

Institution: University College London		
Unit of Assessment: UoA 23 Education		
Title of case study: Developing responsive evidence reviews to improve public health and global development		
Period when the underpinning research was undertaken: 2010–2020		
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:
Sandy Oliver Katy Sutcliffe James Thomas	Professor of Public Policy Associate Professor Professor of Social Research and Policy	January 1995 to present February 2002 to present September 1994 to present
David Gough	Professor of Evidence Informed Policy and Practice	April 1998 to present
Period when the claimed impact occurred: 2014–2020		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact (indicative maximum 100 words)		
<p>Systematic reviews provide a comprehensive and unbiased assessment of research evidence in order to inform public health decision-makers about whether policies are likely to be effective. The team's reviews have informed crucial decisions of UK policy-makers and the World Health Organization, leading to changes in: attitudes among UK smokers; compensation for people who acquired Hepatitis C in UK hospitals; healthcare record systems for families in Afghanistan; and training for apprentices and entrepreneurs in India. Influential empirical findings like these build on the researchers' advances in systematic review methodology and information technology. Impact has been amplified by: (a) strengthening global capacity with training across disciplines and policy sectors; and (b) supporting national and international organisations in adopting the methodological advances to improve their systems linking policy and research.</p>		
2. Underpinning research (indicative maximum 500 words)		
<p>The Evidence for Policy and Practice Information and Coordinating Centre (EPPI-Centre) is a world-renowned team of over 25 UCL systematic review research specialists located in the UCL Institute of Education. The team develops review methods, conducts and supports others to undertake reviews, and provides guidance and training. Oliver leads a stream of work on Global Development, Thomas and Sutcliffe lead on health and Gough leads on research evidence use in decision-making. Thomas also leads on information/ computer science.</p>		
<p>Methodological research (R1-3): The utility and impact of our systematic reviews is founded on pioneering research in evidence synthesis methods, the breadth of which is illustrated in our research-led textbook (R1). Our experience of working both sides of the policy-research interface has led to innovations in participative methods (R1; R2) to align reviews with stakeholder interests and interpret findings to shape actionable recommendations (R4-6). A solution-focused approach to policy-maker interests drives our methodological developments, going beyond narrow 'what works' questions to grapple with the complexities of the social world. Innovations include: qualitative synthesis to understand the views and experiences of service users (R1; R6); mixed-methods reviews to understand how experiences might shape intervention effectiveness (R1; R4); systematic maps to characterise broad swathes of research literature and identify research gaps (R1; R5); and more complex 'what works' methods such as logic-models, Intervention Component Analysis (ICA) and Qualitative Comparative Analysis (QCA) to examine causal pathways and contextual moderators (R1).</p>		

Our bespoke software 'EPPI-Reviewer', the result of significant IT research and development (**R3**), supports reviewers around the world in meeting policy deadlines. Recent developments include: a browser of the Microsoft Academic Graph database of over 236 million research articles to identify studies more efficiently and update reviews more easily; machine learning to accelerate study identification; and 'EPPI-Mapper', a user-friendly interactive interface for navigating evidence maps.

Substantive research (R4-6): Our commissioned work has drawn on these innovations in responding to requests for evidence from the Department of Health and Social Care (DHSC, was Department of Health (DH)) (50+ reviews since 2000), the Department for International Development (DFID) and the World Health Organization (WHO). Below we provide examples of public health and global development reviews that employ the key innovations outlined above and lead to changes in people's lives.

Core findings

A mixed-method review (**R4**) commissioned in relation to the DH consultation on tobacco packaging employed EPPI-Centre expertise in appraising and synthesising diverse research types (**R1**). The review showed that plain packaging makes tobacco appear less attractive and of lower quality; weakens the positive smoker identity associated with branded packs; improves the recall, believability and perceived seriousness of health warnings; and reduces confusion about tobacco harms. Non-smokers, and less so smokers, tend to approve of plain packaging and feel it would make smoking less attractive, particularly to young people.

Participative methods (**R1**) were central to a DHSC commissioned review on Hepatitis C's impact on quality of life (**R5**). Our consultation with patient advocacy groups who identified that their chief quality of life concerns related to depression, anxiety and pain. The review established that these concerns are well founded as the evidence showed that Hepatitis C is associated with poorer quality of life and increases in depression, anxiety and pain conditions. A WHO-commissioned qualitative review (**R1**) sought to understand the experiences of mothers, caregivers and providers with home-based records (**R6**). This review found that mothers and other caregivers see home-based records as having a pivotal role in facilitating primary care visits and enhancing healthcare for their families.

Our policy-commissioned work also includes supporting 72 review teams for DFID, 9 for AusAID and 6 for WHO. This provision of methodological guidance and IT for reviewers in the field of global development (**R2**) brought our state-of-the-art methods (**R1**) to broad policy questions about economics, education, infrastructure, health systems and humanitarian crises.

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

R1 Gough, D., Oliver, S. & James, T. (2017) *An introduction to systematic reviews*. Second Edition. London: SAGE. <https://uk.sagepub.com/en-gb/eur/an-introduction-to-systematic-reviews/book245742#description> Book available on request.

R2 Oliver, S., Gough, D., Copestake, J. & Thomas, J. (2018) [Approaches to evidence synthesis in international development: a research agenda](#), *Journal of Development Effectiveness*, 10(3), 305–326.

R3 Thomas, J., Graziosi, S., Brunton, J., Ghouze, Z., O'Driscoll, P. & Bond, M. (2020) *EPPI-Reviewer: advanced software for systematic reviews, maps and evidence synthesis*. EPPI-Centre Software. London: UCL Social Research Institute. [EPPI-Reviewer 4: systematic review software \(ioe.ac.uk\)](#)

R4 Stead, M., Moodie, C., Angus, K., Bauld, L., McNeill, A., Thomas, J., Hastings, G., Hinds, K., O'Mara-Eves, A., Kwan, I., Purves, R.I., & Bryce S.L. (2013) *Is Consumer Response to Plain/Standardised Tobacco Packaging Consistent with Framework Convention on Tobacco Control Guidelines? A Systematic Review of Quantitative Studies*. PLoS ONE 8(10):e75919. <https://doi.org/10.1371/journal.pone.0075919>

R5 Brunton, G., Caird, J., Sutcliffe, K., Rees, R., Stokes, G., Oliver, S., Stansfield, C., Llewellyn, A., Simmonds, M., & Thomas, J. (2015) [Depression, anxiety, pain and quality of life in people](#)

[living with chronic hepatitis C: a systematic review and meta-analysis](#). London: UCL Social Research Institute.

R6 Magwood, O., Kpade, V., Afza, R., Oraka, C., McWhirter, J., Oliver, S. & Pottie, K. (2018) Understanding mothers', caregivers', and providers' experiences with home-based records: A systematic review of qualitative studies, *PLoS ONE* 13(10), e0204966.

<https://doi.org/10.1371/journal.pone.0204966>

Research quality indicators: research outputs have been through a rigorous peer-review process and through the succession of projects funded by DH, DFID, WHO, and others.

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

Our research has had wide-ranging instrumental, conceptual and capacity-building impacts (see diagram). Of the 83 global development reviews registered at the EPPI-Centre (most as part of a programme for building systematic reviewing capacity) 57% have had an impact beyond academia since 2014: they influenced policies or programmes instrumentally (19%); advanced understanding (conceptual impact) (33%); and/or contributed to systems for supporting evidence use (capacity-building) (28%). Below are specific examples where our advanced methods and responsive approach to evidence reviewing has achieved exceptional reach.

Substantive research across policy sectors:

- Public health/ NHS
- Education, Social welfare, & other UK public sectors
- Global health systems
- Development studies
- Humanitarian aid
- Environmental sustainability

ePPI
CENTRE

Methodological research for:

- Mapping research evidence
- Synthesising diverse study designs
- Participative methods to shape reviews, analysis & recommendations
- Safeguarding & analysing data with 'state of the art' IT
- Spanning disciplines & policy sectors
- Capacity building
- Using evidence for decision making

Instrumental
impact

- DoH & UK government green/white papers
- NICE guidelines
- WHO guidelines
- DFID Business Cases
- iNGO policies (UNICEF, IRC)

Conceptual
Impact

- **From** effectiveness reviews of experimental study designs
- **To** syntheses of diverse literatures to generate, explore or test theory...
- ...co-constructed with users of research

Capacity
building

- Nationally & internationally
- Knowledge management IT systems
- Human capacity across academic disciplines & policy sectors

Instrumental impacts: Plain tobacco packaging: In 2014, the independent government review of Standardised Packaging of Tobacco (**S1**) noted that the mixed-method approach (**R1**) used in systematic review **R4** was both '*robust*' and necessary given that randomised controlled trials would not be '*possible or ethical*'. The report concluded that review **R4** offered sufficient evidence to anticipate standardised packaging contributing to an '*important reduction in smoking prevalence especially in children and young adults*' (**S1**). It highlighted our involvement as offering '*reassurance that allegations of bias in the selection or consideration of material discovered by the systematic review can essentially be discounted*' (**S1**). Consequently, standardised packaging was introduced in the UK (2016-17) and was found to be associated with thoughts about quitting (**S2**). There are 2.5% fewer adult smokers in England since 2015, and around 1,300 fewer deaths in 2018 than in 2015. DHSC estimates that health and productivity gains from reduced uptake and improved quit rates will mean that plain packaging will have a net benefit to government of GBP25 billion ten years post-implementation (**S3**).

Hepatitis C: The DHSC policy team commended our participative approach (**R1**) in review **R5**: '*EPPI were viewed as constructive in their approach, carefully testing with the policy team understanding of requirements how systematic reviews could help, and offering useful advice on different methodological approaches (both benefits and limitations). EPPI were particularly good*

in advising on and engaging with appropriate stakeholder input, to inform the most useful direction of the review... Outputs have helped inform patient understanding of research evidence' (S4). Our review R5 was used by DHSC 'to inform thinking and potential design of an appeals process for individuals infected with hepatitis C through historical treatment with blood/blood products who claim financial assistance from DH' (S4). In 2016, the government announced reforms to the infected blood payment scheme – including plans to introduce a 'special appeals mechanism'. The 'Special Category Mechanism (SCM)', appeals process implemented in 2017, allows beneficiaries to claim an extra GBP18,519 if their condition has a long-term negative impact on their ability to carry out daily activities, including because of mental health problems (S5). The latest figures (2019) show 535 people in England had registered for SCM support (S5).

Home-based records: Qualitative synthesis (R6), commissioned for and cited by WHO guidelines (S6), led to distribution of home-based records for mother and child health across Afghanistan (S7). A study led by Afghanistan's Ministry of Public Health (S7) cited our findings that *'integrated HBRs are more highly valued and 'remembered' by mothers and health service providers than 'stand alone' records because the same source of health information is repeatedly used across the antenatal, postnatal and infant life course' (R6)* when justifying a pilot service in 2017-18. In the same paper (S7) the Ministry also noted the recommendation from WHO's guidelines (S6) that our work supported to prioritise home-based records in remote, fragile settings with dynamic population movements. The Ministry then developed and distributed a home-based record handbook to 16,086 pregnant women and children aged under 24 months across two pilot districts. This successful 2018 pilot led to the Ministry's commitment to scale up handbook use over the next three years across the country (S7).

Conceptual impacts: Our advances in responsive review methods have reframed conventional understanding of systematic reviewing, from a linear process for aggregating the findings of similar studies about the effects of professional practices to iteratively co-constructing with research users syntheses of diverse literatures to generate, explore or test theory (R1). In 2020, the UNICEF Office of Research recognised that *'The EPPI-Centre has developed methods and capacity for synthesizing research that suits the challenging contexts where UNICEF works' (S8)*. The DHSC evaluation of our contribution to their policies noted *'it is difficult to think of other groups internationally who are able to produce a review that has the independence, objectivity, excellence, methods and scope to produce such rich, nuanced and important findings' (S4)*.

Capacity-building - influencing national and international evidence-for-policy systems: Our expertise in innovative, robust and policy-relevant review methods has amplified research impact by (a) strengthening global capacity to undertake reviews; and (b) improving the practices of national and international evidence-for-policy organisations.

Support and training strengthens global capacity: Systematic reviews in international development are relatively new, with almost none available in 2000 and only 100 a decade later. DFID funding from 2010-19 to build capacity for systematic reviewing in international development means that EPPI-Centre staff have authored or guided novice teams to produce over 90 more reviews. Our methodological support is acknowledged, and the EPPI-Centre is named as the publisher in at least 65 systematic reviews on DFID's Research for Development database. UNICEF cites much of our work in their guidance for staff on how to undertake, commission and manage evidence synthesis (S8). Reflecting on *'UCL's EPPI-Centre's evidence work and the tangible impact it has had on UNICEF guidance and programming' (S8)*, the Director of UNICEF's Office of Research wrote: *'since we first started utilizing [EPPI-Centre's] work and subsequently working directly with them, UCL's EPPI Centre has made major contributions to how we can better inform our work with research'*.

Uptake of innovations by evidence-for-policy organisations: The 2016-17 assessment of the DHSC review facility's work (S4) recognised our contribution to global capacity through our innovations being *'replicated elsewhere by and international systematic review organisations and guideline producers'*. Leading international organisations, including Cochrane and the

Campbell Collaboration, have followed our lead in embracing a wider range of research designs and participative methods in their systematic reviews. Thomas is senior editor of the latest Cochrane handbook, published in 2019; new content includes our innovations in working with stakeholders (chapter 2) and using QCA to understand intervention complexity (chapter 17). Cochrane's 2019 annual report records 560 new reviews and over 77 million website visits to access evidence reviews. Oliver won the Campbell Collaboration's Robert Boruch Award in 2015 for Distinctive Contributions to Research that Informs Public Policy; the Campbell Collaboration's 2020 report shows that their reviews have influenced six international guidelines, 11 international policy documents and 24 national policy discussions. Cochrane and Campbell recommend and provide free access to EPPI-Reviewer software to their members. In the UK, the National Institute for Health and Care Excellence's (NICE) 2018 'Developing NICE guidelines: the manual' for developing national guidance in health and social care, cites five methodological papers by the team. Gough and Sutcliffe were invited by The Royal Society and the Academy of Medical Sciences to contribute to their 2018 report 'Evidence synthesis for policy: A statement of principles'. The Royal Society based a training workshop for parliamentary staff on the report and note that Defra, UKRI and the Government Science and Engineering and Policy Professions have committed to taking the principles forward in their work (S9).

Impact synergies: Although presented separately above, the following examples illustrate how instrumental, conceptual and capacity building are synergistic.

Instrumental ⇒ conceptual ⇒ capacity building: UNICEF (S8) first engaged with our reviews by citing them in strategy briefs (instrumental impact). UNICEF's thinking about systematic reviews was changed as they recognised the value of reviews that encompassed a broad swathe of literature and were co-constructed with potential research users (conceptual impact). This understanding was incorporated into UNICEF's guidance to its own staff (capacity-building impact), which drew on EPPI-Centre research and acknowledges Oliver's extensive input as an advisory group member to the initial concept note for the series and drafts of the briefs.

Conceptual ⇒ capacity building ⇒ instrumental: Our methodological research (R2) about engaging stakeholders and working across academic disciplines to support the production of policy-relevant syntheses and inspire methods development (conceptual impact) formed the basis of a DFID-funded programme to develop systematic review teams globally (capacity building). One review within this programme (Hawkes & Ugur, 2012), supported by our bespoke methodological guidance, training and IT, found that investing in education and skills directly affects economic growth. This report, which acknowledges our contribution, helped to justify a DFID business case (S10) to invest GBP7,300,000 in a skills for jobs programme in India (Hawkes & Ugur cited in S10) that within a year trained 30,038 would-be entrepreneurs and led to 155,449 registering for apprenticeships (S10) (instrumental impact).

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

- S1 [Standardised packaging of tobacco: Report of the independent review](#) p.26 (4.7) p.31 (4.25).
- S2 University of Stirling blog: Study reveals impact of plain cigarette packaging warnings.
- S3 Department of Health Impact Assessment: Standardised Packaging of Tobacco Products - p.3 for analysis (option 2) and p.13 point 37 for summary of net benefit.
- S4 Independent review of DHSC reviews facility (pp. 3-5)
- S5 NHS Business Services Authority England Infected Blood Support Scheme Annual Report 2018/2019 - p.5 for evidence of Special Category Mechanism uptake.
- S6 WHO recommendations on home-based records for maternal, newborn and child health. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO.
- S7 Saeedzai *et al.* (2019) Home-based records for poor mothers and children in Afghanistan, a cross sectional population based study, *BMC Public Health* 19, 766.
- S8 Testimonial from UNICEF's Head of Research.
- S9 Royal Society Workshop: Evidence synthesis: a tool for policymaking.
- S10 DFID Business Case for and annual review of the Skills for Jobs programme (pp. 2, 27. 41).