

Q1. How do I learn more about this subject?

There is a 1-day workshop organised on 10th March by BISI on the exact specific topic. Also some key references below for more targeting reading:

1. Smith, J., Ellins, J., Sherlaw-Johnson, C., Vindrola-Padros, C., Appleby, J., Morris, S., Sussex, J., & Fulop, N. J. (2022). Rapid evaluation of service innovations in health and social care: key considerations. *Health Services and Delivery Research*, 10(1). NIHR.
2. Hernán, M. A., & Robins, J. M. (2016). Using big data to emulate a target trial when a randomized trial is not available. *American Journal of Epidemiology*, 183(8), 758–764.
3. Matthews, A. A., Danaei, G., & Hernán, M. A. (2022). Target trial emulation: Applying principles of randomized trials to observational studies. *Epidemiology*, 33(4), 499–503.
4. Ogilvie, D., Adams, J., Bauman, A., et al. (2020). Using natural experimental studies to guide public health action: turning the evidence-based medicine paradigm on its head. *Journal of Epidemiology & Community Health*, 74(2), 203–208.
5. Skivington, K., Matthews, L., Simpson, S. A., Craig, P., Baird, J., Blazeby, J. M., Boyd, K. A., Craig, N., French, D. P., McIntosh, E., Petticrew, M., Rycroft-Malone, J., White, M., & Moore, L. (2021). A new framework for developing and evaluating complex interventions: Update of Medical Research Council guidance. *BMJ*, 374, n2061. <https://doi.org/10.1136/bmj.n2061>
6. Curran, G. M., Bauer, M., Mittman, B., Pyne, J. M. & Stetler, C. (2012). Effectiveness–implementation hybrid designs: combining elements of clinical effectiveness and implementation research to enhance public health impact. *Medical Care*, 50(3), 217–226. doi:10.1097/MLR.0b013e3182408812
7. Brown, C.H., Curran, G., Palinkas, L.A., Aarons, G.A., Wells, K.B., Jones, L., Collins, L.M., Duan, N., Mittman, B.S., Wallace, A., Tabak, R.G., Ducharme, L., Chambers, D.A., Neta, G., Wiley, T., Landsverk, J. and Cheung, K., 2017. An overview of research and evaluation designs for dissemination and implementation. *Annual Review of Public Health*, 38, pp.1–22.

Q2. Are we able to simulate and test the impact for the implementation strategies? How difficult would it be to do this?

Yes we can simulate implementation strategies, but how difficult it is depends on what we are simulating, what data we have, and how complex the system is. For example we can use natural experiments to estimate causal effects of an implementation strategy or create a hypothetical counterfactual under different simulation scenarios

Q3. What are your preferred methods for documenting and describing the implementation strategies to enable hybrid studies. E.g., implementation logic model? Or another tool?

In hybrid studies, I prefer to use a combination of complementary tools. I would typically begin with an implementation logic model embedding my theory of change, linking specific implementation strategies to mechanisms of action, implementation outcomes, and clinical outcomes. Frameworks such as ERIC taxonomy and CFIR to systematically document contextual determinants that may influence implementation success could be also useful.

Q4. As effects of certain health related outcomes take a longer period of time to show up, how do we do rapid evaluation for such outcomes?

When health outcomes take longer to emerge for example mortality indicators, rapid evaluation could focus on early indicators or less severe outcomes along the causal pathway rather than waiting for final endpoints. This might include proximal or surrogate outcomes—such as changes in prescribing, blood pressure control, or uptake rates—that are strongly linked to long-term health effects, morbidity and mortality. It can also assess implementation outcomes like reach, fidelity, and equity to determine whether the intervention is being delivered as intended. Where appropriate, modelling can project longer-term impact of the policy or intervention based on early changes.

Q5. In terms of implementation outcomes, how do you estimate effect size to adequately power the studies?

We follow the same methods that we would do to power a study based on a clinical outcome. When estimating effect size for implementation outcomes, we could begin by defining a minimal important difference in adoption, reach, fidelity, appropriateness or another implementation metric that would meaningfully justify the strategy.

Q6. i) How long do these "rapid" evaluations take, especially if they utilise existing administrative data, which can take months to extract?

Rapid evaluations typically take around three to nine months, depending largely on data access and governance timelines. Even when using administrative data, extraction and linkage can take time, so rapid work often relies on pre-existing data pipelines or phased analyses that produce early findings while fuller datasets are processed. Agile data infrastructures are paramount within this context,

Q6. ii) Given there is an absolute lack of data on implementation data in the existing administrative data, in that case, how feasible these rapid evaluations are?

It is true that implementation data are usually missing from administrative sources. However, rapid evaluation remains feasible but requires supplementing routine data with targeted primary data collection, such as brief surveys, service logs, or qualitative interviews.

Q7. Speaking of Australian interventions, what is the perspective on interventions that are clearly not working—such as the Australian extreme taxes on cigs that has led to black market cigarettes. How do you ensure that implementation results are monitored objectively following their implementation?

Triangulating multiple data resources, such as surveys, enforcement statistics, and health outcomes, helps provide a balanced assessment. Equally important is appropriate stakeholder mapping: identifying and engaging public health agencies, treasury and finance departments, enforcement bodies, retailers, community groups, and affected populations ensures that diverse perspectives, data sources, and potential unintended effects are captured.

Q8. To do program evaluation of a pilot program (e.g. a school based behavioural sleep health program) invariably requires more resources and funding. How should we plan and budget for the evaluation component of an intervention in a way that will convince policy makers to commit to program evaluation with enough rigor, and also to troubleshoot for early challenges in terms of equity oversights at the early phases of the pilot?

In our experience, convincing policy makers about the need for robust evaluation is not a one-off undertaking—but rather a long term approach, involving implementors, evaluators (if they are not the same group) and the policy makers. This enables the development of trust and shared understanding of what the added value of a suitable evaluation would be. Aligning evaluation objectives with policy making priorities (e.g. ensuring equitable delivery, allowing programme reconfiguration if early evaluation suggests implementation challenges etc), and proposing evaluation that are commensurate with programme complexity and not overly complex in itself are strategies that facilitate policy makers having an active interest in and support evaluation activities as part of the programme funding structure and set up.

Q9. What role Gen-AI can play in conducting effective rapid evaluation?

Generative AI can enhance rapid evaluation by improving efficiency across several stages of the process. It can support rapid evidence synthesis, help draft logic models and data collection tools, and assist in processing large volumes of administrative data. In qualitative interview analysis, Gen-AI can accelerate transcript coding, identify emerging themes, summarise stakeholder perspectives, and organise findings for timely reporting. However, its outputs require careful human curation to ensure contextual accuracy, interpretive depth, and avoidance of bias.