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Evidence & Gap Maps: A tool for promoting evidence informed policy and strategic research agendas

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Abstract

A range of organizations are engaged in the production of evidence on the effects of health, social, and economic development programs on human welfare outcomes. However, evidence is often scattered around different databases, web sites, and the gray literature and is often presented in inaccessible formats. Lack of overview of the evidence in a specific field can be a barrier to the use of existing research and prevent efficient use of limited resources for new research. Evidence & Gap Maps (EGMs) aim to address these issues and complement existing synthesis and mapping approaches. EGMs are a new addition to the tools available to support evidence-informed policymaking. To provide an accessible resource for researchers, commissioners, and decision makers, EGMs provide thematic collections of evidence structured around a framework which schematically represents the types of interventions and outcomes of relevance to a particular sector. By mapping the existing evidence using this framework, EGMs provide a visual overview of what we know and do not know about the effects of different programs. They make existing evidence available, and by providing links to user-friendly summaries of relevant studies, EGMs can facilitate the use of existing evidence for decision making. They identify key ''gaps'' where little or no evidence from impact evaluations and systematic reviews is available and can be a valuable resource to inform a strategic approach to building the evidence base in a particular sector. The article will introduce readers to the concept and methods of EGMs and present a demonstration of the EGM tool using existing examples.

Keywords: Evidence-informed policy; Evidence synthesis; Systematic review; Impact evaluation; Research prioritization; EGM

1. Introduction

The world is facing major policy challenges across all areas affecting human welfare, including climate change, aging populations, and global poverty. The funding available for implementing policies and programs to address these issues is limited. Therefore, it is important that limited resources are used on programs that work. Good intentions are not enough, and the use of evidence to inform decision making has the potential to improve lives (Chalmers, 2005).

To this end, a range of organizations are engaged in the production and promotion of evidence on the effects of health, social, and economic development programs on human welfare outcomes. Thus, there has been a rapid increase in the publication of high-quality primary studies and systematic reviews of effects across a range of sectors, including public health, education, crime and justice, social welfare, environmental management, and international development [1].

The increasing evidence base also presents challenges, however. Studies of effects and systematic reviews of such studies are scattered across different journals, libraries, and web sites. They are often presented in inaccessible formats and are of variable quality. This can mean missed opportunities for the best available evidence to inform decisions about policies and practice. It also risks a waste of limited resources for research if new studies are not informed by the existing literature [2].

Evidence & Gap Maps (EGMs) present a new tool for addressing some of these challenges, complementing existing approaches in the family of systematic approaches to reviewing evidence [3]. This article provides an overview of the concept and methods of EGMs. The next section will introduce readers to the concept of EGMs. This is followed by sections outlining how EGMs can be used to inform

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What is new?

- Evidence & Gap Maps (EGMs) provide an innovative and visual approach to establishing what we know and do not know about effects of interventions in a thematic area.
- Evidence & Gap Maps can support evidence-informed decision-making by making evidence from existing systematic reviews available in a user-friendly format.
- EGMs can be a tool for research prioritization and strategic research commissioning by quickly identifying existing evidence gaps.
- Researchers and commissioners should consider using EGMs to identify ''absolute evidence gaps'' and areas with potential for evidence synthesis.

policymaking and research agenda setting, respectively. Section 5 outlines the methods for conducting EGMs, and Section 6 compares EGMs to existing synthesis and mapping approaches. The final section concludes.

2. What are EGMs?

EGMs provide an innovative approach to making high-quality evidence available to users and to support strategic conduct and commissioning of new research. They are thematic collections of evidence on effects structured around a framework which schematically represents the types of interventions and outcomes of relevance to a particular sector or thematic area. By doing so, they consolidate what we know and do not know about effects in a particular area.

A key feature of EGMs is that they provide a visual display of evidence from systematic reviews and impact evaluations in a given sector or thematic area structured around a framework (matrix) of key interventions and outcomes. Fig. 1 provides a graphic illustration of an EGM on Water, Sanitation and Hygiene interventions [4], produced using a new interactive Web-based platform. The rows of the framework list the interventions included in the map, whereas the columns list relevant outcomes structured along the causal chain, from intermediate outcomes to final outcomes.

Taken together, the framework sets the parameters of the interventions and outcomes covered by the EGM. The bubbles in the map represent studies, with the size of the bubble indicating the relative number of studies. The gray bubbles represent primary studies, whereas the colored bubbles are systematic reviews. The colors indicate the confidence in findings from the review based on an adapted version of the SURE checklist [5] (Snilstveit, 2014). This allows users to explore the quantity and quality of existing studies and access summaries of included studies.

The use of visualization to present complex information is increasingly promoted as a useful tool for research translation [6–9]. The evidence gap map methodology thus forms part of a broader movement exploring different research translation tools that can promote greater user

Fig. 1. EGM graphic. EGM, Evidence & Gap Maps.