GLOBAL JOURNAL OF MEDICINE AND PUBLIC HEALTH

Scaling up success to improve health: Towards a rapid assessment guide for decision makers

Jason Paltzer [*1] , *Dawn Magnusson* [1] , *Lori Diprete Brown* [1]

ABSTRACT

Introduction

Evidence-based health interventions exist and are effectively implemented throughout resource-limited settings. The literature regarding scale-up strategies and frameworks is growing. The purpose of this paper is to identify and systematically document the variation in scale-up strategies to develop a rapid assessment tool for decision-makers looking to identify the most appropriate strategy for their organizational and environmental contexts.

Methods

A list of scale-up strategies and frameworks were identified through an in-depth literature review and conversations with scale-up and quality improvement leaders. The literature search included a broad range of terms that might be used interchangeably with scale-up of best practices. Terms included: implementation research, knowledge translation, translational research, quality improvement research, health systems improvement, scale-up, best practices, improvement collaborative, and community based research. Based on this research, 18 strategies and frameworks were identified, and nine met our inclusion criteria for scale-up of health-related strategies. We interviewed the key contact for four of the nine strategies to obtain additional information regarding the strategy's scale-up components, targets, underlying theories, evaluation efforts, facilitating factors, and barriers. A comparative analysis of common elements and strategy characteristics was completed by two of the authors on the nine selected strategies. Key strategy characteristics and common factors that facilitate or hinder the strategy's success in scaling up health-related interventions were identified.

Results

Common features of scale-up strategies include: 1) the development of context-specific evidence; 2) collaborative partnerships; 3) iterative processes; and 4) shared decision-making. Facilitating factors include strong leadership, community engagement, communication, government collaboration, and a focus on human rights. The analysis informed the development of a two-step rapid assessment tool that can be used to guide decision-makers in identifying the most appropriate scale-up strategy given their political environment, leadership styles, and program characteristics.

Conclusion

The rapid assessment proposed in this paper can be used to help bridge the gap in bringing evidence-based health interventions to communities that need them the most. The purpose of the assessment tool is to decrease the time required to scale effective interventions by identifying and applying a strategy appropriate to the innovation, organizational capacity, and social and political environment.

GJMEDPH 2015; Vol.4, issue 2

[1]**University of Wisconsin, Global Health Institute**

***Corresponding Author:**
Jason Paltzer
2406 S. 76th Street, West Allis, WI 53219
jpaltzer1@gmail.com
Telephone number: 6083385320

Conflict of Interest—none

Funding—none

Keywords: Scale up, Global Health, Implementation Science, Knowledge Translation, Quality Improvement

Key messages

(1) Numerous effective scale-up strategies exist to expand the availability of effective health interventions and services.
(2) Scale-up strategies can be matched to the type of innovation and organizational and environmental contexts to increase the strategy's efficiency and effectiveness of scaling up health interventions.
(3) A rapid assessment guide is proposed to aid in the selection of an appropriate scale-up strategy for decision-makers.

INTRODUCTION

The concept and practice of "scale-up" has received significant attention over the past few years, particularly in the post-2015 discussion of the Millennium Development Goals (MDGs).[1,2] We adopted a version of Simmons, Fajan, & Ghiron (2007) definition of scale-up used by Mangham & Hanson (2010): "an increase in the coverage of health interventions that have been tested in pilot or experimental projects in order to benefit more people, and support policy and program development at a large or national scale."[3,4] This involves two components 1) increasing the geographical, population, or functional coverage of health interventions; and 2) increasing the financial, human, or capital resources required to expand coverage.

A number of strategies have been developed that assist program managers and leaders through the process of planning for scaling up effective innovations.[1] This process can be complex because strategies often involve concepts from quality improvement, program implementation, participatory assessment, or knowledge translation models. In addition, there is no combination of intervention and scale-up strategy that will work in every situation. Many variables contribute to the overall success of an intervention going to scale, such as the characteristics of the innovation itself, organizational leadership and management, and the environment.[5-8]

There are a number of effective scale-up approaches and frameworks. While they contain common elements, each is unique, offering decision-makers a number of different pathways to scale up. Our goal was to provide a concise and comprehensive summary of scale-up models to date, and to develop a tool that would enable decision-makers to select the most appropriate strategies to maximize their effectiveness. We know that scale-up strategies are unique, and current research suggests that models need to be appropriate for the specific context.[1] An easy-to-use tool for identifying the most appropriate scale-up strategy suited to a specific context is an important step in translating the current knowledge on effective health innovations. The purpose of this review is to identify published models from the field of effective health-related scale-up strategies and propose a rapid assessment tool for decision-makers tasked with scaling up their health innovations. This proposed prototype can be refined based on lessons from early applications and as additional scale-up approaches are developed. The current scale-up strategies share common elements but also have unique characteristics that make them more suitable to certain organizational contexts and health environments. The goal was not to rank the strategies or frameworks but to highlight their specific strengths in a way that allows decision-makers to select a strategy best suited to their context.

BACKGROUND

A variety of scale-up strategies have been developed based on the early frameworks and theories of Uvin (1995) and other researchers.[9-12] The World Health Organization advanced the scale-up arena by establishing ExpandNet, a central network of health professionals interested in increasing the research

and knowledge of successful scaling of health-related services and interventions.[13] The tool proposed in this paper builds on this history and experience to guide practitioners through the available knowledge.

ExpandNet Framework

The ExpandNet Framework strategy highlights four areas that influence scale-up.[13] The four areas are the innovation, the resource organization, the user organization, and the environment. The innovation refers to the tested intervention within the local context. An intervention requires place-based testing whether it is a completely new intervention or has an existing evidence-base, but within a different context. During the piloting phase, questions should be answered that will help guide the scale-up process based on the characteristics of the innovation. The resource organization is the team involved in the development and/or testing of the particular intervention that is being scaled. The user organization refers to the team(s) interested in adopting the innovation or collaborating with the resource team in its implementation. The environment is "the social, cultural, political, and economic context within which scaling up takes place."[3-13] The ExpandNet Framework was used to inform the first step of our two-step rapid assessment tool.

Scale-Up Pathways

Uvin (1995; 2000) provided the groundwork in categorizing the various pathways to scaling up.[14-15] Cooley, Rajani, & Fehlenberg (2012) build on this work and further describe three primary scale-up pathways: 1) replication, 2) collaboration and 3) expansion. Replication strategies are those that rely on other organizations or agencies adapting and adopting the practice such as through policy or commercialization of the intervention.[16] The resource organization may provide the initial training materials, implementation manual, or other guidebooks to inform the replication process. Collaboration strategies focus on formalizing partnerships or alliances between similar organizations interested in building on each other's strengths to expand the intervention. Two or more organizations agree to work together to provide different capacities required for successful scaling. Expansion strategies are those that focus on scaling up the intervention directly through the resource organization, and within or alongside existing activities or programs. Expansion usually involves organizational change within the resource organization to accommodate a new innovation alongside the existing services. (See Cooley, Rajani & Fehlenberg, 2012; Uvin & Jain; 2000 for additional information). Intervention and organization characteristics help determine which scale-up category is most appropriate.

METHODS

We reviewed published literature to identify articles in English that contained descriptions of frameworks or processes for scaling up health-related interventions in resource-limited settings through October 31st, 2013. This began with a search of the ExpandNet database (www.expandnet.net, last accessed 4 April 2014), and continued with a systematic search of electronic databases using a set of key search terms and phrases. These terms were developed in consultation with leaders in the field, and expanded as new terms emerged during the search. The final list of terms included: scale-up, implementation research, knowledge translation, translational research, quality improvement research, health systems improvement, best practices, improvement collaborative, and community-based research. Our search ended with a secondary review of references from the first wave of articles.

Inclusion Criteria

For the purpose of this study we included frameworks meeting the following inclusion criteria: 1) demonstrated success with a variety of intervention types; 2) implemented successfully to achieve local or national scale; and 3) provided a specific tool or model for scaling up. We did not include strategies that focus on intervention research, or evaluation frameworks such as the Medical Research Council framework (www.mrc.ac.uk/complexinterventionsguidance). The MRC framework and others that guide intervention development are very useful and we recognize their importance; however, we focused

on frameworks that specifically targeted the scale-up phase of an intervention. We identified nine models or frameworks that met our inclusion criteria.

We conducted descriptive analyses of these nine frameworks. Based on this initial work we identified common themes and developed a matrix for use in a subsequent comparative analysis. The comparative analysis was conducted by two of the authors (JP and DM), and disagreements in thematic areas and characteristics were resolved. For each article we identified the scale-up method or framework, the developer and/or key contact for the model, key principles and features of the approach, as well as facilitators and barriers to the program's successful implementation. In addition to providing our own classification, we felt it was important to include the perspectives of those involved with the initial design and development of each approach. We sent email messages to those individuals identified as the key contact for each strategy, inviting them to speak with us about their strategy and participate in a survey of scale-up methods. We followed up with those contacts who responded to our invitation with a phone interview. To standardize these phone interviews we developed an interview guide to highlight the unique strengths and features of each approach, as well as their commonalities. We covered six themes including: program description; theory and methodology; general program characteristics; planning and implementation; evaluation and monitoring; and facilitators/barriers to implementation. We also asked respondents if there was anything else they would like readers to know about their framework.

RESULTS

We identified nine scale-up models or frameworks meeting our inclusion criteria for scaling-up health-related innovations. The nine strategies selected were Community-Driven Development[12,17], Framework for Spread[11], MSI Pilot-to-Scale[6,16], MuSCLE[18], the Partnership Learning Model[19-21], Quality Improvement Collaborative Model[22], Reflective Adaptive Process[23], Replicating Effective Programs[24], and SEED-Scale[25]. Three developers participated in phone interviews and one developer completed an on-line survey. Information gathered from these interviews and surveys confirmed and broadened our existing understanding from the literature of how different models and frameworks are unique, as well as where they share basic implementation or management principles. Table 1 briefly outlines each strategy, gives the basic underlying theory and conceptual framework, and describes a few key features of the strategy.

Table 1 Brief Description, Underlying Theory, Concepts and Key Features of the Nine Selected Scale-up Strategies

Strategy	Description	Underlying Theory/Concepts	Key Features
Community Driven Development[1]	The participatory-based strategy focuses on empowering local community leaders through decentralizing fiscal responsibility; building the capacity of lay health workers; clearly delineating roles and expectations; and encouraging equal access to knowledge.	Bargaining Theory; Participatory Action Research	Fiscal decentralization; highly collaborative; equal representation; transparency
Framework for Spread[1]	An organizational framework for planning and guiding the spread of new ideas including leadership responsibilities, communication, social system	Improvement Science; Complex Systems; Diffusion of Innovation	Systems approach; involved leaders; open communication;

	strengthening, measurement and feedback, and knowledge management.		
MSI Pilot-to-Scale	A pilot-to-scale strategy combining aspects of implementation science, strategic planning, and organizational development within a three-step process centered on integrating scale-up in the planning and implementation process.	Diffusion of Innovation; Organizational Management	Organizational management; Developing scalable interventions;
MuSCLE	A social-learning theory and organizational-based approach using systems-based participatory assessment, transparent selection of interventions, and foster capacity building to sustain adapted interventions.	Social Learning Theory; Quality Improvement; Participatory Research	Collaborative and multidisciplinary; social learning; leadership driven
Partnership Learning Model[1]	A comprehensive primary healthcare systems-based approach to translating knowledge using integrated quality improvement methods and participatory action research.	Quality Improvement; Participatory Research; Complex Systems; Diffusion of Innovation	Participatory; shared-learning; multidisciplinary; involved leaders
Quality Improvement Collaborative Model	A quality improvement model for integrating evidence-based practices in healthcare settings through iterative cycles of shared-learning sessions and action periods.	Knowledge Translation; Quality Improvement	Shared learning; multi-disciplinary; involved leaders; collaborative
Reflective Adaptive Process	An organizational change strategy utilizing complex adaptive systems principles among multi-disciplinary healthcare teams to identify, pilot, and reflect upon the system-wide impacts of small changes.	Complex Systems; Quality Improvement	Organizational change; multi-disciplinary; iterative;
Replicating Effective Programs	An HIV-based strategy for documenting and packaging evidence-based interventions for effective replication to other communities.	Diffusion of Innovation; Knowledge Translation	Clear and descriptive documentation; communication
SEED-Scale[2]	A biological and participatory-based approach to adapting change to fit the ecological, economical, and cultural values of a community which become training centers for building capacity in neighboring communities.	Complex Systems; Participatory Research	Asset-based; top-bottom-external partnerships

[1] *Additional information obtained from phone interviews*
[2] *Additional information obtained from web-based survey*

Table 2 provides a list of key features that were mentioned or identified starting with the most common. The list provides information about features common to the selected strategies and also what features may separate one strategy from another. Most of the strategies integrate the development of context-specific evidence of the intervention within an iterative process. Other common features include identifying and forming collaborative partnerships, shared decision-

making, and incorporation of multiple disciplines into the scale-up process. An emphasis on local ownership, capacity building, sustainability, outcomes, cost-effectiveness, and transparency were also mentioned.

Table 2 Frequency of the Scale-up Key Features Identified among the Selected Scale-up Strategies

Key Feature	Frequency (N=9)
Evidence-based interventions	8
Collaborative partnerships	7
Iterative process	7
Shared decision-making	7
Multidisciplinary	6
Local ownership	3
Capacity building	3
Sustainability	2
Outcomes not outputs	2
Cost-effectiveness	1
Transparency	1

Table 3 provides a list of characteristics identified from the literature or by the developers as facilitating scale-up. Leadership, community engagement, and clear communication ranked as the top three factors supporting effective scale-up. Government collaboration and an explicit integration of protecting human rights were seen as additional factors for successful facilitation. Absence of these factors was viewed as impeding effective implementation of the model.

Table 3 Top Five Factors Identified as "Facilitating Factors" for Effective Scale-up

Facilitating Factors	Frequency (N=9)
Leadership	6
Community engagement	6
Communication and documentation	6
Government collaboration	5
Integrates human rights	5

DISCUSSION

This section describes the process we used to develop a prototype of a two-step rapid assessment tool to assist health program managers and decision-makers in identifying a scale-up strategy suited to their situation and context.

Step 1: Identify Appropriate Pathway

Based on the literature review, our comparative analysis, and the ExpandNet framework's four scale-up focus areas (the innovation, the resource organization, the user organization, and the environment), we developed four conditions comprising Step 1 of the rapid assessment tool. Table 4 summarizes the key features and facilitating factors associated with each focus area and the related conditions for Step 1.

The assessment of the complexity of the innovation should consider the existing evidence-base, technical skills and multi-disciplinary requirements to implement the innovation, time to realize outcomes, and overall cost-effectiveness. The resources required to transition the innovation to a sustainable phase should also be considered when evaluating the innovation's complexity. The capacity of a resource organization's internal systems and management include its leadership style, communication and documentation processes, the level of transparency and shared decision-making and access to external resources. Community engagement and feedback

systems integrated within the organization are also important with highly iterative models. Features and factors associated with the user organization include understanding the level of leadership within the potential partnering organization(s), its connection to the community, and alignment with values of the resource organization as a collaborative partner in the scale-up process. Environmental factors include understanding the level of community interest in engaging with the innovation and becoming active participants in its sustainability. It also involves knowing the level of political support behind the innovation.

Table 4 (Step 1 Part A) The Four ExpandNet Focus Areas and Corresponding Scale-up Features and Facilitating Factors Used to Inform the Four-Question Scoring Rubric Used in Step 1 Part B of the Rapid Assessment Guide

ExpandNet Focus Area	Features & Facilitating Factors	Step 1 Condition
Innovation	Evidence-based Multidisciplinary Outcomes-based Cost-effective Sustainable	The innovation is complex requiring a high level of technical capacity and management.
Resource Organization	Leadership Communication and documentation systems Transparency Shared decision-making Community engagement Capacity building (technical capacity) Iterative (feedback systems)	The resource organization has a high level of capacity and leadership including significant financial, management, and technical resources.
User Organization	Leadership Community engagement Collaborative partner	User organizations are not available, interested, or have the capacity to support the innovation.
Environment	Government collaboration Local ownership	The social and political environment is not supportive of the innovation or resource organization.

Table 5 provides a scoring system for Step 1 responses to help organizations quickly identify which pathway(s) might be best suited for their situation. The three pathways used in this rapid assessment tool are replication, collaboration, and expansion. Each condition is scored according to the following scale: 0=Disagree, 1=Somewhat Agree, and 2=Agree. The total points are used to guide an organization toward a specific scale-up pathway: 0-2 = Replication; 3-4 = Replication/Collaboration; 5-6 = Collaboration/Expansion; 7-8 = Expansion.

Table 5 (Step 1 Part B) Step 1 Scoring Rubric of the Rapid Assessment Guide Used to Determine the Most Appropriate Scale-up Pathway (Replication, Collaboration or Expansion)

Please Answer the Following Statements Using Three Response Options -0=Disagree, 1=Somewhat Agree, 2= Agree	Response
1. The innovation is complex requiring a high level of technical capacity and management	
2. The resource organization has a high level of capacity and leadership including significant financial, management, and technical resources	
3. User organizations are not available, interested or have the capacity to support the innovation	
4. The social and political environment is not supportive of the innovation or resource organization	

Step 2: Identify the Scale-Up Strategy

Once the scale-up pathway has been determined, Step 2 involves assessing whether the organization has a greater reliance on administrative support to manage its programs and activities, or on community-based support and participation. Table 6 provides the decision matrix for Step 2. This primary area of support is important when considering the type of models that exist because some of them rely on significant internal administration for integration of an innovation while some of them rely on community participation. Community engagement is important in both systems; however, Step 2 is focused on determining the primary locus of control and decision-making within the organization. Most of the strategies identified do recognize the need for multi-stakeholder involvement and participation as a core scale-up facilitating factor. Program managers are encouraged to become familiar with several of the scale-up models to have a comprehensive understanding of the different features beyond what is listed in this review.

Administrative support is defined as an organization that has an extensive administration and management team to support its services and equipped to lead new initiatives within the organization. High administration may also include existing partnerships with government agencies and be involved with direct service provision compared to grassroots community development. Community support is defined as having a strong connection to a particular community or set of communities to initiate projects and services. This usually involves a significant reliance on communities as active participants in the various projects and development efforts. This classification is not exhaustive and each strategy requires further study if it is selected as an appropriate scale-up model. See Box 1 and Box 2 for examples based on authors' experiences.

Table 6 Step 2: Select a scale-up strategy using the scale-up path identified in Step 1 part B (replication, collaboration, or expansion) corresponding to primary area of support necessary to implement the intervention (administrative or community)

	Replication	Collaboration	Expansion
High Administrative Support	Replicating Effective Programs	Quality Improvement Collaborative Model	Framework for Spread
		Partnership Learning Model	Reflective Adaptive Process
High Community Support	Community-Driven Development	Community-Driven Development	MSI Pilot-to-Scale
	MSI Pilot-to-Scale	MuSCLE	
		SEED-Scale	

Box 1 Water Filtration in Central Africa

A water filtration organization is interested in scaling up a particular filtration innovation in an urban setting in central Africa. The innovation is somewhat complex (Step 1.1 = score 1) in that it does require technical capacity to know how to construct and install the filter. The organization itself does not have significant financial resources or manpower to effectively manage several filtration projects (Step 1.2 = score 1). Given that the organization is based in a capital city, there is a significant network of organizations in the area that are aware of the resource organization and support its work (Step 1.3 = score 0). The innovation addresses a key issue of clean water but does not have a high level of political and social support because it is a relatively new innovation (Step 1.4 = score 1). Based on this assessment (Step 1 total score = 3), the organization decided to scale-up using a mix of the collaboration and replication pathways. The organization relies heavily on community participation in the construction of the water filters as well as the uptake of families requesting and using the filters in their homes (Step 2 = High Community Support). After this two-step process, the organization decided to combine the Community-Driven Development strategy with the Replication Effective Programs strategy. They first identified a group of user organizations in the city to offer free trainings as part of a collaboration. The user organizations themselves had to have significant existing community engagement and interested in dedicating resources to implement and support community teams affiliated with their organization. The resource organization first conducted technical trainings and then offered temporary follow-up support to monitor filter installation and build entrepreneurship for sustaining the community-based filter teams. After this collaboration process was completed, the resource organization offered the user organizations copies of the well-documented construction process for reference as well as some of the basic equipment to get started with construction.

Box 2 Health Literacy Seminar in Central America

The Ministries of Education and Health would like to adopt a disability seminar presented in one region of the country for use throughout the entire country. The innovation is somewhat complex (Step 1.1 = score 2) given cultural attitudes towards people with disabilities, and the amount of collaboration and training needed for successful implementation. The resource organizations do have a high level of capacity, including managerial and technical resources (Step 1.2 = score 2). The user organizations (e.g., schools and community health centers) have not reported having received this information previously through a structured seminar, though they do feel it is important (Step 1.3 = score 1), and the social and political climates generally are not supportive of inclusive policies for persons with disability (Step 1.4 = score 2). The total score of 7 indicates the need for an expansive framework. Furthermore, given the high level of administrative support for this project (Step 2 = High Administrative Support), and the descriptive summaries provided for each scale up strategy, one might consider beginning with the "Framework for Spread" in this context.

CONCLUSION AND NEXT STEPS

The rise in global health funding along with the increased involvement of universities in developing innovative approaches to health challenges are

positive advances toward improving population health (26). However, many countries are still not on pace to achieve the MDGs by 2015. We propose that one reason for this gap in scaling up promising practices in global health is partly due to decision-makers not knowing about effective scale-up strategies that work for their context.

The aim of this paper is to move toward a prototype involving a two-step approach for determining the most appropriate scale-up model or framework for a particular innovation, within a specific organizational and environmental context. The variety of models that exist is an indication of the progress that has been made in this area of implementation and improvement science within the realm of global health. A rapid tool for quickly identifying available models and frameworks according to their features will hopefully just be the beginning in making these models more accessible to managers in the field who are responsible for the actual implementation and adaptation of promising innovations. The faster we can scale-up these promising practices and make them available to the most vulnerable populations, the healthier we will be as a global community.

Next steps involve field testing this prototype of a rapid assessment tool, and studying whether recommended strategies have a greater likelihood of achieving scale more rapidly than other strategies. Such a prototype may also impact traditional ways of thinking about replicating services and push organizations to thinking about larger, systematic changes.

ACKNOWLEDGEMENT

The research team would like to acknowledge funding from the University Research Co., LLC and the University of Wisconsin Global Health Institute that made it possible to conduct this research. We would also like to acknowledge Dr. David Nicholas for his support and encouragement through the initial stages of this project.

REFERENCES

1. Subramanian S, Naimoli J, Matsubayashi T, Peters DH. Do we have the right models for scaling up health services to achieve the Millennium Development Goals? BMC Health Services Research. 2011; 11(336):10.
2. Hartmann A, Linn JF. Scaling Up: A Framework and Lessons for Development Effectiveness from Literature and Practice. Wolfensohn Center for Development at Brookings; 2008.
3. Simmons R, Fajans P, Ghiron L. Scaling up health service deliverty: from pilot innovations to policies and programmes: WHO; 2007.
4. Mangham LJ, Hanson K. Scaling up in international health: what are the key issues? Health Policy Plan. 2010; 25(2):85-96. doi: 10.1093/heapol/czp066. PubMed PMID: 20071454.
5. Cash RA, Mushtaque, A., Chowdbury, R., Smith. G.B., Ahmed, F. . From One to Many: Scaling up health programs in low-income countries. Dhaka, Bangladesh: The University Press Limited; 2011.
6. Cooley L, Kohl R. Scaling Up - From Vision to Large-scale Change: A Management Framework for Practioners. Management Systems International; 2006.
7. Rogers E. Diffusion of Innovations. New York, NY: The Free Press; 1995.
8. Stetler C, Ritchie JA, Rycroft-Malone J, Charms MP. Leadership for Evidence-Based Practice: Strategic and Functional Behaviors for Institutionalizing EBP. Worldviews on Evidence-Based Nursing. 2014; 00(0):1-8.
9. Bradach J. Going to Scale: The Challenge of Replicating Social Programs. Standford Social Innovation Review; 2003.
10. Dees G, Battle Anderson B, Wei-Skillern J. Scaling Social Impact: strategies for spreading social innovations. Standford Social Innovation Review. 2004; 1:24-32.
11. Massoud MR, Nielson GA, Nolan K, Nolan T, Schall MW, Sevin C. A Framework for Spread: From Local Improvements to System-Wide Change. IHI Innovation Series white paper. Cambridge, MA: Institutes for Healthcare Improvement; 2006.
12. Binswanger H, Aryar S. Scaling Up Commnity-Driven Development: Theoretical Underpinnings and Program Design Implication. The World Bank; 2003.

13. World Health Organization. Practical guidance for scaling up health service innovations. World Health Organization - ExpandNet; 2009.
14. Uvin P. Fighting hunger at the grassroots: Paths to scaling up. World Development. 1995; 23:927-39.
15. Uvin P, Jain PS. Think Large and Act Small: Toward a New Paradigm for NGO Scaling Up. World Development. 2000;28(8):1409-19.
16. Cooley L, Rajani V, Fehlenberg K. Scaling Up - From Vision to Large-Scale Change: Tools and Techniques for Practitioners. Management Systems International, 2012.
17. Binswanger H, Nguyen, T. A step by step guide to scale up Community Driven Development. African Water Laws: Plural Legislative Frameworks for Rural Water Managerment in Africa; 26-28 January 2005; Johannesburg, South Africa 2005.
18. Downs TJ, Larson HJ. Achieving Millenium Development Goals for Health: Building Understanding, Trust and Capacity to Respond. Health Policy. 2007; 83:144-61.
19. Bailie RS, Si D, O'Donoghue L, Dowden M. Indigenous health: effective and sustainable health services through continuous quality improvement. Medical Journal of Australia. 2007; 186:525-7.
20. Bailie R, Si D, Connors C, Weeramanthri T, Clark L, Dowden M, et al. Study protocol: Audit and Best Practice for Chronic Disease Extension (ABCDE) Project. BMC Health Serv Res. 2008; 8:184. doi: 10.1186/1472-6963-8-184. PubMed PMID: 18799011; PubMed Central PMCID: PMC2556328.
21. Bailie R, Matthews V, Brands J, Schierhout G. A systems-based participatory learning model for strengthening primary healthcare. Implementation Science. 2013; 8(143):12.
22. Institute for Healthcare Improvement. The Breakthrough Series: IHI's Collaborative Model for Achieving Breakthrough Improvement. Cambridge, MA: Institute for Healthcare Improvement, 2003.
23. Stroebel CK, McDaniel RR, Crabtree BF, Miller WL, Nutting PA, Stange KC. How complexity science can inform a reflective process for improvement in primary care practices. Joint Commission Journal on Quality and Patient Safety. 2005; 31:438-46.
24. Eke A, Spink Neumann M, Wilkes AL, Jones PL. Preparing Effective Behavioral Interventions to Be Used by Prevention Providers: The Role of Researchers During HIV Prevention Research Trials. AIDS Education and Prevention. 2006; 18:44-58.
25. Taylor-Ide D, Taylor C. Just and Lasting Change: When Communities Own Their Futures. Baltimore, MD: The Johns Hopkins University Press; 2002.
26. Merson M. University Engagement in Global Health. New England Journal of Medicine. 2014; 370(18):1676-8.