



Implementation research and its role in public health and health policies

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PRACTICAL SCENARIO

A ministry of health, worried about the increase in the prevalence of current smoking among their adult population, surveyed a sample of this population to identify barriers to smoking cessation. The results showed that current smoking cessation interventions, based on visiting a pulmonologist, were not feasible because of important barriers, including difficulties in scheduling an appointment and adhering to follow-up visits, leading to loss of motivation. These results were used to inform the development of a population-based smoking cessation intervention through a mobile app to evaluate its feasibility and effectiveness.

IMPLEMENTATION RESEARCH

Implementation research (IR) is a specific scientific approach that evaluates the effectiveness of incorporating evidence-based interventions and policies into the routine health care system. IR focuses on facilitators of and barriers to implementing evidence-based interventions in public and private health care systems and promotes the application, use, and sustainability of these interventions on a large scale (Figure 1).

IR evaluates different types of interventions, including newly developed medical devices and technologies, application of treatment protocols, service delivery programs, behavioral interventions, among others. Social science research methods, as well as methods for determining the cost of implementation strategies at different levels of the health care system⁽¹⁾ are used in IR.

HOW CAN IR IMPROVE PUBLIC HEALTH?

IR addresses health policy makers' priorities and the needs of real-world health decision makers. Although successful efforts have been made to close the research gap in changing health policies, health decision-making processes are highly complex and involve a great number of stakeholders. Conducting policy-driven research, such as IR, supports the use of research findings to inform health policy planning and its implementation by policy makers.⁽²⁾ Thus, the main role of IR is to improve the effectiveness of health care systems and health care delivery.

CONSIDERATIONS WHEN CONDUCTING IR

Population: IR is ideally conducted within the population that will be affected by the health-related intervention.

The selection of inclusion criteria should be broad and result in a study population that is truly representative of the target population, whereas exclusion criteria should be minimal. In our example, the population consisted of adult smokers from all regions of the country who have access to a smartphone.

Intervention/Exposure: interventions that fall under IR are broad. They may be complex, and the research team should try to involve diverse stakeholders. In our example, the intervention was the use of an app to promote behavioral interventions for smoking cessation. Stakeholders included the ministry of health, the general population, health professionals working in smoke cessation programs, etc.

Comparator: the analytical approach of IR differs from the approach used in clinical research. Usually, the intervention has already been shown to be effective within the controlled environment of a clinical trial. In IR, the objective is to test the application of an intervention in real-world settings and if it continues to be effective over time. Therefore, a comparison group may not be necessary, or historical controls may be used.

Outcome: the outcomes are usually focused on feasibility, acceptance, adherence, and effectiveness in real-world scenarios where the intervention will be

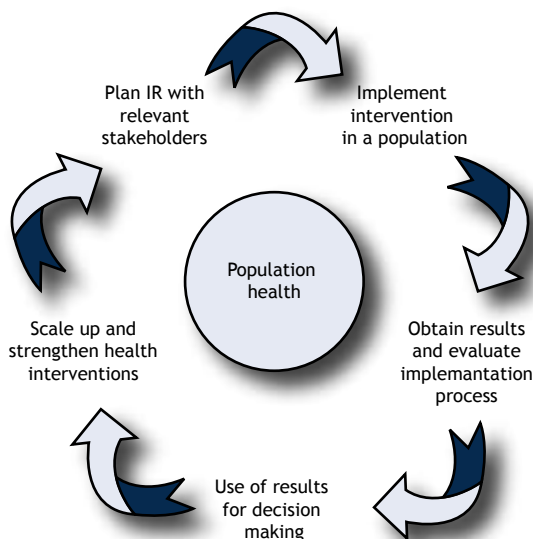


Figure 1. The process of implementation research.

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implemented. In our example, outcomes include perceived usefulness and number of interactions with the app and, most importantly, smoking cessation

rates among users. IR can evaluate various outcomes simultaneously, and the results should potentially be used for decision-making processes.

REFERENCES

1. Remme JH, Adam T, Becerra-Posada F, D'Arcangues C, Devlin M, Gardner C, et al. Defining research to improve health systems. *PLoS Med.* 2010;7(11):e1001000. <https://doi.org/10.1371/journal.pmed.1001000>
2. Langlois EV, Mancuso A, Elias V, Reveiz L. Embedding implementation research to enhance health policy and systems: a multi-country analysis from ten settings in Latin America and the Caribbean. *Health Res Policy Syst.* 2019;17(1):85. <https://doi.org/10.1186/s12961-019-0484-4>