based approaches to improvement (notably the enthusiasm, flexibility and breadth of expertise such approaches bring) and pays attention to the need for leadership, good organisation, and the ability to direct and compel healthcare improvement to be combined into an effective improvement programme **[**e.g., **R4, R8]**.

Funded by leading healthcare funding bodies, including the Department of Health **[G1]**, The Health Foundation [**G2, G3]** and the National Institute of Health Research **[G4, G5]**, Martin's organisational systems contribution to this body of research continues to make substantial, demonstrable improvements in healthcare systems and provision globally.

3. References to the research

R1. Martin, G. P., McKee, L., and Dixon-Woods, M. (2015). Beyond metrics? Utilizing 'soft intelligence' for healthcare quality and safety. *Social Science and Medicine*, *142*, 19-26.
R2. Lockett, A., Currie, G., Finn, R., **Martin, G.**, and Waring, J. (2014). The influence of social position on sensemaking about organizational change. *Academy of Management Journal*, *57*(4), 1102-1129.
R3. Martin, G., Currie, G., Weaver, S., Finn, R., and McDonald, R. (2017). Institutional complexity and individual responses: delineating the boundaries of partial autonomy. *Organization Studies*, *38*(1), 103-127.
R4. Dixon-Woods, M., Baker, R., Charles, K., Dawson, J., Jerzembek, G., **Martin, G.**, … and West, M. (2014). Culture and behaviour in the English National Health Service: overview of lessons from a large multimethod study. BMJ Quality and Safety, 23(2), 106-115.
R5. Tarrant C, O'Donnell B, **Martin G,** Bion J, Hunter A, Rooney KD. A complex endeavour: an ethnographic study of the implementation of the Sepsis Six clinical care bundle. Implementation Science. 2016;11:149.
R6. Conroy, S. P., Bardsley, M., Smith, P., Neuburger, J., Keeble, E., Arora, S., ... and Parker, S. (2019). Comprehensive geriatric assessment for frail older people in acute hospitals: the

HoW-CGA mixed-methods study. [**Martin** is author 13 of this comprehensive 212 page research report.
R7. Aveling E-L, **Martin GP,** Armstrong N, Banerjee J, Dixon-Woods M**.** Quality improvement through clinical communities: eight lessons for practice. Journal of Health Organization and Management. 2012;26(2):158–74.
R8. Dixon-Woods, M., McNicol, S., and **Martin, G.** (2012). Ten challenges in improving quality in healthcare: lessons from the Health Foundation's programme evaluations and relevant literature. BMJ Quality and Safety, 21(10), 876-884.

Relevant grants include:
G1. West, M., M. Dixon-Woods, L. McKee, G. Box, M. Murtagh, R. Baker, R. Lilford, J. Dawson and **G. Martin**, 'High Quality Care for All: Evaluating progress, problems and promise', Department of Health Policy Research Programme, January 2010, GBP1,400,000.
G2. Dixon-Woods, M., **G. Martin,** N. Armstrong and J. Banerjee, 'An evaluation of the Health Foundation's Closing the Gap through Clinical Communities programme', The Health Foundation, June 2010, GBP270,883.
G3. Dixon-Woods, M., **G. Martin** and M. Leslie, 'Review of the Health Foundation's evaluations to identify organisational factors that affect improvement', The Health Foundation, March 2011, GBP27,984.
G4. Conroy, S, **Martin, G**., et al. Acute hospital care for frail older people. NIHR HSDR, 2014-2017, GBP1,038,561.
G5. Conroy, S, **Martin, G.,** et al. *Emergency Care of Older People,* NIHR, 2018-2021, GBP931,653.

4. Details of the impact

Professor Martin's research, as a leading member of SAPPHIRE, has had demonstrable impact on healthcare systems globally. The approach taken has ensured that:

i) the research findings are written for and reach practice audiences (for example, through close working with intermediary organisations such as the Health Foundation);
ii) the research findings influence the development and embedding of innovations, such as 'clinical communities' and HoW-CGA, through close working in partnership with clinicians and managers in healthcare; and,
iii) the research contributed to policy and practice dialogue.

Safety culture and leadership

Research undertaken by the SAPPHIRE Group **[R4]** influenced UK government policy in response to highly publicised care quality failings to NHS patients, most notably at Mid-Staffordshire Hospitals NHS Trust. Sir Robert Francis's public inquiry into Mid-Staffordshire made far-reaching, extensive recommendations, and the task of turning these into concrete, implementable action required significant government consideration for which SAPPHIRE research was crucial.

[R4] was extensively referred to in the official government responses to the Francis inquiries recommendations for safeguarding patient safety and improving quality **[E1]**. This led to government action to address the workplace cultures and behaviours that led to the failings outlined in the Francis Inquiries, specifically through the Berwick Review. Notably, the Department of Health's report **[E1]**, referring to **[R4]** above states: "*One of the most important lessons of the Public Inquiry – reinforced by the ground-breaking study of Culture and Behaviour in the English NHS **[R4]** ...– is the close relationship between the wellbeing of staff and outcomes for patients. In part this is about ensuring that the right numbers of staff are in place **– and the Government has acted on that issue** – but it is also about ensuring that the right support, engagement and values are in place"* (**[E1]**: Culture change in the NHS: Applying the lessons of the Francis Inquiries, 2015).

Clinical communities

The 'clinical community' model draws together interdisciplinary experts from a range of professions (clinical, practitioners, professionals) to form 'communities of practice' to address specific issues **[R7]**. This was the centrepiece of an approach to improving quality and safety that achieved remarkable impact on key indicators of the quality of care at Johns Hopkins Hospital and Health System in the USA, resulting in six national awards **[E2]**. The 'clinical communities' approach has since been adopted by other healthcare systems such as NHS Quest, an alliance of NHS provider organisations that seek to be at the forefront of improving quality and safety. NHS Quest provides facilitation and support to 'clinical communities' to tackle specific problems, such as improving theatre safety and medicine safety **[E3a]**. The Reducing Falls Clinical Community, supported by NHS Quest, resulted in a sustained reduction in 'patient falls with harm' of more than 50% by 2016 **[E3b]**.

Methodological improvements in quality improvement and decision making

SAPPHIRE's research findings, highlighting the importance of long-term culture change in embedding improvements, rather than one-off initiatives, has been widely influential and has underpinned several NHS improvement programmes. In 2016, **[R4]** was cited in 'Better Births: Improving Outcomes of Maternity Services in England' as identifying cultures of high quality and compassionate care **[E4]**. The same research contributed to the NHS-wide Culture and Leadership Programme Toolkit 2016 **[E5]** under both the 'vision and values' and the 'goals and performance' metrics. Research from **[R8]** and **[R4]** guided Condition 1 and Condition 3 in 'Developing People – Improving Care', a national framework for action on improvement and leadership development in NHS-funded services launched in 2016 **[E6]**.

Health improvement guidance and policy across a range of topics have been influenced by SAPPHIRE's research. The World Health Organisation (WHO) Patient Safety Toolkit (2015) **[E7]**, aimed at ministries of health across the globe, recommends **[R8]** as a resource to help improve the quality of safety programmes. The call to action 'Delivering quality health services: A global imperative for universal health coverage' jointly published by WHO, the Organisation for Economic Co-operation and Development and the World Bank in 2018, also cites **[R8]** in the chapter on 'Understanding Levers to Improve Quality' **[E8].**

Embedding quality improvement at all levels is integral in ensuring success in any improvement programme. In Scotland, **[R8]** enabled formulation and implementation of effective guidance for Non-Executive Directors of NHS Boards for consistent quality improvement by providing comprehensive lists of barriers and the key conditions required for success **[E9]**. **[R4]** underpins the staff engagement driver of the 2016 'Framework for Improving Quality in our Health Service' **[E10a]** outlining the key components of an engaged organisation and the 'Practical Toolkit – Leadership Skills for Engaging Staff in Improving Quality' **[E10b]**. The framework was designed to influence the planning and delivery of care in the Irish Health service and the toolkit specifically developed in recognition of the importance staff engagement in improving clinical outcomes.

Improving outcomes for older people with frailty and urgent care needs

One million older people are admitted to UK hospitals annually; this accounts for two-thirds of all beds at a cost of over GBP10,000,000,000 p/a. Martin contributed to the research underpinning the 'Comprehensive geriatric assessment for frail older people in acute hospitals' **[R6, G4]**. This work supported the adoption of Comprehensive Geriatric Assessments in care pathways beyond specialist geriatric units – taking a whole-system approach **[E11a]**. The work has succeeded in building capacity and capability in hospital staff, such as those in the Specialised Clinical Frailty Network **[E11b]**. The Network's focus is on frailty identification and patient-centred treatment decisions using QI data underpinned by the HoW-CGA care bundle **[R6]** to embed geriatric care in renal, cardiac, chemotherapy, complex spinal surgery, neurosurgery and intensive care areas. The successful adoption of HOW-CGA in emergency departments can have significant impacts for frail older people, half of whom die within two years of an urgent care episode, in some cases this can reduce admissions to hospital in over 85-year-olds by 10% **[E11c].**

Professor Martin's contribution on health organisational research as a member of the SAPPHIRE Group across multiple programmes has enabled worldwide improvements in a range of healthcare settings, accounting for the unique practical realities of each and driving improvement in quality and safety.

5. Sources to corroborate the impact

E1. Department of Health. Culture change in the NHS: applying the lessons of the Francis Inquiries. London: The Stationery Office; 2015.
E2. Collated evaluations of intervention effectiveness on 'clinical communities' (2015-2017)
E3a. NHS Quest What We Do https://www.quest.nhs.uk/what-we-do/clinical-communities/
E3b. NHS Quest. Reducing falls clinical community [Internet]. 2016 [cited 2017 Oct 5]. https://www.quest.nhs.uk/what-we-do/case-study-reducing-falls/
E4. NHS Better Births Toolkit.
E5. NHS Improvement Culture and Leadership Toolkit https://improvement.nhs.uk/documents/1547/01-NHS101-tools_030417.pdf
E6. Developing People, Improving Care: national framework https://improvement.nhs.uk/documents/542/Developing_People-Improving_Care-010216.pdf.
E7. WHO Patient Safety Toolkit.
E8. Delivering quality health services: A global imperative for universal health coverage https://www.worldbank.org/en/topic/universalhealthcoverage/publication/delivering-quality-health-services-a-global-imperative-for-universal-health-coverage
E9. Quality Improvement and Measurement: What Non-Executive Directors Need To Know/ NHS Scotland. Scottish Government, January 2016.
E10a. Framing for Improving Quality in our Health Service. Health Service Executive, Ireland.
E10b. Practical Toolkit – Leadership Skills for Engaging Staff in Improving Quality https://www.hse.ie/eng/about/who/qid/staff-engagement/valuing-voices/leadership-skills-for-engaging-staff-in-improving-quality-sept-18.pdf
E11a. Specialised Clinical Frailty Network https://www.scfn.org.uk/tools
E11b. NHS Specialised Clinical Frailty Network 'Specialised Clinical Frailty Toolkit' 2019 https://tinyurl.com/9puhunju
E11c.
1. Health Service Journal 'Good practice case study: setting the course for better elderly care' https://www.hsj.co.uk/frail-older-people/good-practice-case-study-setting-the-course-for-better-elderly-care-/5076392.article
2. Conroy, S. P., Ansari, K., Williams, M., Laithwaite, E., Teasdale, B., Dawson, J., Mason, S., and Banerjee, J. (2014). A controlled evaluation of comprehensive geriatric assessment in the emergency department: the 'Emergency Frailty Unit'. *Age and ageing*, 43(1), 109–114.