

Hub Tool: Developing and Choosing Intervention Study Questions

Tool overview

Suggested use: By teams who are developing or reviewing their research and evaluation plans for projects addressing mental health promotion for children and youth. Intervention study questions will ideally be informed by a theory of change and an understanding of information needs to support project improvements, new knowledge, and accountability. Questions will also be informed by a project's stage of development and will in turn inform concepts, measures, and study designs.

Tool content: This tool briefly describes the importance of developing suitable intervention study questions, an overview of types of questions, and some tips for developing and refining questions.

The Hub uses the term *intervention study* as more generic than *research and evaluation* and interchangeably with them. Project teams may use any of these terms. All terms involve systematic inquiry about interventions/ innovations.

Tool format: 4-page document

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THE IMPORTANCE OF ‘GOOD’ INTERVENTION STUDY QUESTIONS

In child and youth mental health promotion, the challenge is to understand the difference any intervention or program is making – to children and youth, to parents and familiesⁱ, to communities and broader society. In addition to understanding differences, it is just as important to understand *how* and *why* changes result (both changes that are intended and unanticipated). This understanding informs course corrections as well as efforts in other places and times, and with other populations.

Good’ intervention study questions get project teams the information they need. These needs typically span use of information for contributing new knowledge, for informing project improvements and directions, and for accountability to funders and project partners. Good questions will also be aligned with project worldviews and concepts, and stages of project development.

Good questions take time and several iterations. Formulating good questions is “one of the most important and intellectually demanding steps” in the intervention study process¹.

MATRIX OF INTERVENTION STUDY QUESTIONS

Informed by the early development of population health intervention research in Canada², an overarching question for intervention studies is ***What works, for whom and under what conditions?***

This overarching question makes it clear that questions about the intervention itself, the participants and the context all need to be addressed. Thoughtful choices are needed about what questions to ask: There are hundreds of potential questions in these domains. And they can be organized in many different ways³.

This tool provides a matrix of intervention study questions that considers both the **types of questions** and their **level of impact**. Across many evaluation frameworks, there are generally three types of questions: **structure, process** and **outcomes**.^{4,5} These types of questions apply to all intervention studies. Given the social ecological foundations of mental health promotion⁶ the **level** of impact must also be considered.²

The idea of a matrix is to provide an overview of options. Good intervention study questions do not necessarily mean that a project will have questions in every cell. If there are questions in every cell, they need to be extremely selective, otherwise a study would likely be impractical and trying to answer too much. There is also a temporal dimension to study questions; when they are most appropriate needs thoughtful attention (e.g., short-, medium-, long-term outcomes). Further along in intervention study planning, this matrix can also serve as an organizing structure for project concepts and measures.

ⁱWherever the term ‘parent’ is used in this tool it refers to guardians/ carers of all types, including by birth, marriage, kinship or fostering, and wherever the term ‘family’ is used it refers to close relatives by any of birth, marriage, adoption, kinship or fostering.

Note: The matrix includes sample questions for child and youth mental health promotion interventions drawn from recent literature.^{2,7-10}

LEVEL OF IMPACT	TYPE OF QUESTION		
	Structure (including context)	Process	Outcome ⁱⁱ
System/ Population	<ul style="list-style-type: none"> How relevant is the intervention to the targets of change?² How does the larger context affect implementation and outcomes?⁷ Is each intervention reaching the members of its intended target audience?⁸ What resources and capacities need to be in place to sustain the intervention? 	<ul style="list-style-type: none"> How does the theory of change relate to the theory of the problem?² How many implementers or settings adopted the intervention?⁸ How often and how well is it delivered?⁸ Is the reach sufficient to achieve normative or behavior change at the population level?⁸ 	<ul style="list-style-type: none"> Has the intervention produced changes in broader systems (e.g., public policies, media discourse, planning)? Has normative, behavior or conditions change been achieved at the population level (e.g., mentally healthy communities; social inclusion; well-being; positive mental health; equity)?⁸
Local Community	<ul style="list-style-type: none"> What resources have been invested at the local level? What would work in this situation?⁹ What has been implemented?⁷ How does the local context affect implementation and outcomes?⁷ How well does our intervention align with best practice? 	<ul style="list-style-type: none"> Was the intervention implemented as intended?⁸ What factors affected implementation? How often and how well is it delivered? How is the intervention implementation responsive to local conditions?² How can we optimize it?⁹ How does the delivered intervention produce change?⁷ 	<ul style="list-style-type: none"> What did intervention activities and services achieve (including unintended effects)?² With what changes in local conditions was the intervention associated (e.g., other organizations/ interventions)?² Did the intervention effect immediate/ longer term behaviors or conditions (e.g., social inclusion, sense of belonging, equity)?⁸ Which intervention components contributed to which outcomes?⁸
Individual/ Family	<ul style="list-style-type: none"> Who has participated and who might have been left out (characteristics of individuals or families invited and/ or participating, especially from a social inclusion/ equity lens)? 	<ul style="list-style-type: none"> What is the level of engagement in and satisfaction with the intervention?⁸ Who has not been involved/ engaged? 	<ul style="list-style-type: none"> For whom did it work? Is the intervention increasing (e.g., resiliency, empowerment, coping, self-efficacy) of participants?¹⁰ Are there any unintended effects? Are the results the same for everyone?⁸ How well are they maintained over time?⁸

ⁱⁱ It can also be helpful to further divide the outcome column into questions related to short-, intermediate- and longer-term outcomes.

TIPS FOR DEVELOPING AND REFINING INTERVENTION STUDY QUESTIONS

1. Start with the intended uses of information and by whom. Will the information be used to inform project decisions, for accountability to funders and/ or to generate new knowledge?
2. Co-design is key. Involve your stakeholders (any players/ actors with an interest in your project) in the exercise. Think broadly about who your stakeholders are – most essential are intervention participants but also include others involved in delivering the intervention as well as broader decision-makers (including current and potential funders). Seek multiple perspectives relevant to your project. Set up interactive processes to generate questions together and/ or to collect feedback on drafted questions. For example, ask participants to write their questions on sticky notes, group them by type, and then prioritize them by group consensus. Reinforce characteristics of good questions for focus and feasibility. Also reinforce the importance of surfacing different points of view. If everyone agrees quickly on all questions, ask yourselves what perspectives are missing and if something about the process may be stifling participants' comfort in sharing ideas openly.
3. Ensure that your questions are in alignment with your theory of change for the intervention. Review your theory of change and consider questions that help to explain connections and pathways that are not well understood.
4. Ensure that your questions are suitable for the stages of development of your project. Especially for interventions in early stages, review and adjust questions often; this is typical in feedback loops of early learning.^{1,7} Also, avoid the common pitfalls of trying to answer questions about project outcomes too early – before the implementation of project activities is consistent and stable, and before outcomes can be expected to occur.
5. Aim to include a mix of questions that will allow you to gather information about numbers and amounts (quantitative information) and about processes and experiences (qualitative information). Both types of information contribute to rich project stories.
6. In most cases, intervention study questions will be stated generally at first. Once some priority questions are chosen, they can be refined. Many approaches to question refinement have been published, some of which are quite elaborate e.g.,¹¹ but they are all aimed at making a general question more clear and more specific. Practically speaking, specifying the who, what, and where can work just as well as more involved approaches. Using a fictitious intervention, the first example below is a general question and the second is a specific question:
 - *Does the Enhancing Parent Sensitivity to Toddler Needs Intervention (EPSTN) improve parenting?*
 - *Do five in-person sessions of the EPSTN intervention improve parent responsiveness and confidence in first-born toddlers aged 18 to 24 months in a rural town [name] in Canada?*

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