

Annex

Evaluation of interventions with system-wide effects in developing countries: an exploratory review

Background

At a time when growing interest and funding are directed to strengthening health systems, more robust evaluations are critical to ensure a positive return on the money invested in improving health systems performance and population health. The overall purpose of this review was to profile contemporary evaluations of system-level interventions and interventions with system-wide effects, as defined in this Report (see Chapter 1). Investigators categorized relevant developing country evaluations corresponding to the WHO health systems framework and its six building blocks (1). They sought to explore the nature and focus of these evaluations with respect to: the interventions evaluated; whether there were obvious knowledge gaps related to any of the health systems building blocks; the settings where the evaluations were undertaken; and the characteristics of the evaluators with respect to their affiliation and country of residence.

Methods

A literature search was conducted from two sources, peer-reviewed articles (hereafter called “published literature”) and grey literature. Published evaluations were retrieved from Medline and relevant papers were screened for inclusion by two raters following the inclusion criteria below.

Evaluation studies in the grey literature were retrieved by screening the websites of 36 global health organizations including donors (multilateral, bilateral), academic institutions, think tanks, and by contacting the evaluation departments of major donors interested in health policy and systems research to retrieve all relevant evaluations with the same focus.

Inclusion criteria for both published and grey literature were:

- Evaluation studies reporting either a summary measure in terms of output, outcome or impact, or assessing if or how a program was effective;
- Interventions primarily targeting at least one of the six WHO building blocks;

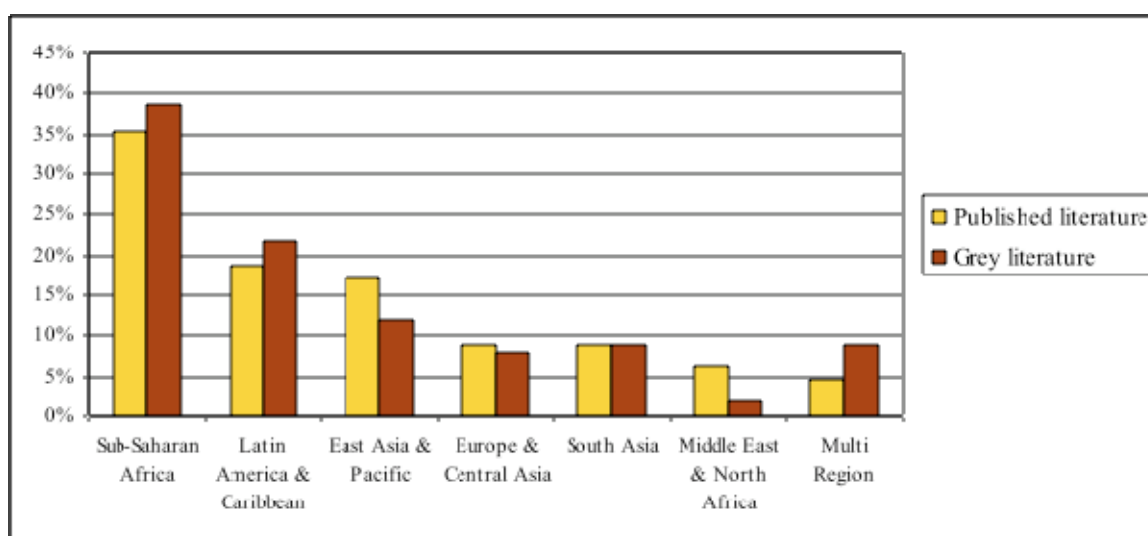
- Studies in developing countries (based on World Bank income classification)¹; Studies published in the last four years (2005-2008) for the published literature, and from 1990 to 2008 for the grey literature (8% of studies in the grey literature were published before 2000 and another 37% between 2000 and 2004).

Selected Results

As our purpose was not to conduct a systematic review, a random sample was drawn from published literature to include an arbitrary target of 200 articles in this review. Out of 4,848 retrieved, a random sample of 1,100 (23%) articles was drawn and screened by two raters. 192 articles met our inclusion criteria. From the grey literature, 101 studies met our inclusion criteria and were all included, resulting in a total of 293 evaluations from both sources.

From this pool, over 35% of articles concerned studies done in Sub-Saharan Africa (Figure 1). Multi-region evaluations constituted 9% and 5% of grey and published literature, respectively. In the published literature, upper-middle income countries represented a large proportion of studies - the top two countries were Brazil (18 articles) and South Africa (13 articles), together making up 18% of total articles. However, most of the evaluations from these countries reported on the same type of interventions. For instance, many interventions in South Africa reported on community health worker programs and HIV/AIDS programs. In Brazil, several evaluations studied the reform in the primary health care sector. In Mexico - another highly represented middle-income country - the focus was on health insurance and the health sector reform.

Figure 1 – Articles by region



¹<http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0..contentMDK:20421402~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>

Nature of evaluations in published literature

Most evaluations from the published literature (65%) concerned interventions that addressed only one of the health system building blocks (called hereafter “focused interventions”) and often had a limited scope - e.g. at the district or hospital level. The most frequently evaluated types of interventions included health promotion campaigns and training interventions (Table 1). Generally, very few studies described a conceptual framework for the evaluation that considered or discussed wider health systems impact of interventions - most only focused on narrowly-defined direct and expected impact measures of interventions (e.g. health outcomes, quality of care, access to care) and usually assessed additional effects only in the targeted building block. In few cases, a counterfactual was defined (e.g., before/after design, intervention/no intervention, etc.).

Nature of evaluations in grey literature

Focused interventions were also predominantly evaluated in the grey literature (61% of all studies) but relative to evaluations in the published literature, a higher proportion of the evaluations concerned more complex interventions addressing multiple building blocks. These were often at the national level, including, for instance evaluations of Global Health Partnerships such as the Global Fund to fight AIDS Tuberculosis and Malaria, the GAVI initiative, Stop TB and Roll Back Malaria. But, as observed in the published literature, most evaluations focused on a limited set of mainly expected health outcome measures. When health systems effects were addressed, they were often reported in a descriptive way without attempt to derive conclusions or discuss the link between different outcomes and possible knock-on effects in other parts of the system. The reported outcome measures were often narrowly defined, which may well reflect the interest of the institution that commissioned the study. As with the published literature, conceptual frameworks for the evaluations were also rarely described and very often the type of evaluation and analysis methods were difficult to discern.

Table 1 Distribution of evaluations relative to WHO health systems building blocks.

	Published literature		Grey literature	
WHO health system building blocks	N	%	N	%
Distribution of studies where a focused (primarily targeting one building block) intervention was evaluated				
Service Delivery only	29	23%	12	19%
Health Workforce only	26	21%	2	3%
Information only	17	14%	3	5%
Medical products and technologies only	14	11%	0	0%
Financing only	18	15%	38	61%
Governance only	20	16%	7	11%
Total	124	65%	62	61%

	Published literature	Grey literature
Distribution of studies where a complex intervention was evaluated		
Addressing 2 / 3 / 4 blocks	62	61
Addressing 5 blocks	5	1
Addressing 6 blocks	1	0
Total	68	62
Total number of studies		
	192	101

Affiliation of authors

In both sources, determining the affiliation of authors was difficult. This was particularly true in the grey literature, where affiliations of all authors were only available in 64% of cases. In the published literature, often only the affiliation of the corresponding author was available. Based on available information, authors of studies published in the grey literature were predominantly based in high-income countries (79%), while authors from the published literature were generally based in developing countries (58%).

Conclusion

Although a large number of evaluations of health systems interventions exists both in published and unpublished literature (Table 1), most evaluated interventions with a limited focus (addressing only one of the health system building blocks). Studies evaluating more complex or large-scale interventions were more predominant in the grey literature, which may indicate that these types of evaluations are hard to publish in peer-reviewed journals. This may be explained by the complex nature of evaluating the impact of these interventions and their effects on multiple building blocks, which if done properly, may result in a paper too long for a journal. It may also suggest that methods to evaluate the impact of these interventions are not well developed, which makes it harder for these articles to be accepted for publication. In several instances, there was an overly simplistic approach to estimating the impact of complex health interventions - e.g. where a large-scale, national-level intervention is evaluated only in terms of its health outcomes and impact on quality of care, ignoring other system-level effects on, for instance, information systems, financing and human resources.

This exploratory review highlights the limited availability of comprehensive evaluations of health systems interventions that appropriately capture and summarize the effects of health systems strengthening interventions in developing countries. More robust evaluations are critical to ensure the best use of limited resources invested in improving health systems performance and population health in developing countries.

Reference List

1. World Health Organization. The World Health Report 2000: Health systems: Improving performance. Geneva: World Health Organization, 2000.