Operations Research

1. WHO (2003) defines OR as “the use of systematic research techniques for program decision-making to achieve a specific outcome. OR provides policy-makers and managers with evidence that they can use to improve program operations. It is distinguished from other kinds of research by the following characteristics:

- It addresses specific problems within specific programs, not general health issues;
- It addresses those problems that are under control of managers, such as program systems, training, pricing and provision of information;
- It utilizes systematic data collection procedures, both qualitative and quantitative, to accumulate evidence supporting decision-making;
- It requires collaboration between managers and researchers in identification of the research problem, development of the study design, implementation of the study and analysis and interpretation of results; and
- It succeeds only if the study results are used to make program decisions; publication alone is not a valid indicator of successful OR.”

2. The Population Council (2000) explains that, “Operations research helps policy-makers and program managers to review, redirect and restructure programs, not general health issues; OR studies through a quasi-experimental research design, both qualitative and quantitative, to accumulate evidence supporting decision-making; and OR can be defined as a continuous process with five basic steps: 1) problem identification and diagnosis, 2) strategy selection, 3) strategy experimentation and evaluation, 4) information dissemination, and 5) information utilization. The process of OR is designed to increase the efficiency, effectiveness, and quality of services delivered by providers; and the availability, accessibility and acceptability of services desired by users.”

3. Andrew Fisher et al. (1991) offer the following scope for OR: “OR is a process, a way of identifying and solving program problems. As currently applied in health, family planning and other development programs, OR can be defined as a continuous process with five basic steps: 1) problem identification and diagnosis, 2) strategy selection, 3) strategy experimentation and evaluation, 4) information dissemination, and 5) information utilization. The process of OR is designed to increase the efficiency, effectiveness, and quality of services delivered by providers; and the availability, accessibility and acceptability of services desired by users.”

4. The International Food Policy Research Institute (2005) considered that, “OR aims at studying the processes by which programs are implemented and interventions are delivered to intended beneficiaries. The main purpose is to identify, as early as possible in the life of a program, any shortcomings in the process that may affect the effective delivery of the intervention, and as a result, its potential impact on the expected outcomes. Thus, the overall goal of OR is to generate the necessary information to program planners and implementers that will allow them to design and test potential solutions to improve program delivery and will lead to the timely implementation of corrective actions. OR methods have been used to evaluate the quality of implementation of a number of social programs. A major focus of OR as described is to assess the implementation and operational aspects of programs, with the overall goal of identifying areas that could be improved and to propose solutions for strengthening the program and maximizing its effectiveness.”

5. Special Program of Research, Development and Research Training in Human Reproduction (HPD) (2006) addressed the following question about OR: “In relation to the research question, what level of interaction exists between the research group and the service delivery programs? Close interaction between researchers and service delivery programs is particularly important in the case of OR.”

Implementation Research

1. The overall objective of implementation research is to significantly improve access to efficacious interventions against tropical diseases by developing practical solutions to common, critical problems in the implementation of these interventions (TDR, 2005). In order to achieve this objective, implementation research will:

   a. identify common implementation problems and their main determinants which prevent effective access to interventions and determine which of these problems are susceptible to research
   b. develop practical solutions to these problems and test whether new implementation strategies based on these solutions can significantly improve access under conditions of routine disease control
   c. determine - in collaboration with partners - the best way to introduce these new implementation strategies into the health system and facilitate their full scale implementation, evaluation and modification, as required

Implementation research will focus on diseases for which a disease control tool (or package of tools) is available and proven to be efficacious and that has the potential to greatly reduce the burden of disease if the major implementation problems could be resolved and access be improved. Access is defined as the facility with which disease-affected populations can obtain relevant components of specific public health interventions. Access reflects both the supply of and the demand for the intervention.

2. Sanders and Haines (2006) see IR as part of health systems research. “Implementation research is that subset of health services research (HSR) that focuses on how to promote the uptake and successful implementation of evidence-based interventions and policies that have, over the past decade, been identified through systematic reviews. Implementation research is used as a general term for research that focuses on the question ‘What is happening?’ in the design, implementation, administration, operation, services, and outcomes of social programs; it also asks, ‘Is it what is expected or desired?’ and ‘Why is it happening as it is?’” In the health field, implementation research often encompasses “impact research”, which includes both research aimed at understanding what is happening during the processes of implementing changes in policy or practice and intervention studies that are designed to compare different approaches to implementing change. Implementation research is often multidisciplinary, encompassing both quantitative and qualitative approaches that require expertise in epidemiology, statistics, anthropology, sociology, health economics, political science, policy analysis, ethics and other disciplines.

3. Alan Werner (2004) talks about IR as “one type of evaluation research” and notes that “IR can assist those designing and operating social programs.” He further explains that, “Implementation research is used as a general term for research that focuses on the question ‘What is happening?’ in the design, implementation, administration, operation, services, and outcomes of social programs. Implementation studies can have multiple purposes, such as supporting the impact study by describing the precise nature of the program being tested and explaining the pattern of impact findings over time or across program sites.”

Other Relevant Forms of Research

1. Scrimshaw and Gleason (1992) edited a web resource book on Rapid Assessment Procedures. In that collection of materials they explain that, “In the 1980s Rapid Assessment Procedures (RAP), Rapid Rural Appraisal (RRA) and related approaches were used to collect information that contributed to the planning and evaluation of public health and social program areas. The origins of these approaches lie in the practical needs of program planners and decision-makers; they also focused on the needs and interests of clients that development programs should serve. These approaches investigated household and individual health-related behaviors within their complex, rational matrix of personal and social realities. They search for opinions and attitudes, behavior, and motivations of both the clients of development programs and also those who deliver services. Understanding both groups is essential both to planning and to evaluating health, nutrition and other social development programs. Trained investigators used RAP approaches to explore behavior, attitudes, practices and causal factors through careful observation, probing interviews and FGDs. Other methods included a variety of highly-participative activities whereby people score, diagram, map, sort cards, and use other simple but powerful
ANNEX A - Definitions of Operations and Implementation Research

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tools to describe and often explain their current and past situations and environment. While not aiming at statistical generalizations to populations, these approaches provide a framework for data verification and analysis through an iterative process allowing correction and learning as the research progresses. With RRA/RAP control of some tools is given over to the client, reversing roles and generating a process of self-analysis by decision-makers and giving them new insights on client capabilities to plan, lead and manage development efforts.

2. The AIDS Partnership of California (2003) has found Formative Research to be a useful approach in planning and evaluating programs. “When planning a new intervention, agencies often do not have an idea what to do, but need to understand the best way to do it. And when a new intervention is designed for a relatively new population, they need to know if what they’ve been doing in other communities will work for them. That’s where Formative research fits in. Formative research looks at the community in which an agency is situated and helps agencies understand the interests, attributes and needs of the populations and persons in their community. Formative research is research that occurs before a program is designed and implemented, or while a program is being conducted. Formative research can help:

• Understand populations in need of services
• Create programs that are specific to the needs of these populations
• Ensure that programs are acceptable to clients and feasible before launching
• Improve the relationships between clients and agencies

Contact Information


Contract No. CCC-0300-C-00-0308-00


ANNEX B - Examples of Organizations that Fund/Support Operations Research

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<tr>
<th>ORGANIZATION</th>
<th>WEB INFORMATION</th>
<th>LINKS</th>
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<tr>
<td>Bill &amp; Melinda Gates Foundation</td>
<td>The foundation is now accepting grant proposals for the first round of Grand Challenges Explorations, a US $100 million initiative to encourage bold and unconventional global health solutions. Proposals will be accepted online through the Grand Challenges Explorations Web site through 30 May 2008.</td>
<td><a href="http://www.gatesfoundation.org/default.htm">www.gatesfoundation.org/default.htm</a></td>
</tr>
<tr>
<td>Council for the Development of Social Science Research in Africa</td>
<td>CODESRIA, the Council for the Development of Social Science Research in Africa is headquartered in Dakar, Senegal. It was established in 1973 as an independent pan-African research organization with a primary focus on the social sciences, broadly defined. It is recognized not only as the pioneer African social research organization but also as the apex nongovernmental center of social knowledge production on the continent.</td>
<td><a href="http://www.codesria.org/">www.codesria.org/</a></td>
</tr>
<tr>
<td>Global Fund to Fight AIDS, TB and Malaria</td>
<td>The Global Fund was created to finance a dramatic turnaround in the fight against AIDS, tuberculosis and malaria. These diseases kill over six million people each year, and the numbers are growing. Operations research proposals must be submitted as part of national disease control proposals.</td>
<td><a href="http://www.theglobalfund.org/en/">www.theglobalfund.org/en/</a></td>
</tr>
<tr>
<td>International Development Research Center</td>
<td>IDRC is a Canadian Crown corporation that works in close collaboration with researchers from the developing world in their search for the means to build healthier, more equitable, and more prosperous societies.</td>
<td><a href="http://www.idrc.org/en/ev/1-201-1-DO_TOPIC.html">www.idrc.org/en/ev/1-201-1-DO_TOPIC.html</a></td>
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<tr>
<td>John D. and Catherine T. MacArthur Foundation</td>
<td>Grant-making in population and reproductive health (2008) reflects a comprehensive approach to reproductive and sexual health and rights, one that places women’s well-being at the center of population policy and emphasizes the rights of individuals to determine and plan family size. Through its offices in India, Mexico, and Nigeria, the foundation makes grants that support efforts to reduce maternal mortality and morbidity and to advance the sexual and reproductive health and rights of young people in these three countries.</td>
<td><a href="http://www.macfound.org/site/c.ikLx/JmQkhR/b.3599935/Population_and_Reproductive_Health.htm">www.macfound.org/site/c.ikLx/JmQkhR/b.3599935/Population_and_Reproductive_Health.htm</a></td>
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<tr>
<td>PEPFAR (The US President’s Emergency Plan for AIDS relief)</td>
<td>Critical to ensuring that the President’s Initiative has the desired impact is the collection of strategic information though the monitoring of core indicators, the surveillance of disease trends, and the implementation of special studies and OR. An example is Operations research in Rwanda to identify strategies for increasing nevirapine acceptance in prenatal clinics. Such plans need to be developed with PEPFAR implementing partners in countries.</td>
<td><a href="http://www.pepfar.gov/">www.pepfar.gov/</a></td>
</tr>
<tr>
<td>PEPFAR (The US President’s Emergency Plan for AIDS relief)</td>
<td>Activities supported by PEFPAR</td>
<td><a href="http://www.pepfar.gov/guidance/78060.htm">www.pepfar.gov/guidance/78060.htm</a></td>
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