Implementation Science and Global Health Meeting Report

March 17, 2010

Implementation Science Working Group ▸ Fogarty International Center ▸ NIH

Sponsored by

Fogarty International Center and
Office of Behavioral and Social Sciences Research

National Institutes of Health
U.S. Department of Health and Human Services

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Fogarty International Center

Introduction

In recent years, the global health community has been energized by unprecedented international commitment to solving the world's most persistent global health challenges. Large scale health initiatives, such as the President's Emergency Plan for AIDS Relief (PEPFAR), the Global Fund to Fight AIDS, Tuberculosis, and Malaria, and the Millennium Development Goals, aim to hit bold and ambitious targets for global health – reducing, by significant proportion, major causes of worldwide death and disability. Achievement of these targets, however, has varied greatly according to program, country, and context.

There is a growing recognition among international donors, target countries, and the public health community of the need to identify core determinants of success and failure in the implementation of these programs.

Implementation science research builds a body of evidence that can inform the design of appropriate health interventions and programs by identifying determinants of success and failure according to context. By integrating research with implementation, the resulting knowledge can spur dynamic and continuous improvement of public health programs and strategies for achievement of global health.

In its *Strategic Plan (2008-2012),* the Fogarty International Center designated implementation science as one of its five priority areas and formulated a goal to support and advance implementation science research and research training in global health. On March 17, 2010, Fogarty hosted its first meeting on *Implementation Science and Global Health* for Fogarty grantees and

trainees working in the field of international implementation science, research training, and curriculum development. The primary objectives of the satellite meeting were to:

- Understand the current scope and scale of implementation science and research training in Fogarty-funded programs;
- Encourage collaboration and the exchange of information among Fogarty programs on experiences, lessons learned, and best practices in implementation research and research training;
- Identify future areas of research and strategies for implementation science training and capacity-building; and
- Explore strategies to build and strengthen linkages between researchers, policymakers, and implementers of large-scale U.S. government global health initiatives.

Implementation science: The engine of accelerated progress in global health?

The meeting's keynote speaker, Ms. Lynn Freedman, professor of clinical population and family health at Columbia University, called for a paradigm shift in international thinking and action in response to global health challenges. The prevailing global health strategy, which typically focuses on single diseases, health issues, and interventions, has resulted in important achievements; however, they are often too limited in scope and unsustainable in the long run. Most major global health challenges are multifactorial and complex; as such, they defy simple or generic solutions. Consequently, the global health community is often frustrated with implementation failures of promising interventions and face difficulties in replicating or sustaining implementation successes. Ms. Freedman argued that we need to directly address the complexity of real-world implementation of evidence-based health interventions by holistically tackling the multitude and intertwined obstacles that undermine the successful translation to better health outcomes. She posed the question "Can implementation science be the engine of accelerated progress in global health?"

A Broader Health Systems Approach and the Role of Implementation Science

Currently, most global health strategies do not address the root causes of health burdens. Instead, they tackle the "disarray" in health systems

by reorganizing and reordering its existing elements. We fail to also face our own "disorientation," that is, the lack of a compelling vision of where we want to go or how to get there in global health. Ms. Freedman argued that we need to adopt a *systems thinking* approach which allows for a broad, holistic, long-term and dynamic approach to solving complex problems. Systems-thinking recognizes that there are free agents whose actions influence each other, that causality is non-linear, and progress can only occur through functioning feedback loops.

Implementation research, guided by a systems-thinking *a*pproach, can help address big picture questions that continue to hinder worldwide efforts to achieve global health. Such research can serve to successfully narrow or close the *know-do* gap – the gap between what is known and what is done in practice. With persistent failures in implementation, significant and sustainable improvements in global health cannot be fully achieved.

Implementation Science Research

This theme explored the different types of implementation science research and their importance for the improvement of global health programs and policies.

Implementation research methods can improve program delivery and demand for services

Implementation research examines factors that influence the uptake, adaptation, and adoption of evidence-based health interventions for population health. At a minimum, an intervention must have a sound theoretical basis and a clear indication that it is effective. However, that alone, is insufficient to ensure improvement in health outcomes. Implementation science research methods can be incorporated at each phase of implementation to maximize the likelihood of success of a public health intervention. This includes a needs assessment, rigorous experimental design that allows for ongoing assessment of the program, and well-informed process and outcomes measures that examine the potential impact of an intervention before scale-up.

Implementation research identifies important determinants of success

Many behavioral, social, and cultural variables significantly affect the

implementation and uptake of health interventions. However, these variables have traditionally been ignored by biomedical researchers and healthcare practitioners.

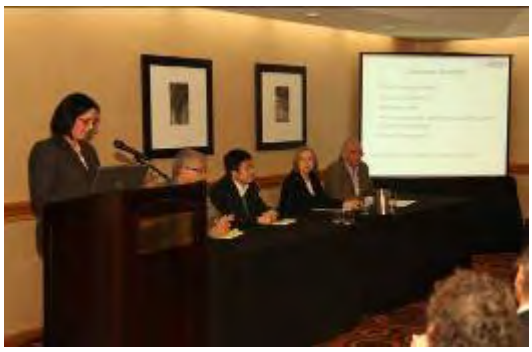
Implementation research recognizes the importance, and sometimes dominance, of these factors in determining the success of health interventions.

Taking an evidence-based practice and adapting it to the culture in which it is being implemented is critical. In China, researchers assessed cross-cultural differences in diagnosing personality disorders and adapted the DSM-IV diagnostic system, developed by the American Psychiatric Association, for the local context. The success of the locally-adapted diagnostic system pushed psychiatrists to modify their treatment plans and allow for specially-targeted psychotherapy.

Long-held beliefs or common misconceptions by providers or patients can also hinder implementation and use of an evidence-based intervention. In Russia, prevailing beliefs by providers about patient attitudes and behavior turned out to be untrue and were identified as factors that hindered educational efforts to prevent fetal alcohol syndrome.

Meeting participants agreed that occasionally, adapting another practice that is not as effective, but is more appropriate for a particular community, becomes advisable. Moreover, incentive-driven programs can be adopted to jump-start implementation until a culture of acceptance or habit is created in the target population. By utilizing local knowledge and conducting community-led needs assessments, the researcher or practitioner gains insight into culturally-relevant incentives for intervention provision and use. For example, a monetary incentive has been used to encourage Indian mothers to deliver in hospitals rather than at home. Laws and regulations, as an extreme type of incentive, have also been used to mandate behavior change for health. For example, childhood immunization is a necessary prerequisite for school attendance in many countries.

Panel Session on Implementation Science Research



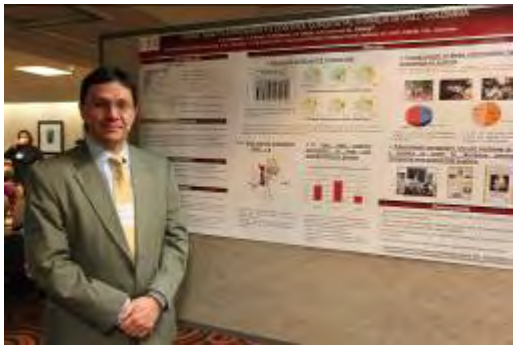
Importance of Impact Evaluation for Implementation

Measuring the impact of evidence-based interventions in real-world settings can identify areas for program improvement as well as decisions about larger scale implementation of interventions. Often it is during the evaluation phase that many researchers and practitioners realize that programs that succeed in one setting may fail in another. This disparity in outcomes should assist in identifying and addressing the variables that determine success and failures of implementation.

Scale-up of services

The wide-scale implementation or "scale-up" of effective interventions is an important area of implementation science research. The scale-up of health interventions requires a broad platform for service delivery. In most cases, this is the existing healthcare system. However, in many LMIC settings, the health care system may suffer from fundamental weaknesses that may delay or prevent optimal or even adequate large-scale implementation. Implementation research can examine factors such as the lack of a functioning health care system or lack of political will, which can pose significant barriers to scale-up. Such inquiry can identify, for example, which interventions require a fully functioning health system to be successfully implemented and which ones can successfully "by-pass" a weak health system to be scaled-up (e.g. mass vaccination campaigns). Moreover, scale-up of certain health interventions requires interaction and cooperation with other sectors (e.g. Ministry of Transport, Ministry of Finance, private sector), which implementation research can also serve to identify and develop strategies for collaboration.

Poster Session with FIC grantee, Dr. Juan Salazar



Implementation Science Research Training and Curriculum Development

There is a critical need for building implementation research capacity in low- and middle-income countries to train the next generation of researchers who can effectively bridge

the "know-do" gap. A recent University of Washington survey of global health leaders and practitioners found that traditional academic public health curricula should expand to include: 1) a knowledge base that emphasizes social determinants of health, understanding health systems, and epidemiology of disease; 2) applied leadership skills, including coalition building, vision and policy analysis, and cultural competency; and 3) management skills, including human resources, analysis and synthesis, and finance. Respondents also emphasized a need for applied, experiential, and "real world" learning approaches to curriculum.

The findings from this survey are highly relevant to implementation science research, which seeks to address the many health and non-health determinants that impede successful implementation of public health programs. As such, training in implementation science must cover a broad array of disciplines and skills.

In recent years, several universities have taken the lead on developing curriculum that is evidence based, inter-disciplinary and systems-oriented.

The University of Texas has developed a curriculum that provides a broad perspective on implementation research. The course targets MPH and medical students and covers a wide range of topics including models of implementation and translational research, scale-up, and evaluation methods. As part of the course, students are offered an elective field experience in implementation research during which they are paired with their African counterparts or investigators in Latin America.

The Harvard Medical School focuses on teaching implementation research models that include empirical needs assessments, development and scale-up of pilot interventions, translation of research into health policy, and evaluation of the effectiveness of implemented policies. In recent years, former Fogarty trainees from Harvard Medical School have emerged as mental health leaders and have worked with policymakers to implement programs, deliver care, and inform legislation across China.

In 2010, the Ugandan Joint Clinical Research Center conducted a Dissemination and Implementation workshop for researchers from local health/research institutions. Through case studies, field trips, lectures, and working groups, the workshop highlighted the experiences and

challenges of implementation efforts and the role of research.

Breakout session on Partnerships for Implementation Science

Building Linkages and Partnerships for Implementation

This theme explored how researchers can actively engage with communities, policymakers, civil society through partnerships and facilitate implementation of research findings. Through partnerships, there is a growing sense of shared responsibility on the part of all stakeholders when evidence-based interventions fail to produce the expected improvements in health outcomes.

Importance of Partnerships

Partnerships are key to many implementation science efforts. To translate research findings into practice, researchers may need to partner and otherwise collaborate with communities, NGOs, policymakers and other stakeholders. Moreover, these groups can also help inform the research agenda to identify critical knowledge gaps that act as barriers to implementation. Thus, interaction between researchers and other groups should not be seen as a unidirectional knowledge-to-practice flow, but as a continuous cycle of communication that leads to improvements in implementation and health outcomes. Strong relationships between these various groups (e.g. providers, patients, policymakers) will further increase all stakeholders' receptivity to change and new ideas.

Elements of successful partnerships

The following were identified as key elements for successful partnerships:

- Identification of unique attributes and strengths that can be complementary or mutually reinforcing.
- Establishment of common goals and a willingness to work closely together to achieve them.
- Partnerships with the "right" people i.e. those who are knowledgeable, capable, motivated, open, and passionate.
- Building trust. In the initial stages of a partnership, it may be best to

collaborate on small projects and move on to larger ones as each partner develops experience and trust in working with one another.

- Working with mid-level decision-makers, who generally stay in their positions longer than political appointees, have more technical knowledge, and yet maintain some influence.
- Flexibility to understand and adapt to each other's needs or requirements. For example, research institutions require IRB approval whereas NGOs often don't. In such instances, it is important to identify when IRB approvals are necessary or not.
- Building on scientists' personal connections to particular countries.
- Training/fluency of researchers in relevant skills such as communication and advocacy.
- Use of the media as a way to reach decision-makers.

Types of Partnerships

Typically, research institutions and universities seek partnerships with other similar institutions and contacts within academia. However, research-NGO alliances have great potential for implementation partnerships that link scientific evidence with practice. NGOs that have direct and familiar contact with a community can be an important bridge to the target population by creating awareness and demand for a health intervention. Simultaneously, they can help mitigate potential obstacles to implementation and identify further research priorities within a given community based on health needs. Potential partner NGOs should see the value of scientific research to implement evidence-based interventions and identify improvements for healthcare delivery.

Alternatively, researchers may also directly communicate and reach out to the community through ethnographic and qualitative research surveys. These studies can identify beliefs, experiences, and practices that may increase or decrease a group's receptivity to a health intervention and inform program decision-making. Community-based participation by direct engagement with the target population at the outset of implementation can be particularly important when the perceived value of an intervention is dissimilar across cultures and may vary over time in face of other priorities or impediments.

Close partnerships between researchers and policymakers can lead to evidence-based changes in policy as well as legislation. Researchers must recognize that policymakers must address the priorities of not only researchers, but also of communities, healthcare workers, NGOs, and other groups. As such, researchers must learn to better synchronize their message with other groups in order to provide a unified voice to policymakers.

The creation of *Centers of Excellence in Implementation Science* could represent a more comprehensive and institutionalized form of partnership that tackles implementation issues at a broader scale than partnerships between two organizations. Given the current momentum at the NIH and the global health community for implementation science and global health, there may be sufficient political will for these Centers.

Conclusions

In low- and middle-income countries, effective implementation of evidence-based health interventions remains one of the greatest challenges to improving health of the general population. Implementation Science research can play a significant role in the process of translating evidence-based interventions into population health improvements in the low- and middle-income countries.

The presentations and discussions at this first Fogarty Implementation Science and Global Health meeting highlighted the importance of implementation research to a wide array of disease topics, research methodologies, and country settings. Moreover, this meeting emphasized the important role of the NIH in advancing the field of implementation research, and of the Fogarty International Center, in particular, for the ultimate application of such research to low- and middle-income countries.