

How information specialists can support a realist review: a case study of health information technologies and patient safety



UNIVERSITY OF LEEDS

Authors: [Natalie King](#)¹, [Judy Wright](#)¹, [Maysam Abdulwahid](#)¹, [Rebecca Randell](#)², [Joanne Greenhalgh](#)³, [Justin Keen](#)¹

Author Affiliations: ¹Leeds Institute of Health Sciences, ²School of Healthcare, ³School of Sociology & Social Policy, University of Leeds, Leeds, UK Presenting & Contact Author: n.v.king@leeds.ac.uk

Realist reviews...

Are a type of systematic mixed methods review, increasingly popular for public services and policy questions

Look beyond 'what works' to generate an evidence-based understanding of 'what works for whom and in what circumstances'

Analyse 'theories' not 'interventions'

Uncover and develop explanatory theory, then test theory with evidence. Involve several iterative stages of theory development and testing

Use a variety of evidence types sometimes from outside initial question topic area to prove theories

What we did

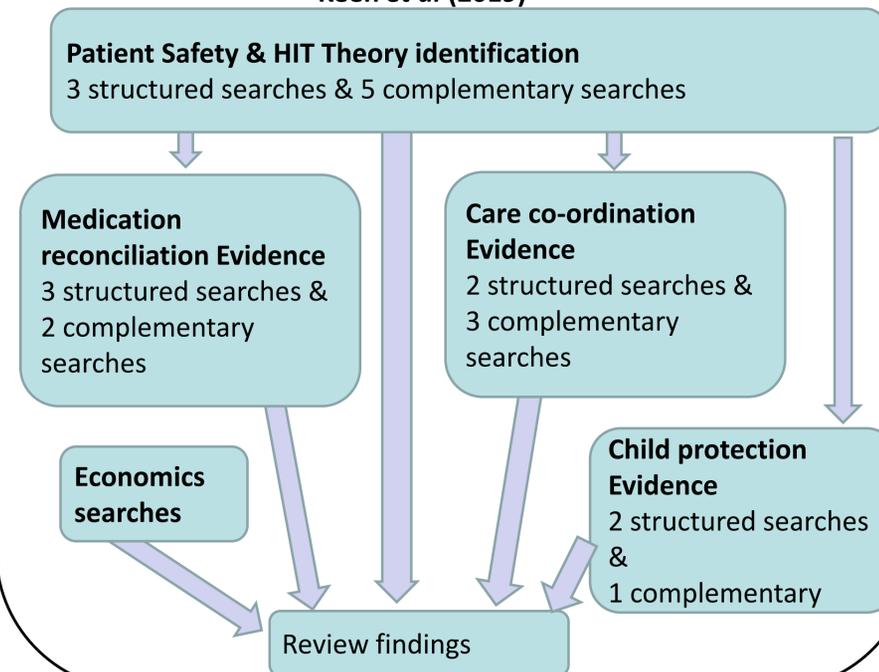
1) **Compared** search methods from our realist review with conventional systematic reviews on the same topic - patient safety and health information technology (HIT)

- Systematically identified systematic reviews in Medline, Embase and our project database
- From 65 results, 2 reviews met inclusion criteria (ie covered general HIT and patient safety, cited PRISMA/RAMESES guidance, contained ≤1 reproducible strategy)

2) **Reflected** on our information specialists role realist reviews compared with conventional systematic reviews.

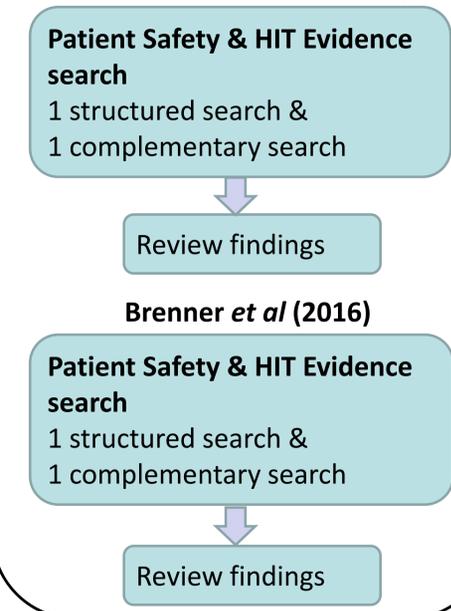
Realist review search

Keen *et al* (2019)



Conventional systematic review searches

Salahuddin *et al* (2015)



Differences in Search Methods

	Realist Review (Keen <i>et al</i> 2019)	Systematic Review (Brenner <i>et al</i> 2016)	Systematic Review (Salahuddin <i>et al</i> 2015)
Search questions	20+ set throughout review via iterative reviewing	1 set at review start	1 set at review start
Search precision	Varied with questions	Sensitive search	Precise search
Databases	5-8 Multidisciplinary, Health & IT databases per question	4 Health	3 health and 1 multidisciplinary
Complementary techniques	Reference list checking, forward citation, high usage counts, named author & projects, Journal and website hand search, Google scholar. Additional Studies identified by project team	Reference list checking	Reference list checking
Study types	All types: Editorials, comments, reviews and frameworks actively sought in early stages	Letters, editorial and comments excluded by search strategy	Reviews, frameworks and descriptive studies excluded by screening

Reflections and recommendations



Allow more time

- For search development meetings (we had at least 3x times commitment of our usual systematic reviews)
- For answering more search questions. This example shows time for 17 different searches for the realist review compared with 2 for each systematic review questions using 4-8 databases



Think outside the box, realist review purpose is different to conventional systematic review

- Explore less familiar non-health resources. ACM Digital, EI Village and Patient Safety Network were less familiar resources in this review
- Experiment with supplementary techniques e.g. citation usage count, author name



Hone your reference management skills. Complex reference management is inevitable when importing multiple searches from multiple sources, duplicate removal, and tracking or re-assigning records found for one question but also needed for another.



Record your search decisions and search strategies throughout your review. Be diligent in recording not just how but why you did each so you can report and explain the development of multiple, iterative searches for each stage of the review



Close **collaboration and communication** with research team is vital and rewarding

- Being embedded in research team enhances understanding of the project's changing search requirements, gives opportunity to steer search decisions and improved teamwork with colleagues

References:

Brenner, S.K., Kaushal, R., Grinspan, Z., Joyce, C., Kim, I., Allard, R.J., Delgado, D. and Abramson, E.L. 2016. Effects of health information technology on patient outcomes: a systematic review. *Journal of the American Medical Association*. 23(5), pp.1016-1036.
 Moher, D., Liberati, A., Tetzlaff, J. and Altman, D.G. 2009. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med*. 6(7), pe1000097.
 Salahuddin, L. and Ismail, Z. 2015. Classification of antecedents towards safety use of health information technology: A systematic review. *International Journal of Medical Informatics*. 84(11), pp.877-891.
 Wong, G., Greenhalgh, T., Westhorp, G., Buckingham, J. and Pawson, R. 2013. RAMESES publication standards: realist syntheses. *BMC Med*. 11, p21.

This poster is funded by the National Institute for Health Research (NIHR) under its Health Services & Delivery Research Programme (project reference 16/53/03). The views expressed are those of the authors and not necessarily those of the NIHR or the Department of Health and Social Care.

