

Chapter 4.10 Using logic models in research and evaluation of Health EDRM interventions

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Further reading

1. Birnbaum ML, Daily EK, O'Rourke AP, Kushner J. Research and evaluations of the health aspects of disasters, part VI: interventional research and the Disaster Logic Model. *Prehospital and Disaster Medicine*. 2016; 31(2):181-94.

Summary of this document: There are a number of resources available that can support researchers to develop logic models, with some having been developed purposefully for the field of Health Emergency and Disaster Risk Management. This reading is an example of some of those available that can support researchers through providing a template for developing a logic model, or by providing guidance on how to develop a model de novo; they also provide applied examples of the way that logic models are used to theorise interventions and some of the underlying assumptions that can be represented within a logic model.

In this report, the authors outline interventional research and the disaster logic model (DLM). It begins by introducing different types of evaluations in interventional disaster research and logic models. It then outlines the stages of utilizing the DLM including: (1) assessments of status, (2) needs, (3) strategic plan, (4) selection of an intervention, (5) operational plan, (6) providing (execution of) the intervention (transformation process), (7) results of the intervention, (8) outputs, effects, and outcomes, (9) impacts, (10) external factors, (11) costs. It also presents information and best practices on interventional evaluation designs and interventional process evaluations. The authors conclude that the use of the DLM can provide an evidence-based framework for developing accountable Health EDRM interventions.

2. Rohwer A, Booth A, Pfadenhauer L, Brereton L, Gerhardus A, Mozygemba K, et al. Guidance on the use of logic models in health technology assessments of complex interventions. 2016 <https://eprints.lincoln.ac.uk/id/eprint/26371/> (accessed 22 February 2022).

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In this guidance document, the authors summarize current practices on the use of logic models in health technology assessments (HTAs) and systematic reviews (SRs) of complex interventions. It discusses three types of logic models (a priori, iterative, and staged) and provides examples of each type. In addition, the authors distinguish between logic models that seek to represent structure (system-based) and those that focus on processes or activities (process-orientated). It offers guidance on how to choose between logic models by describing each type and providing templates

for developing a logic model. The authors conclude that logic models are useful tools in HTAs when trying to understand complex systems, though the context of an HTA can have a bearing on which type of logic model is the best suited.

3. Kneale D, Thomas J, Harris K. Developing and Optimising the Use of Logic Models in Systematic Reviews: Exploring Practice and Good Practice in the Use of Programme Theory in Reviews. *PLoS ONE*. 2015; 10(11):e0142187.

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In this short article, the authors review the use of logic models in systematic reviews and protocols. They argue that while logic models are useful tools, their utility is limited due to the lack of good practices around their development. They attempt to address these concerns by providing good practice guidance and demonstrating the creation of a logic model under these recommendations. The authors conclude that well-designed logic models have the potential to be a useful addition to systematic reviews and improve the impact of the systematic reviews for which they are used.

4. Kneale D, Thomas J, Bangpan M, Shemilt I, Waddington H, Gough D. Causal chain analysis in systematic reviews of international development interventions. *CEDIL Inaugural Papers*. Centre of Excellence for Development Impact and Learning, London. 2018. <https://cedilprogramme.org/wp-content/uploads/2017/12/Inception-Paper-No-4.pdf> (accessed 22 February 2022).

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In this longform paper, the authors demonstrate how causal chain analysis can explain how interventions work. The paper focuses on approaches used for producing causal chain analyses in systematic reviews of global development interventions. It also discusses the development of logic models and various synthesis approaches used in preparing systematic reviews. The approaches outlined in this paper aim to assist systematic reviewers in producing findings that are useful to decision-makers and practitioners, and in turn, help to confirm existing theories or develop entirely new ways of understanding how interventions effect change. The paper concludes with principles of best practice and recommendations for the Center for Excellence for Development Impact and Learning (CEDIL) and the Department for International Development (DFID).

5. Bangpan M, Chiumento A, Dickson K, Felix L. The impact of mental health and psychosocial support interventions on people affected by humanitarian emergencies: a systematic review. In Humanitarian Evidence Programme. Oxfam GB, Oxford. 2017: <https://policy-practice.oxfam.org.uk/publications/the-impact-of-mental-health-and-psychosocial-support-interventions-on-people-af-620214> (accessed 6 February 2020).

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In this systematic review, the authors synthesize research on mental health and psychosocial support (MHPSS) programmes for affected communities in low- and middle-income countries (LMICs). It describes MHPSS implementation and how affected communities receive them, along with intended and unintended effects. The authors focused on four research areas: (1) barriers to, and facilitators of, implementing and receiving MHPSS interventions delivered to affected populations; (2) effects on populations; (3) key features of effective interventions; and (4) evidence gaps in MHPSS research. The systematic review, together with corresponding executive summary and evidence brief, forms part of a series of humanitarian evidence synthesis and systematic reviews commissioned by the Humanitarian Evidence Programme. The authors conclude that MHPSS interventions are generally effective for reducing PTSD among adults, though evaluating MHPSS effectiveness should focus on a broader variety of psychological indicators.

6. Waddington H, White H. Farmer field schools: from agricultural extension to adult education. 3ie Systematic Review Summary 1. International Initiative for Impact Evaluation, London. 2014. https://www.3ieimpact.org/sites/default/files/2019-05/srs1_ffs_revise_060814_final_web_2.pdf (accessed 22 February 2022).

Summary of this document: Farmer field school (FFS) is an adult education intervention which uses intensive discovery-based learning to promote skills. This reading provides an example of an impact evaluation resource that can support researchers with selecting a research method that best suits local situations and needs.

In this longform report, the authors present a systematic review of over 500 documents to assess the effectiveness of farmer field schools. The report examines four central questions: (1) objectives and design features of FFS; (2) theories of change behind FFS; (3) experiences of FFS implementation; and (4) FFS' impact on participants and diffusion potential. The authors found that many FFS projects target and benefit wealthier farmers and that facilitator selection and training are important for the success of FFS projects. Likewise, diffusion to non-participants is limited due to the experiential learning nature of FFS projects. The authors conclude that different FFS objectives require different targeting approaches, and that evidence on the effectiveness of FFS projects in some objectives (e.g., empowerment) is lacking.