EVALUATION STRATEGIES FOR PATH'S CERVICAL CANCER PREVENTION PUBLICATIONS: CREATING A FRAMEWORK FOR ASSESSING INFORMATION REACH AND IMPACT

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I. Executive summary

PATH's (Program for Appropriate Technology in Health) cervical cancer prevention publication team plans to evaluate their publications' reach and impact. Before doing so they wished to research evaluation strategies and options, particularly to identify best practices, lessons learned, indicators used, and methods to measure them. This report is supporting PATH's cervical cancer prevention (CCP) publication evaluation by (1) developing indicators for measuring reach and impact among the target audience and (2) outlining strategic evaluation options.

First, a brief literature review explores information dissemination, knowledge utilization and evaluation. A theoretical framework for the evaluation of publications is developed combining a knowledge utilization process framework and PATH's emphasis on influencing readers' knowledge, attitude, and practice. The indicators developed are categorized by elements of this framework.

Second, this project involved key-informant interviews with two groups. Individuals at public health NGOs similarly involved in information dissemination activities provided insight on publication evaluation methods, lessons learned, and commonly used indicators. Packard-Gates Population Leadership Fellows at the University of Washington -- population and health professionals from developing countries who represent segments of PATH's target audience -- provided input on the appropriateness of the indicators and the factors influencing the usefulness of the publications and new information.

This study finds that a combination of evaluation methods is needed to produce meaningful results. The following three activities are recommended: (1) questionnaires should be sent to a carefully selected sample of the target audience (not a mass-mailing to all readers); (2) key-informant interviews should be held with representatives of the different segments of the global target audience; and, as resources allow, (3) country case studies should be conducted involving focus groups, site visits, and direct user observation.

The final set of indicators includes commonly used indicators gathered from the interviews with individuals at public health organizations and additional indicators identified by the Population Fellows. The latter deal with characteristics of recipient organizations, impediments to information use, and secondary reach and impact on knowledge, attitude and practice, among others. A list of questions for measuring each indicator is provided in the Appendix for use during these various evaluation activities.

II. Introduction

Many in the field of international public health are grappling with how to measure the impact of publication activities on public health outcomes. For instance, the Population and Health Materials Working Group (PHMWG), a group of NGOs working with USAID's Global Health Center, confronted this question while focusing on efficiency and evaluation of their publication activities during their last meeting in November of 2001. The international health community's distribution of publications, typically aimed at increasing awareness of an issue and improving policy and programmatic approaches, is one of many forms of development efforts. Thus, donors, policy makers and program managers wish to know the extent to which such information dissemination activities are effective and how they might be improved in the future. Likewise, PATH (Program for Appropriate Technology in Health), a member of PHMWG, wishes to measure the reach and impact of its cervical cancer prevention publications.

The challenge is great. Information is just one of many determinants of public health outcomes. Government, education, national infrastructure, culture, and other actors factor into public health. It is therefore difficult to link any one determinant directly to public health outcomes. Further, measuring the impact of information in general is very difficult given the complex web of factors influencing the flow of information, knowledge acquisition, and people's decision-making processes. Though more specific, evaluating the reach and impact of PATH's cervical cancer prevention (CCP) publications, which strive to increase understanding and awareness of cervical cancer prevention options in developing countries, is only slightly less complex. However, insight on information dissemination and utilization processes and recent efforts among the international health community to measure the effectiveness of their publication activities lend themselves to this effort to create a strategy for evaluating the reach and impact of PATH's CCP publications.

There are many reasons why demonstrating the impact of information dissemination projects on public health outcomes is important. Evaluation results are most often used to provide donors with evidence of their money's usefulness and to improve future projects. However, circumstances in today's international health environment add to the call for impact evaluation. First, as this paper illustrates, there is a heightened awareness of the need to tailor efforts to reach the multiple segments of the global target audience. Related to this, there is a greater understanding of the barriers to reaching developing country audiences, namely language and the digital divide. More funding is needed for publication and information dissemination activities that address these unmet needs. Demonstrating the effectiveness of current efforts as well as identifying areas with room for improvement is one essential step toward securing funds for future projects. Second, the Bush administration's decision this year to withhold its \$34 million contribution to the United Nations Population Fund (UNFPA) has caused the agency's director, Thoraya Obaid, to call on NGOs to help promote understanding and accurate information about the Fund's programs.¹ This situation adds potential value to the findings of publication evaluations.

The field of international reproductive health has made great strides in the development of indicators for monitoring and evaluating reproductive health programs, particularly after the achievements of the International Conference on Population and Development (ICPD) in 1994 that redefined relevant language and objectives. Concerning reproductive health *information dissemination* efforts more specifically, less is known about effective ways to demonstrate the usefulness of publications. That is, while it is possible, though difficult, to quantitatively measure improvements in reproductive health indicators, such as infant mortality rates or access to services, the question here is how to link certain outcomes to publications. Indeed, a starting point in this discussion is to clarify the objectives of the publications at-hand and thus the factors to be evaluated.

Most publications seek to inform readers and stimulate their decisions and actions in ways that improve conditions such as infant mortality rates and access to services. That is, the knowledge, attitudes and practices (KAP) *of readers* are the focus of information dissemination activities rather than the economic and demographic -- and in this case public health -- indicators that are typically the focus of development efforts. The latter indicators may constitute secondary objectives, that is, desired outcomes of behavior change as a result of readers' putting information to use. However, they are not publications' primary objectives or the focus of this discussion. Thus, the need is to evaluate a publication's ability to reach the target audience and to stimulate the audience's knowledge utilization process. In other words, indicators and measurements are needed to answer the following overarching questions: Does the intended reader *receive* the information? Does the reader *absorb* the information? And does the reader *apply* the information to actions that influence intended health outcomes?

Applying the points above to PATH's CCP publications, the publications do not directly aim to decrease cervical cancer prevalence. Rather, the goals are to:

- □ Raise awareness and bring about related changes to improve cervical cancer prevention in the medium term, and
- □ Change policies and strengthen programs to support cervical cancer prevention in the long-term.²

Appendix A provides PATH's CCP publication goals and objectives, which will be expanded on throughout this discussion. As a member of the Alliance for Cervical Cancer Prevention (ACCP), PATH is distributing materials about program options for cervical cancer prevention in low-resource settings. As ACCP approaches the mid-point of the 5-year program, an evaluation is needed to assess the reach and impact of the publication series. This report outlines a new framework for evaluating PATH's CCP publications.

¹ "UN Population Fund seeks help of religious groups", Agence France Presse, April 4, 2002.

² These long- and medium-term goals are taken from the PATH's CCP Advocacy Evaluation team meeting notes from September 26, 2001, written by Carol Levin. See Appendix A.

III. Impetus for the study and approach to the analysis

To begin this evaluation, PATH's CCP publication team wanted to research evaluation strategies and options, particularly to identify best practices, lessons learned, indicators used and methods to measure them. Thus this project was established to explore what is known generally about such evaluation, and more pointedly to identify how other international health organizations have measured the impact of their publications. This activity is supporting ACCP's objective to distribute high quality cervical cancer prevention publications to key audiences (result 6 in ACCP's results framework) and to support the development of a dissemination evaluation strategy for PATH's CCP publications. Specifically, this work supports the following activities identified in the results framework that will help guide an evaluation to assess the impact of advocacy materials and guidelines on cervical cancer awareness and program development:³

- Develop adequate criteria and indicators for measuring impact among different categories of stakeholders.
- Develop an evaluation strategy to quantitatively and qualitatively measure impact among national and international policy makers and national, sub-national and community level program planners in selected countries.

This analysis involved a brief literature review and key-informant interviews toward the development of strategic options and an evaluation framework for PATH's CCP team. Key-informant interviews were conducted with two groups: health information practitioners at other public health NGOs and professionals in the field of population and reproductive health in developing countries. The former group represents individuals working on projects similar to PATH's and the latter represents members of the target audience for PATH's publications. While the literature review intends to provide a broad overview of information dissemination evaluation approaches and issues, the interviews narrow the scope to the international reproductive health context and indicators for evaluating reach and impact. Findings from the NGO key-informant interviews resulted in a set of indicators and measurements, which the Population fellows then reviewed during their interviews. The final set of indicators and measurements appear in Table 1 on pages 28-30 and their measurement in the form of survey questions appear in Appendix E. More detail on this process is provided later.

The professionals from developing countries are 2001-2002 Packard-Gates Population Leadership Fellows at the University of Washington, a group of professionals and leaders in the field of population and reproductive health in developing countries. Below is a list of the NGOs consulted:

- □ John Hopkins Center for Communication Programs (JHU/CCP)
- Policy Project (of the Futures Group International)
- □ Population Reference Bureau (PRB)
- □ BASICS II
- □ National Center for the Dissemination of Disabilities Research (NCDDR)

³ Taken from result 6 of the ACCP results framework, item 6.

- ORC Macro (formerly MACRO International)
- □ Family Health International (FHI)

More detail about the interview format and the individuals interviewed is provided later in this paper with the interview findings, however Appendices B and D provide the names of individuals interviewed and the questions asked and Appendix C provides brief descriptions of the NGOs investigated.

The audience for this work is primarily PATH's CCP team. However, others in the international health and information dissemination communities, evaluators of information dissemination projects, as well as other stakeholders and interested readers may find this report useful.

IV. Overview of Cervical Cancer in Developing Countries and PATH's CCP publication approach

As PATH's CCP publications explain, cervical cancer is the leading cause of cancer deaths among women in developing countries and its incidence is second only to breast cancer. Major reasons why cervical cancer rates are higher in developing countries include lack of knowledge and awareness about the disease among women, policymakers and community leaders. Consequently there is a lack of screening programs and inadequate access to services.⁴ In fact, 80 percent of all cervical cancer cases worldwide occur in developing countries. Cervical cancer is overshadowed by other public health problems in developing countries, including HIV/AIDs and hunger; however it has important interactions with many of these conditions and prevention offers a strategic opportunity for improving the welfare of many in developing countries. For instance, research suggests that women with HIV/AIDS are at higher risk of developing precancerous lesions and cervical cancer.⁵ Among other consequences, cervical cancer is especially claiming the lives of women aged 35 to 65, an age group with significant child rearing responsibilities in poor communities.

These conditions, mentioned above, are combined with high rates of human papillomavirus (HPV) infection, a common sexually transmitted infection and the leading cause of cervical cancer. Global estimates of cervical cancer incidence for 2000 were 25 percent higher than estimates for 1990.⁶ It was estimated that there were 1.4 million recognized cases of cervical cancer worldwide in 2000 and what is known about the nature of the disease suggests that two to five times as many women have potential precursor conditions.⁷ It is also thought that estimates on cervical cancer rates are low because so many women do not have access to medical care and are not included in record keeping.

Awareness of cervical cancer among women in some developing countries is very low. A study of women aged 20 to 65 in Nigeria found that only 15 percent of the women had

⁷ ibid.

⁴ PATH, "Planning Appropriate Cervical Cancer Prevention Programs", 2nd Edition, 2000.

⁵ ibid.

⁶ ibid.

heard of cervical cancer.⁸ In another survey in Kenya, only two percent of respondents mentioned pap smears when asked what can be done to prevent cervical cancer; 80 percent said they did not know what could be done.⁹ While incidence is low among women under age 25, incidence increases around age 35 to 40 and peaks among women in their 50s and 60s.¹⁰

The highest rates of cervical cancer incidence are found in Melanesia, Southern Africa, Central America, Eastern Africa, and South America.¹¹ In all of these regions incidence is more than 40 per 100,000, and there is evidence that incidence rates are increasing in parts of Sub-Saharan Africa. The problem is related to and compounded by the HIV/AIDS epidemic in many parts of the developing world: research suggests that cervical cancer progresses more rapidly among women with HIV and, as mentioned above, women with HIV may be at higher risk of developing precancerous lesions.¹²

The problem, and the need for greater information on cervical cancer prevention, is not only exacerbated by lack of awareness and knowledge among at-risk women: policymakers and community leaders in key decision-making positions about funding, programs and services lack an understanding of cervical cancer and prevention options in low resource settings. Consequently, women in developing countries have inadequate access to information and screening services. The lack of dialogue about cervical cancer in developing countries and the international health and donor communities results in insufficient resources and funding for cervical cancer prevention programs.

To combat these circumstances, PATH's CCP publications target a global audience consisting of the following groups, all of which play different and important roles in the policies and programs that affect women's access to cervical cancer prevention services:

- **Global**, national, local and community decision makers
- □ US donor/ legislator/ governmental health agency
- □ Program planner
- □ Health Professional
- **Community Organizer**
- International donor
- □ Researcher
- □ Journalist/media
- □ Teacher in academia (medical, nursing school)

This target audience can also be divided into categories of recipient organizations:¹³

- Governmental (Ministry of Health)
- □ Reproductive health/ family planning NGO/PVO

⁸ ibid

⁹ PATH, "Assessing health needs/ community demand for cervical cancer control: results from a study in Kenya", *Reproductive Health Reports* No. 1. (December 1996).

¹⁰ PATH, "Planning Appropriate Cervical Cancer Prevention Programs", 2nd Edition, 2000.

¹¹ ibid

¹² ibid

¹³ From Cristina's email dated October 2001.

- □ Other NGO/PVO
- □ Research
- □ Hospital
- □ Bi/multilateral donor (USAID, UNFPA, etc.)
- □ Private donor (Packard Foundation, MacArthur Foundation, etc.)
- □ Media (radio, television)
- □ Academic (university, college, etc.)

V. Literature Review

Given PATH's interest in assessing both the reach and impact of its publications, it is important to make the distinction between *dissemination* and *use* of information. Machlup (1993) illustrates this point:

"Does use of information--the process of transmission and reception, for example, of a letter--mean (1) receiving it and thus getting a chance to read it; (2) receiving and actually reading it; (3) receiving, reading, and understanding it; (4) receiving, reading, understanding, and appreciating it; (5) receiving, reading, understanding, appreciating it the basis of a decision; or (6) receiving, reading, understanding, and appreciating it, plus letting it help you in making a decision and taking an action (or refusing to act) in line with the decision reached with the help of the knowledge obtained?"¹⁴

Rich (1991) highlights some of the most common questions asked regarding how research-based knowledge affects decision-making. Three questions most relevant to this discussion are:

In what specific ways is information used in the decision making process?
 From the time information/knowledge enters into an organization (through some channel), what happens to it? What are the diffusion/dissemination patterns?
 To what extent can levels of utilization be documented?

Rich's knowledge utilization process model, Figure 1, provides a map for investigating these points. ¹⁵ Each of the four points in this knowledge utilization process can be used to identify indicators useful for evaluating publications' reach and impact. 'Information transmission' is the production and dissemination of knowledge and information in publications. 'Information pick-up' refers to the process by which users receive publications and information. 'Information processing' is more complicated to define. Rich writes that processing "involves understanding the information, testing it against one's own intuition and assumptions, testing it for validity and reliability, and transforming the information into a form that is useable."¹⁶ How a reader processes information influences whether there is a change in his/her knowledge and attitude

¹⁴ Machlup, F., "Use, value, and benefits of knowledge," *Knowledge: Creation, Diffusion, Utilization*, June 1993, p. 448 - 466.

¹⁵ Rich, Robert F., "Knowledge Creation, Diffusion, and Utilization", *Knowledge*, Vol. 12, No. 3, March 1991, p. 319 - 227.

¹⁶ Rich, Robert F., "Knowledge Creation, Diffusion, and Utilization", *Knowledge*, Vol. 12, No. 3, March 1991, p. 319 - 227.

toward a subject and thus whether knowledge proceeds to information application. That is, information application is the reader's decision whether to use, or apply, new information. This knowledge utilization process will be returned to below.



Figure 1. Knowledge utilization process map (KUP)

Concerns over how to best store, transfer and utilize knowledge are not new. Academics and researchers have long been troubled by whether research findings are processed and utilized by government and the public at large. In 1939 Sociologist Robert S. Lynd dealt with this very topic in his classic Knowledge for What?¹⁷ The Agricultural extension model, a system created by the U.S. government in the early 1900s for knowledge transfer from the federal to county level regarding agricultural practices, is considered the most widely recognized system for the diffusion of technological innovations and has been adopted by other countries and other fields.¹⁸ It was dominant throughout the 20th century but is criticized for focusing on merely getting the word out, assuming that people will use a good idea once they have it. Other research finds that knowledge utilization depends heavily on the potential user's pre-existing knowledge, beliefs and experience, and that knowledge is not an entity simply needing to be transferred.¹⁹

Mass media theories also emphasize the audience's pre-existing knowledge, beliefs and attitudes as well as the content and display of a message, the channel through which it is sent, and the credibility of the source sending a message. One of the most widely adopted mass media theories is the Communications/Persuasion Matrix Model, developed by William McGuire in the 1980s.²⁰ It defines the communication/persuasion process as a matrix of inputs and outputs. The source, message, recipient, channel and context of a message are inputs, and factors of exposure, attention, attitude change and action

¹⁷ Knowledge and Policy; The Uncertain Connection, *The National Research Council's Study Project on* Social Research and Development, Vol. 5, Ed: Laurence E. Lynn, National Academy of Sciences, Washington, D.C. 1978.

¹⁸ Rogers, Everett M., "The Intellectual Foundation and History of the Agricultural Extension Model," Knowledge: Creation, Diffusion, Utilization, Vol. 9, No. 4, June 1989, p. 492-510.

¹⁹ Westbrook, J., "A Review of the Literature on Dissemination and Knowledge Utilization," National Center for the Dissemination of Disabilities Research (NCDDR), July 1996.

²⁰ Bryant, J. and Zillman, D., Eds, Media Effects: Advances in Theory and Research, Lawrence Erlbaum Associates, Hillsdale, NJ, 1994.

constitute outputs. Figure 2 provides an adaptation of the Persuasion Matrix for PATH's CCP publications.





In order to evaluate knowledge-attitude-practice change, clearly defining these processes guides evaluation strategies. Just as there are multiple theories outlining knowledge and behavior change, there are many methods for evaluating these elements. Below is a list of evaluation approaches from the National Center for the Dissemination of Disabilities Research report on " Dissemination Evaluation Strategies and Options["].²¹

• **Formative evaluation** - This occurs during the design phase of material development or program implementation and addresses the effectiveness and usefulness of approaches. Results from this form of evaluation can help re-direct or refine material development and/or implementation strategies. Typically, data are drawn from a sample of the intended user audience.

²¹ NCDDR's report on "Dissemination Evaluation Strategies and Options," www.ncddr.org/du/researchexchange/v02n02/strategies.html

- **Impact evaluation** This serves the purpose of providing information on the long-term program results. "This type of evaluation measures actual change, for example the number of spinal cord injuries in an annual period, rather than more subtle attitude or behavior changes that may or may not be linked to cause and effect relationships with results". Impact evaluation is often avoided because of the difficultly of separating effects of project activities from other, outside forces.
- Outcome evaluation This is intended to measure the effects of a program on the identified target audience. "Outcomes can be measured in terms of changes/ increases in awareness, shifts in attitudes, changes in behaviors, and increases in knowledge, among others." This form of evaluation is helpful in assessing how a project affects segments of your audience and "usually establishes baseline data before project activities are initiated and then periodically assesses for change over time in these same data areas."
- **Process evaluation** The authors say this form of evaluation usually takes place during the initial stages of program implementation. It is intended to help identify changes in efficiency and effectiveness of the implementation process and "analyzes the extent to which planned activities occur, their timeliness, their costs, and the extent to which they reach intended audiences."

Before proceeding, it is critical to consider the need to focus evaluation efforts when dealing with a global audience. Menou (1993), who has written extensively on the impact of information on international development, explains that:

"Concentrating on the global level or using it as a starting point to work down to lower levels is a practice fraught with problems. A common mistake made in evaluating projects is collecting data at a level that is too general. Lower level data are needed to interpret higher level trends."²²

The interviews described below highlight this need for focused sampling during evaluation and attention to audience segmentation.

VI. Theoretical framework

PATH's publications reflect a focus on influencing readers' knowledge, attitude, and practice. The intention of the CCP publications is to change or influence the knowledge, attitude and practices of the target audience regarding cervical cancer. Specifically, the aim is to increase readers' awareness of cervical cancer prevalence and prevention options in low resource settings (*knowledge*), heighten their awareness of the need to prioritize the issue (*attitude*), and stimulate policy and programmatic discourse and decision that will bring about change in women's cervical cancer prevention services (*practice*). Examples of desired behaviors, or practices, include an increased dialogue on cervical cancer in developing countries, use of publications in local, national, regional and

²² Menou, M.J, <u>Measuring the Impact of Information on Development</u>, International Development Research Center, Ottawa, Canada, 1993.

international workshops and meetings, and increased media coverage and recognition of the problem of cervical cancer.

Rich's knowledge utilization process (KUP), described above and shown in Figure 1, complements the KAP model well and together the two create a stronger theoretical framework on which to base both dissemination and evaluation strategies. 'Information processing' and 'information application' overlap with knowledge, attitude and practice, as seen in Figure 3, below. While KAP captures elements of knowledge utilization once readers have received and read publications, it does not incorporate other points in the process of getting information to the intended audience and influencing desired outcomes. Specifically, the dissemination or mailing process itself (information transmission) and the point-of-entry and internal dissemination practices of recipient organizations (information pickup) are not captured.



Rich makes an important note that knowledge utilization, and therefore each point along the process, can occur within an individual's mind, an organization, a network or a group of organizations or individuals. Thus, creating indicators and measurements for evaluating a publication's ability to succeed through reader's or end user's information pickup, processing and application of information involves capturing characteristics of recipient organizations as well as understanding individual readers use of new material.

VII. NGO key-informant interview findings

Interviews with professionals at international health organizations sought to determine how other organizations approach information dissemination and evaluation and what indicators they use. Specifically, this study targeted NGOs that are involved in

information dissemination activities and consulted individuals at these organizations who work directly with publications, information dissemination and/or evaluation activities. A set of indicators and questions for measuring them resulted from the findings of these interviews and were used during the interviews with the Population Fellows toward the development of the final set of indicators and questions, described later.

NGO Interview format:

Appendix B provides the individuals' names of those interviewed at the following organizations:

- □ John Hopkins Center for Communication Programs (JHU/CCP)
- □ Policy Project (of the Futures Group International)
- □ Population Reference Bureau (PRB)
- **D** BASICS II
- □ National Center for the Dissemination of Disabilities Research (NCDDR)
- ORC Macro (formerly MACRO International)
- □ Family Health International (FHI)

Appendix B also shows a list of questions asked during interviews; however these served as a template and individual interviews varied. Appendix C provides a brief description of each organization. All of these organizations with the exception of NCDDR work with international health in some capacity. NCDDR organization was consulted because it deals specifically with information dissemination toward public health outcomes.

Overall findings:

The NGO key-informant interviews revealed that many in the field are asking questions very similar to PATH's concerning how to better measure the impact of their information dissemination activities. In particular, similar impact evaluation efforts are underway to define more in-depth and workable indicators to assess reach and impact -- indicators that go beyond mere "bean counting". In short, no one interviewed feels fully satisfied with his or her organization's current evaluation strategies. Consequently, there are no immediately available silver-bullet frameworks to adopt. However, the interviews provided leads on commonly used indicators and useful lessons learned and best practices.

While academic literature has for a long time reported concerns over the dissemination of research results and knowledge utilization, many organizations have until relatively recently based evaluation of their publications on distribution numbers. In fact some still do base evaluations merely on the number of issues disseminated, requested, and the number of web site hits. Yet the findings of these discussions illustrate how such evaluation activities are changing. The Population and Health Materials Working Group (PHMWG), of which many of these organizations -- and PATH -- are a part, is confronting issues concerning how to evaluate the effectiveness of information dissemination activities. With demands for more in-depth impact indicators from USAID and other donors and stakeholders, the international health community is stepping up its efforts to demonstrate the impact of information on development. Indeed, all of the

individuals interviewed at USAID cooperative agencies (PRB, JHU/CCP, FHI and The Policy Project) referred to the mandate for impact indicators.

In general, these organizations use evaluation results to provide feedback to donors and to improve future efforts. However, a number of interviewees expressed skepticism over the extent to which the impact of publications can be truly measured. Everyone remarked about the difficulty of such tasks. Interviewees noted the difficulty of linking publications directly to outcomes given other influences on the flow of information and knowledge that factor into decision-making processes. Furthermore, there is some sentiment that the inherent value-added of distributing information to developing countries need not be proven. While the Policy Project has conducted evaluations and used the results, it has not focused much on evaluation because they work under the assumption that people in developing countries are so starved for information that just getting information to them constitutes a successful outcome.

Nonetheless, program objectives and funding realities create a mandate for demonstrating the impact of publications. The PHMWG discussion at their last meeting in November 2001 concerning coordinating publications and eliminating duplication is a case-in-point. The group of USAID cooperative agencies is considering ways to consolidate publication activities to reduce the duplication of efforts. This would allow more efficient use of funds for more publications tailored to segments of the global target audience, such as producing publications in more languages. As the following discussion illustrates, language and other barriers to reaching target audiences reveal a need for greater audience segmentation in information dissemination strategies, yet donors may need better evidence of the impact of information on development in current projects to facilitate such future efforts.

The following review of the NGO key-informant interview findings is organized around a number of key issues: information dissemination and publication evaluation strategies, audience segmentation, online efforts, common indicators, limitations and challenges to evaluation strategies, lessons learned and best practices. It is important to note that in some cases interviewees' responses, or the activities of their organization that they described, were so similar that not all individual responses are included here to avoid redundancy. Thus, the description of one organization's practices does not necessarily mean that other organizations investigated do not also employ the same approach.

1. Information dissemination strategies

Answers varied regarding whether these organizations follow a standardized dissemination strategy or if they customize distribution for individual publications in order to reach the target audience. In most cases, processes include a combination of both; distribution plans are tailored to individual publications or projects via a standardized mailing list database that categorizes the readership in multiple ways and allows manipulation to target specific segments of the audience. For instance, the Policy Project has a database that maintains a subset specifically for HIV/AIDS related publications to aim mailings at the target audience. The Population Reference Bureau (PRB) categorizes its readers in a number of ways, such as by field or work or geographic region, and tailors the target audience for individual publications as appropriate.

Such processes are the case for most of the organizations investigated. BASICS II dissemination activities are based on a predetermined mailing list. The experiences of several organizations, including PRB and the Policy Project; show that global materials are less targeted than country-level materials, therefore the extent to which the database is used to customize the mailing list depends on the project. At the Policy Project, incountry staff tends to assess the information needs of a given country for specific materials and therefore they often determine country level dissemination strategies.

Just as these organizations have similar dissemination strategies, most are also alike in not having conducted a formal evaluation of their dissemination efforts as a whole but most are interested in pursing such evaluations. PRB has informally learned a great deal about their dissemination strategy from the number of requests for publications and feedback on bounce-back questionnaires that evaluate individual publications. Through discovering which publications have been successful and which have not, PRB has learned lessons about what strategies work and do not work. Other organizations investigated have similar evaluation experiences: BASICS II has informally evaluated publications by assessing public acceptance and popularity of publications, based on numbers of requests for copies, but has not formally evaluated its overall dissemination strategy.

The National Center for the Dissemination of Disabilities Research (NCDDR), which focuses on dissemination research and has produced reports on the subject, finds that it is common to use distribution numbers to evaluate information dissemination activities.²³ While NCDDR does conduct such "bean counting" of distribution numbers, the organization also find it is a common mistake among evaluators to link distribution numbers with the intention to evaluate a publication's *effectiveness*. That is, numbers provide an indication of a publication's *reach*, but measuring the extent to which end users' behavior and other circumstances change as a result of this dissemination is another matter. Hence, PATH's CCP publications' reach *and impact* goals necessitate further indicators for evaluation.

2. Publication evaluation strategies

The following is a list of the evaluation practices used by the organizations interviewed, with the most common appearing first:

- □ Mail questionnaires (bounce-back surveys and others)
- □ Key-informant interviews
- □ Focus groups
- Online surveys
- Direct user observation (of publications and web sites)
- □ Site visits to recipient organizations

²³ Although NCDDR is a national organization, not dealing with international public health or specifically on reproductive health, the organization was investigated here because of its specific focus on dissemination research. Further, John Westbrook, who was interviewed, also authored publications consulted in the literature review.

Questionnaires, key-informant interviews and focus groups are the most common evaluation practices used by these organizations. FHI is the only organization interviewed that has conducted direct user observation and site visits to recipient organization. Efforts to use the Internet for evaluation are for the most part in early stages, if begun at all. John Hopkins Center for Communication Programs (JHU/CCP) is working on an impact evaluation similar to the one at-hand of products and services in several of their information dissemination projects: Population Reports, Popline Digital Service and the Media Materials Clearing House. Activities include face-to-face surveys of service providers in Guatemala who use JHU/CCP publications. PRB has recently developed a questionnaire for frequent users of their global publications. They hope this will yield insight on readers' satisfaction and use of publications for a larger critical mass of the target audience beyond that which they obtain from key-informant interviews. In addition to key-informant interviews, PRB evaluates each publication by mailing feedback questionnaires with all publications going to LDC's. To do so, they use a standard questionnaire format, varying questions to gather feedback relevant to individual publications.

Several interviewees pointed out that interpretations based on data from questionnaires are limited by a low response rate. Responses rates are typically only around 10 percent, and often less. The Policy Project has also found that these respondents are usually readers who want more publications and so they have stopped sending questionnaires. Although they no longer send such questionnaires, they have been successful at evaluating their dissemination at the country-level by measuring the number of copies dispersed and the number of times their publications are cited. NCDDR's research confirms the Policy Project's experience: readers who respond to postcards and bounceback surveys sent with publications tend to be those who want more publications and/or those with extreme views about the publication. That is, the nature of responses to these types of surveys is typically biased and not representative of the entire audience. Combined with low response rates results are questionable. These pitfalls can be avoided by administering surveys to a small, well-selected sample of the target audience rather than mass-mailing questionnaires. For instance, to create a survey mailing list, NCDDR suggests picking a target geographic area and selecting a sample of readers that represents the larger target audience in order to assess if specific outcomes are successful, as possible and appropriate.

Because of these limitations, most of the organizations investigated employ a combination of questionnaires and key-informant interviews and/or focus groups as the general consensus is that multiple approaches are needed to gather adequate feedback. Although response rates are low for questionnaires, most still feel some feedback is better than none and questionnaires are still worthwhile but should be complemented with other efforts. Everyone interviewed who has conducted focus groups and key-informant interviews said they are very useful for obtaining in-depth feedback that cannot be gathered via a survey with close-ended questions. For example, focus groups have stimulated successful formatting revisions of PRB's wall charts. FHI has pulled together focus groups of developing country readers to critique publications. The Policy Project has conducted key-informant interviews to find out what readers' main sources of information are, where they seek this information and how readers subsequently use and

display new information to colleagues. In short, these organizations' experiences with key-informant interviews and focus groups illustrate the cliché that "less is more."

FHI has a number of different and unique approaches to its publication evaluation activities. In an effort to improve the low response rate of reader surveys, FHI put "return postage guaranteed" on envelopes to developing country recipients, which was successful at increasing response rates. Even though no such option exists within international postal systems -- the way nationwide surveys can take advantage of pre-paid postage as an incentive for respondents -- this "return postage guaranteed" has worked with their international mailings to developing countries. Ultimately, no one pays for this mailing process.

Other publication evaluation strategies at FHI include direct user observation and site visits. An informal approach to direct user observation has consisted of the following: when colleagues from developing countries - who represent the target audience - visit FHI's office, they ask these visitors to view their publications or online materials. FHI staff then observes which sections readers spend time on and what they skip, and investigate the reader's experience with the ease of finding information in the layout of the material. FHI has also conducted more formal user evaluation for training manuals via pre-testing of materials. Another strategy FHI has employed is site visits to organizations on their mailing list. The choice of location for these site visits depends on opportunity, for example where staff members are traveling for other purposes. Site visit evaluation efforts have included asking publication recipients at organizations how they use FHI's publications and visiting libraries to assess the publications' availability. Together, these approaches could constitute country case study activities.

3. Audience segmentation

The issue of audience segmentation yielded interesting insights. JHU/CCP would ideally like to tailor publications for specific segments of the target audience. For instance, they already have information dissemination projects targeting different audience segments such as Popline, which provides data most applicable to researchers, versus Population Reports, which is aimed at health professionals as well as researchers. Several interviewees noted that researchers tend to be interested in all forms of information while professionals in other facets of public health, such as program managers and service providers, have more specific, and in some cases limited, information needs and interests. JHU/CCP would like to invest in more such customized information dissemination efforts but does not have the funding. They are not alone; as mentioned earlier, other USAID cooperative agencies are also struggling to convince donors that more funding is needed to address the information needs of different groups of readers.

Audience segmentation is a complicated one for organizations such as these aiming to reach global audiences. Publications targeting global versus country-level audiences call for different dissemination parameters. With so many subsets of the audiences intersecting with one another, however, segmentation is not clear-cut. That is, the international health community's audiences can be generally split in multiple ways, such as between developed and developing countries, between government versus grass-roots audiences, or between different languages. The Policy Project, for instance, can divide their audience into two major groups with respect to how they will use the information and how to package it for them: (1) high-level policy impact (senior government officials, business and NGO leaders, decision makers); and (2) NGOs and community organizations. Given that readers often fit into multiple categories -- not to mention the complicated web of information's relevance to multiple audiences for multiple purposes -- a central challenge is to determine what mailing list optimizes a publication's intended reach. In turn, how to evaluate the effectiveness of a publication's reach is also complex.

Differential treatment of developing versus developed country audiences is particularly significant and in some cases more clear-cut. For the most part, the organizations investigated approach these two groups of the global audience differently. Publications and other information services and materials are generally free to all LDC audiences while charges may apply to developed country readers. Related to this, materials are typically free online and such charges for hard copies serve to create an incentive for developed country audiences to obtain information on the Internet. These two segments of the global audience are also approached differently during evaluation. While PRB sends bounce-back questionnaires with all publications mailed to developing countries, they only send questionnaires once or twice a year to developed country audiences as these readers tend to be less receptive of surveys and it is the LDC audience that PRB is often most concerned with reaching. For the same reason, JHU/CCP's evaluations are focused on their developing country readership.

4. The role of the Internet, and lack thereof

The Internet and other ICT's have had a tremendous influence on the information dissemination activities of the international health community. As so much material is now available online, almost everyone interviewed is trying to think of ways to use the Internet for evaluation but few projects are off the ground. In other words, the Internet has stimulated great advances in information dissemination to segments of the audience that are online but has not yet covered much ground in evaluation activities. First and foremost, a major and obvious barrier is the lack of Internet access among developing country audiences.

Of the organizations investigated, JHU/CCP has the only online evaluation effort in motion: they are using Zoomerang.com, an online survey administrator, to evaluate their Population Information Program (PIP). In doing so, PIP sends an email invitation to its listserve asking readers to agree to go to Zoomerang.com and fill out a survey. As a work in progress at the time of these interviews, the effectiveness of this effort is yet unknown. NCDDR has conducted online surveys but so far finds that they do not yielded as broad a range of responses as mailed surveys. While online surveys are cheaper, these shortcomings affect the reliability of results.

5. Commonly used and commonly desired indicators

There is a great deal of consistency in the kinds of indicators these organizations use to evaluate publications as well as indicators interviewees wish they could measure but find difficult to obtain. Thus, feedback from the interviews on commonly used and desired indicators is presented here in form of questions that are or might be asked during an evaluation. First is a list of commonly used indicators, which is not necessarily an all inclusive list of frequently used indicators across organizations, but rather a list of indicators mentioned by multiple interviewees. Second is a list of indicators interviewees ideally wish they could obtain more easily, or at all.

Commonly used indicators:

- □ Was this publication useful to the readers work?
- □ What did they find most valuable?
- Did they share it with their colleagues?
- □ Has the material been used for training purposes?
- □ Have they requested additional copies?
- □ How often do readers use the publications?
- □ How do they use the information? What kinds of activities?
- How often have publications been cited? (This is particularly common for country-level evaluations)

Commonly desired indicators:

- Did the publication in any way affect readers' information gathering behavior?
- □ Where do people seek information on a given topic?
- □ Are readers doing anything differently because of the material?
- □ Have services or practices changed at the reader's organization?
- □ How have facilities changed?
- □ What decisions are influenced by the information provided?
- □ How is new knowledge translated into action?
- □ How does the reader rate the impact of the publication on his/her knowledge?
- □ How have lobbying activities changed as a result of the information?
- □ How has the information influenced relevant policy making processes?

Given the multiple indicators needed to paint the whole picture of a publication's ability to have an impact on development, creating an evaluation strategy needs to begin with developing indicators that assess its success in achieving program objectives. Several interviewees said the starting point for any evaluation is the program's results framework. Using any existing indicators, that is, an indicator previously measured, will allow comparison of evaluation results over time or between publications. The intention of this project is to determine existing indicators that have been successful at other organizations for use in current and future evaluation activities. However, even with a very focused set of objectives outlined in a results framework, multiple indicators are needed to evaluate them. Hence, as several interviewees pointed out, there is no single source of information collection that gives you all the answers. Rather, a combination of evaluation activities - such as questionnaires, focus groups and key informant interviews - is the approach to take.

6. Lessons learned and best practices: limitations and strategies

There are clearly many challenges and barriers to obtaining sound evaluation results on the impact of publications. The reason no single evaluation activity yields all the answers is due to limitations of each type of evaluation activity. Below are some of the key limitations, highlighted during the interviews, of the main evaluation activities employed by the organizations investigated. Central challenges, lessons learned and best practices for addressing these challenges follow.

- Questionnaires are limited by low response rates and a tendency for respondents to be unrepresentative of the larger target audience making results less reliable.
 Questionnaires also limit respondents' ability to provide more in-depth answers where applicable.
- □ **Key-informant interviews** are limited by not achieving a critical mass. In-depth feedback is obtained, but from small numbers of the readership.
- Online surveys are limited by their newness (lack of experience and best practices) and lack of Internet access among the target audience in developing countries. They also thus far tend to involve more "bean counting" and allow less room for in-depth analysis.

Below are challenges for impact evaluation:

- Readers often forget details of specific publications, namely what information they obtained from which publication. Related to this, readers often confuse international health organizations and subsequently do not recall which organization produced which publications.
- □ Baseline data is always a challenge when a project does not begin with relevant data gathering, and it is even more of a challenge to obtain for assessing information dissemination activities. This is so because it is so difficult to control for outside, "rest of world" information sources influencing readers' knowledge and awareness. Interviewees said baseline data would be a luxury but generally have not obtained it. Efficient ways to obtain baseline data are lacking.
- General skepticism regarding the ability to measure the impact of information on development is a great barrier to such efforts. Everyone noted the difficulty and complications of impact evaluation and several interviewees expressed some doubt that impact can truly be linked to publications. Related to this, determining what kind of evidence is an acceptable demonstration of publications' impact is a challenge. This environment of skepticism may exist among multiple stakeholders, including donors as well as health information practitioners.
- Different information is needed from different segments of the target audience. This calls for multiple evaluation activities and thus greater cost. There is however great potential for developing audience segment-specific questionnaires and other evaluation approaches, if cost-effective methods can be designed.

 Language, language! The global target audience encompasses many languages yet publications are typically only available in a few major languages. This is a general problem for publication dissemination strategies as well as a barrier in evaluation efforts.

The following lessons learned and best practices provide some methods for addressing the challenges listed above, in some cases repeating points made earlier:

- □ As no single source of information collection is satisfactory, the use of multiple tools (for example, survey and focus groups, etc.) is the key to successful evaluation.
- Related to the point above, interviewees ranked key-informant interviews and focus groups as more effective ways to obtain in-depth information. This suggests that if resources are limited and a choice has to be made, interviews and/or focus groups should perhaps be prioritized.
- Less is more: feedback from a focused sample population of targeted audience segments is usually more effective than a "satisfaction postcard" type questionnaire mailed out with all publications.
- Regarding the baseline data dilemma, it may be desirable to obtain baseline data at a few key sites to lower the costs and to keep the data gathering manageable.
 Perhaps this could be done via site visits. Additional strategies include looking for any existing data first and keeping in mind that long-term projects allow for evaluations at different stages of the project; therefore even if baseline data was not gathered change over time can be measured.
- The development of indicators depends on whom you are sampling to survey and how the results will be used. This relates to both audience segmentation and framing evaluation strategies around program objectives and the intended uses of evaluation results.
- Given the clear and unique differences between developed country and developing country segments of the international health community's global target audience, one quick-fix audience segmentation strategy is to both disseminate information to and evaluate these two groups differently. This does not account for other audience segmentation issues, such as the differences between policy makers versus grass roots service providers or that between staff members within a recipient organization.

During the process of these interviews, indicators and measurements were drafted. This set of indicators and questions for measuring them were used during the interviews with the Population Fellows, described below, to obtain their insight on indicators' appropriateness and indicators not yet developed relating to readers' use of publications and new information. After the Population Fellows pre-tested the indicators and the format of questions for measuring them, the indicators were finalized. Table 1 on pages 28-30 shows the indicators and their measurements. Appendix E provides a list of the

questions developed for use on questionnaires and during key-informant interviews and focus groups.

VIII. Packard-Gates Population Leadership Fellows Key-informant interviews

Just as key-informant interviews are an effective way to obtain feedback from the target audience, this project conducted such interviews with representatives of PATH's target audience to inform this evaluation creation process. Specifically, six Packard-Gates Population Leadership Fellows at the University of Washington, a group of professionals and leaders in the field of population and reproductive health in developing countries, were consulted with a focus on their input on the indicators being created. Three work at the Ministry of Health in their respective countries, four are doctors, two work with reproductive health services, and one works at an academic institution. The fellows' home countries include Trinidad, Liberia, Iran, Ghana, Sudan and Uganda. Appendix D provides their full names, titles and organization.

All of the Fellows were familiar with PATH and some had even received the cervical cancer prevention publications in their home country offices. At the beginning of each interview, PATH's CCP publication goals were described and each fellow was given copies of the ACCP fact sheets. The reach and impact goals and objectives driving this evaluation and the focus of the project for which they were being interviewed were explained, namely to develop an evaluation strategy with indicators and measurements that successfully assess these points. They were also told that most of these indicators and measurements would be used for focus groups and key-informant interviews as well as surveys; therefore questions for measuring indicators needed to be viewed as both an open-ended and close-ended questions. Finally, they were shown the conceptual framework consisting of the KAP principle and the process of knowledge utilization (KUP) also driving the evaluation creation process (see Figure 3 on Page 13) and the draft set of indicators and questions for measuring them.

Input sought:

Obtaining feedback from their experience on what characteristics made publications effective or ineffective in achieving these stated goals, such as KAP, was a primary objective of these interviews. More specifically, they were asked questions about the indicators being developed and whether the questions drafted for the questionnaires, focus groups and key-information interviews would be successful in gathering appropriate and relevant information. The interview questions in Appendix D served as a template during the interviews, but the discussions varied based on each fellow's responses. Specifically, each interview involved walking through the draft set of indicators and questions and each fellow was asked to help brainstorm better ways to word questions, where needed, and to think about additional indicators for important issues not already addressed.

Overall findings:

The fellows provided very useful and informative feedback on the evaluation creation process, particularly in the form of additional indicators. Overall they found the drafted indicators appropriate and useful, but they did provide recommendations for how to improve some of the questions for measuring these indicators. Changes included rewording, reorganization and additional response options to questions. Suggested additional indicators, previously missing from the list, dealt primarily with the following three areas: publications' point-of-entry (information pick-up); the internal dissemination practices of the audience member's organization; and impediments to publication and information use. All of these indicators parallel the KAP and KUP conceptual frameworks (again see Figure 3 on page 13), and thus fit well into the framework created here. Additionally, their recommendations for pre-existing indicators also add great depth to the evaluation.

In many cases the fellows agreed with the importance of an indicator and the appropriateness of the measurement developed. This summary of findings from the interviews with them highlights feedback regarding problematic indicators or measurements, additional indicators needed, points related to the KAP/KUP theoretical framework, and other issues relevant to the reach and impact of publications. While this summary provides the most important findings, a more detailed account of these interviews, including detail on the development of the indicators and measurements, appears in Appendix F. The fellows' comments are organized around the following overarching themes: KAP factors, recipient organizational characteristics influencing KUP, audience segmentation, and impediments to information use. The fellows also had important comments regarding appropriate wording of questions, which are incorporated throughout this discussion. The list of questions in Appendix E reflects these comments. Table 1 on pages 28-30 also incorporates the fellows' feedback.

1. KAP factors

The fellows responded positively to the knowledge-attitude-practice framework and had constructive suggestions for improving relevant indicators. For instance, measuring the usefulness of a publication to readers' should include questions about appropriateness and applicability (relevance) of material. Determining usefulness also creates an opportunity to measure the potential for knowledge and attitude change by asking probe questions about whether a publication presented new information to readers (knowledge change potential) and the degree to which it changed readers' level of concern with cervical cancer (attitude change potential).

Ways to measure secondary impact potential, specifically secondary knowledge and attitude change potential, emerged from these discussions. After asking readers if they passed on a publication to colleagues -- discussed below as secondary reach -- readers' perception of a publication ability to change knowledge and attitude among colleagues about cervical cancer can be assessed. Measuring the extent to which readers believe a publication will provide new information to colleagues and change levels of concern regarding cervical cancer will provide data on the impact potential beyond the publication's initial recipient.

The extent to which publications influence readers' work practices sparked many comments. The wording of the initial question to measure this indicator was a central issue. The question initially read, "Are you doing anything differently with your clients as a result of the information you received in this publication." It was pointed out that this question is biased because it implies that the respondent is or was doing something wrong, or was not doing something he/she should have been doing. Rather, the question is better when stated as, "How, if at all, has the information in the publication helped or influenced the way you conduct cervical cancer screening or other relevant services? Please describe." Respondents have the option to indicate if the publication did not help or influence their work or service delivery. Furthermore, when this question is asked as an open-ended question during a focus group or key-informant interview, probe questions can determine how a respondent's work practices have changed as a result of the information provided in the publication.

2. Recipient organizational characteristics affecting KUP

The fellows revealed various characteristics of recipient organizations that influence the knowledge utilization process and flow of information. Given the many types of organizations within the global target audience, it is important to realize that different organizations receive information differently -- information pick-up -- and internally disseminate information differently -- information transmission -- and thus the impact of publications is experienced differently.

As discussed earlier, whether readers' pass on publications to colleagues is a common indicator public health NGOs use to evaluate publications. Several fellows noted that this depends on one's type of work and that there are many reasons why one might pass on a publication. Therefore, a question merely asking if a reader passed on a publication does not reflect if he/she did so because the material is directly work related or if it was passed on out of pure intellectual interest. Such a question also does not assess the proportion of a reader's colleagues that received the publication -- referred to here as secondary reach. Thus, the following two questions complement this one, measured on a scale from 'all to none': (a) For about how many of your colleagues work do you think this information is relevant and useful? and (b) Out of these, about how many were you able to pass this publication on to, or how many were actually able to read and use the publication? While these additional questions measure respondent's perception of a publication's usefulness to colleagues' work, the original question asking if they passed it on at all remains as it still gathers an important indicator. That is, although there are numerous reasons why one passes on a publication, knowing whether or not they did so is useful and relevant to PATH's CCP publication objectives.

How a recipient organization receives and circulates publications also affects a publication's reach. The fellows expressed the extreme importance of the individual at an organization who receives publications. Thus, developing indicators to assess publications' point-of-entry at target organizations will better inform this evaluation. Likewise, understanding internal circulation practices are important as they vary: some organizations keep all publications in a library, some circulate publications throughout the staff, and sometimes publications remain in someone's office or get lost. Developing an indicator to evaluate this -- that is, the recipient organization's flow of information --

will better inform future information dissemination activities by increasing PATH's understanding of the publication transmission process after publications exit PATH's hands.

A publication's degree of usefulness to an organization depends greatly on the type of organization and its primary activities; therefore it is difficult to measure in a consistent fashion. Indeed, how one applies information provided in a publication -- knowledge application or practice -- depends on his/her type of organization as well as the type of work. Like the indicator described above measuring whether and how a publication has helped or influenced an individual's work, the indicator to measure a publication's impact on organizational services asks readers to describe how a publication has helped or influenced organization services regarding cervical cancer screening or other relevant services. Note that this question targets program managers and service providers while other indicators target policymakers.

3. Audience segmentation

Parallel to findings from the NGO key-informant interviews and the literature, the interviews with the fellows highlighted the need for audience segmentation in publication activities. In particular, they noted the different degrees of information's impact at different levels of an organization. For instance, senior-level staff members in developing country organizations are more likely to have English language skills than those in lower ranks and thus have a greater ability to use the information provided in publications. Likewise, the information needs of people at different levels and facets of an organization's work vary. For example, several fellows mentioned that service delivery providers typically only want to read about service delivery while people in teaching and research are more apt to read anything.

4. Impediments to information use

The fellows provided a great deal of input on barriers to the use of publications and information by readers in developing countries. Impediments to people's access to information include insufficient quantity of publications supplied and inconsistency in publications' availability. To evaluate which segments of the target audience experience such impediments to use, the fellows suggested asking readers about the availability of a publication, whether it clearly explained how to get more copies, and whether recipient organizations received enough copies and in a timely fashion.

In addition to barriers to accessing publications, the fellows identified impediments to the use of information even when it is available. When asked reasons why they, or others, might not utilize new information the fellows mentioned budget constraints, cost, absence of infrastructure, lack of personnel and lack of authority. Thus the indicator capturing impediments to use also includes a question asking readers what factors prevent them from using new information when it is available.

IX. Evaluation framework and indicators

The indicators and measurements in Table 1 on the following pages and the questions in Appendix E are the final result of this investigation, along with recommendations for evaluation strategies in the following section. Findings from the literature review and the interviews all fed into the development of these indicators, questions for measuring them, and summary of evaluation strategies.

Table 1 links each indicator to the knowledge utilization process (KUP) framework; indicators are categorized as either 'information transmission and pick-up' or 'information processing and application' indicators (see Figure 3 on page 13 for more detail on these points). Evaluation results using this framework should be able to link the reach and impact indicators to the theoretical framework and therefore demonstrate if and how PATH's CCP publications influence readers' use of new information.

Recommendations for evaluation strategies and a summary of options and best practices follow Table 1.

Table 1. Matrix of Theoretical Framework, Indicators and Measurements				
KUP ²⁴ Framework Indicator	Reach and Impact Indicator	Measurement		
Information transmission	1. Extent to which mailing list reaches target audience	# of individuals by relevant category (categorized by PATH's CCP mailing list database)		
and	2. Perceived usefulness to colleagues	% who report passing publication on to colleagues (G 8) ²⁵		
Information pick-up	3. Secondary reacha. <i>Potential</i> reachb. <i>Actual</i> reach	 a. Proportion of colleagues that respondent thinks would benefit from the material provided by the publication. (G 8a) b. Proportion of these colleagues that the respondent was actually able to pass on the publication. (G 8b) (Data from (a) and (b) together allow comparison and analysis of potential versus actual information reach.) 		
	4. Point-of-entry classification5. Recipient organization's information flow process.	 # per category of publication's point-of-entry (G 11) # per category of recipient organization's internal publication circulation process. (G 12) 		
	6. Target audiences' access to information.	 a. Ranked availability of publications. (G 13) b. Proportion of respondents who said the publication clearly explained how to more copies versus those who said it was not clear. (G 14) c. Proportion of respondents who said his/her organization received enough copies versus those who said it did not receive enough. (G 15) d. Rated level of consistency in receiving publications. (G 17) 		
	7. Readers' CxCa ²⁶ prevention information sources.	Open-ended responses to questions about CxCa information sources. (G 18)		

 ²⁴ 'KUP' is the Knowledge Utilization Process. See Figure 3 on page 13 for more information.
 ²⁵ G #' in parenthesis indicates the question number in Appendix E for the corresponding indicator and measurement.
 ²⁶ 'CxCa' means cervical cancer.

	Table 1. Matrix of Theoretical Framework, Indicators and Measurements				
KUP ²⁴ Framework Indicator	Reach and Impact Indicator	Measurement			
Information	8. Usefulness to self	a. % of respondents who rate publication material as relevant to ones work, and range of			
processing	(respondent)	responses. (G 4)			
		b. Reported appropriateness levels. (G 5)			
and		c. Reported frequency of use. (G 3)			
		d. Proportion of responses for a range of type of use of publication. (G 1)			
Information		e. Proportion of responses for a range of type of use of <i>information</i> in the publication. (G 2)			
application	9. Knowledge change <i>potential</i>	% who report that the publication provided new information, which therefore creates the			
		potential for knowledge change or increase. (G 6)			
	10. Attitude change (level of	% who report that the publication changed his/her level of concern with CxCa and how			
	concern) toward CxCa	he/she would prioritize the issue. (G 7)			
	prevention				
	11. Influence on practice	% who report the various activities, and the proportion of each category selected (e.g. designing policy, curriculum, programs and for training and advocacy, etc.). (G 2)			
	12. Secondary impact <i>potential</i> a. Knowledge impact	a. Proportion who thinks the publication could increase knowledge among his/her colleagues regarding CxCa. (G 8c)			
	b. Attitude impact	b. Proportion who thinks the publication could influence attitudes among his/her colleagues regarding CxCa. (G 8d)			
	13. Secondary outreach at recipient organizational level	a. % who report citing publication material in a report or using it for outreach training or presentations. (G 9)			
		b. % who report using material for health education. (G 10)			
Information					
processing					

and

Information application

Reach and Impact Indicator	Measurement		
14. Impediments to readers' use	a. Proportion of categorized responses regarding organizational impediments to use. (G 16)		
of new information.	b. Proportion of categorized responses regarding direct impediments to reader's use. (G 23)c. Open-ended and probe questions during key-informant interviews and focus groups will gather more qualitative data on the measures above.		
Indicators for service providers:			
15. Impact on respondent's work activities, behaviors.	a. Proportion who reports publication has helped and/or influenced his/her work, versus those who report it has not. (G 19)		
	b. If so, an open-ended question asks readers to explain how a publication have helped them or influenced their work.		
16. Impact on organizational services	a. Proportion who reports publication has helped and/or influenced the work of his/her organization, versus those who report it has not. (G 20)		
	b. If so, an open-ended question asks readers to explain how a publication have helped them or influenced their organization's work/services.		
Indicators for policymakers:			
17. Impact on policy process decision-makers	a. Proportion who report using material during speeches, in reports, at conferences, etc. (G 21)		
	b. If so, open-ended question allows readers to explain how they have used the material.		
18. Impact on program design	a. Proportion who report using material in program design. (G 22)b. If so, open-ended question allows readers to explain how they have done so.		
Indicators for women at risk of developing cervical cancer:			
19. Impact on cervical cancer prevention awareness among female health clinic clients.	Data gathered via focus groups during site visits with women clients at health care centers to assess how information on cervical cancer prevention is reaching them.		
	 15. Impact on respondent's work activities, behaviors. 16. Impact on organizational services Indicators for policymakers: 17. Impact on policy process decision-makers 18. Impact on program design Indicators for women at risk of a poly of the service of		

X. Recommendations for evaluation strategies: summarizing options and best practices

There are clearly a number of options for PATH's CCP publication evaluation strategy. Ultimately, how to develop a strategic implementation plan depends on PATH's resources for evaluation: budget, timeline, staffing, etc. Before considering these details, the recommended evaluation strategy involves the following four elements:

1. **Questionnaires** sent to a sample population of the global target audience (not to the entire mailing list), with slightly varied questionnaires going to different segments of the audience where possible and appropriate. That is, use the database to separate readers who are policy makers versus program managers and service providers, etc. and send questionnaires accordingly to the sample population. (See below for a strategy for breaking down the global target audience into four categories).

2. **Key-informant interviews** with readers representing different segments of the target audience. Aim to interview approximately 50 key-informants, depending on how many different audience segments need to be represented. For instance, PATH'S CCP's target audience, listed on page 7 could be grouped as the following segments:

- □ *High-level decision makers* includes global, national and local policymakers, donors, government health agencies
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- □ *Service providers* includes health professionals
- □ *Educators and media* includes researchers, journalists and educators

3. **Country-level case studies** including focus groups, site visits and direct-user observation.

- This activity may provide the only opportunity to reach and evaluate readers at different levels within recipient organizations. That is, as the mailing list only allows questionnaires to reach the point-of-entry publication recipient, focus groups and site visits would allow PATH'S CCP team to talk to other potential readers within organizations.
- County-level case studies many also provide the only opportunity to gather information from women with or at-risk of developing cervical cancer. During site visits, separate focus groups should also be conducted with the clients at health care clinics to evaluate how information on cervical cancer prevention is reaching them.
- □ As PATH'S CCP team already has focus work taking place in Peru and Kenya, explore options in these countries.

Questionnaires and key-informant interviews directly complement each other with similar questions asked in both. As the key-informant interviews include open-ended and probe questions and specific attention to which segment of the audience the key-informant represents, detail from the small group of interviewees can be compared by the

survey results of hopefully a larger sample of readers. Country-level case studies, if resources allow, provide opportunities for some of the most in-depth analysis and unique evaluation approaches not yet employed by many in the international health information dissemination community, such as direct user observation. Results of the case studies would also serve to complement the questionnaires and interviews by enabling crosschecks and comparison of findings. Moreover, applying multiple evaluation methods enables reliability checks on data. For example, if a survey finding supports the sentiment expressed by a key informant or site visit observation, more weight and merit can be given to a quote or finding.

The interviews with the Population fellows also revealed how results from the evaluation will facilitate the creation of audience segmentation strategies in the future. For example, the extent to which readers report that publications changed their level of concern with cervical cancer - attitude change - can be analyzed by their type of work to determine which segments of the audience the publications most effectively reach. If the results indicate, for instance, that researchers and service providers have a similar level of awareness and engagement with cervical cancer prevention's unmet needs, similar messages and information packages can be channeled to both groups in one effort. This may help illustrate the need for funding for more publication activities that address audience segmentation needs and assist future activities in strategizing just how to segment the audience.

To review, the recommended indicators -- listed in more detail in Table 1 starting on pages 28-30 -- are the following:

- 1. Extent to which mailing list reaches target audience
- 2. Perceived usefulness to colleagues
- 3. Secondary reach (*Potential* reach and *Actual* reach)
- 4. Point-of-entry classification
- 5. Recipient organization's information flow process
- 6. Target audiences' access to information
- 7. Readers' cervical cancer prevention information sources
- 8. Usefulness to self
- 9. Knowledge change *potential*
- 10. Attitude change (level of concern) toward cervical cancer prevention
- 11. Influence on practice
- 12. Secondary impact *potential* (Knowledge impact and Attitude impact)
- 13. Secondary outreach at recipient organizational level
- 14. Impediments to readers' use of new information
- 15. Impact on respondent's work activities, behaviors
- 16. Impact on organizational services
- 17. Impact on policy process decision-makers
- 18. Impact on program design
- 19. Impact on cervical cancer prevention awareness among female health clinic clients

XI. Limitations and next steps for future research and evaluation activities

As this and other similar evaluations take place, implications from this work for future health publication dissemination and evaluation activities can be considered. In particular, better methods for obtaining baseline data need to be developed and incorporated into the beginning stages of projects. Possible next step for this evaluation include:

- Creating more questions tailored for segments of the audience.
- □ Pre-testing questionnaires, etc. with Population Fellows or a similar audience.
- Determining methodology more precisely, for example, sample size and sample population identified (by readership and geography).
- □ Shortening and consolidating, where possible, the list of evaluation questions so as to create shorter, more targeted surveys for different audience segments.

Future research on the dissemination and use of health information should investigate in more detail factors contributing to changes in the practices of nurses, doctors and other health practitioners. Investigations might also explore research in the private sector, particularly the field of advertising, regarding persuasion and what is known about how to measure the impact of advertising campaigns. Relevant findings might apply to public health communications and evaluation efforts.

Appendix A. PATH's CCP publication evaluation reach and impact goals and objectives

Note: Carol Levin, Health Economist at PATH, created this following a CCP Advocacy Evaluation team meeting in September of 2001.

Goals:

Long-term: Change policies and strengthen programs to support cervical cancer prevention.

Medium term: Raise awareness and bring about related changes to improve cervical cancer prevention.

Objectives	Reach	Impact
1. Produce high quality publications.		Х
2. Awareness raising and Education.	X	Х
2.1 To distribute publications to target groups in	X	
specified geographic areas.		
2.2 To increase KAP (knowledge-attitude-practice)		Х
among target groups.		
2.3 Increase KAP among alliance members.		Х
2.4 Number of documents used in local, national,	X	Х
regional and international workshops/meetings.		
2.5 If publications are being used in medical/nursing		Х
curricula.		
2.6 Increased dialogue on cervical cancer in countries.		X
2.7 Media coverage and recognition of problem.	X	X
3. Influence policies and programs.		Х
3.1 Increased resources and funding to cervical cancer		Х
prevention		
3.2 Look for change in specific alliance countries in		Х
either policies and programs.		

Appendix B. NGO Interviewees and Interview questions template

The following individuals were interviewed at their respective organization:

- □ John Hopkins Center for Communication Programs (JHU/CCP):
 - Peggy D'Adamo, Media/Materials Librarian (PCS & PIP)
 - Vanessa Carroll, Chief of Strategic Outreach and Research
- □ Policy Project (of the Futures Group International):
 - Nancy McGirr, Quality Assurance and Evaluation Advisor
- □ Population Reference Bureau (PRB):
 - o Lori Ashford, Senior Policy Analyst, MEASURE Communications
- **BASICS II:**
- Jeff Pelletier, Information, Communications & Dissemination Coordinator
 National Center for the Dissemination of Disabilities Research (NCDDR):
 - John Westbrook, Southwest Educational Development Laboratory
- ORC Macro (formerly MACRO International)
 - Sian Curtis, Senior Evaluation Analyst, MEASURE Evaluation
- □ Family Health International (FHI)
 - o Beth Robinson, Associate Director for Information Programs

All were interviewed by telephone with the exception of Lori Ashford at PRB, who was interviewed in person, and Jeff Pelletier at BASICS II, who responded to questions by email.

The following questions served as a template during the interviews, but exact questions varied depending on the direction of each interview, such as differing probe questions.

1. Does your organization have a standard information dissemination strategy plan that it follows or do you create strategy plans for specific projects? Or a combination of both?

> If no strategy plan, how do you distribute publications?

2. How have you measured or evaluated the success and impact of your information dissemination strategies?

- Who is your target audience, who are your stakeholders, and where are they located (U.S., LDC's, etc.)?
- What are your indicators of impact? What are your methods to assess these indicators?
- What are the indicators that you wish you could measure but have not been able to do so? Why?

3. How have you handled the different strategic needs of online publications versus hard copy? What has been the level of success of your online strategies?

- What are your indicators of impact? What are your methods to assess these indicators?
- What are the indicators that you wish you could measure but have not been able to do so? Why?

4. Related to the question above concerning different technologies for information distribution, how do you handle information dissemination differently for LDC's?

What are the differences and what are their implications for your methods and the indicators you use to measure success/impact?

5. How do different target audiences change your strategies and impact indicators? That is, do you tailor material to different audiences and/or do you create standardized documents generalized enough to send to all audience members? If so, how?

6. Do you tend to focus on tailoring the publication itself for your target audience or on tailoring your dissemination strategy to reach your audience? What is your experience with these two types of strategies?

7. How has the information from your evaluations been used? What lessons learned emerged from your evaluations about your organization's information and publication dissemination? What kind of changes followed?

8. What lessons learned have emerged from the process of evaluation itself?
Appendix C. Description of NGOs interviewed

As described in this report, the interviews focused on other international health organizations similar to PATH. The following are all nongovernmental organizations, some of which are USAID cooperative agencies (CAs). All work in the field of international reproductive health, with the exception of the National Center for the Dissemination of Disability Research (NCDDR), described below.

? Johns Hopkins Center for Communication Programs (JHU/CCP)

http://www.jhuccp.org/

JHU/CCP, referred to as CCP in this report, focuses on 'strategic, research-based communication for behavior change and health promotion that has helped transform the theory and practice of public health." Housed in JHU's Department of Population and Family Health Sciences in collaboration with the Department of International Health and Health Policy and Management, CPP provides public health communication services worldwide. Major publications include:

Communication Impact!

Field Reports

Working Papers

How-To Manuals

Special Publications

Population Reports

? Population Reference Bureau (PRB) www.prb.org

PRB provides information on U.S. and international population trends and their implications. Their major activities include publications, information services, seminars and workshops, and technical support for both public and private sector institutions. PRB's target audience includes policy makers, educators, the media and concerned citizens. Examples of PRB's leading publications include:

World Population Data Sheet

- Population Bulletin
- Population Today
- Reports on America
- U.S. Population Data Sheet
- Child 6 Billion
- US in the World

? Policy Project (of the Futures Group International) http://www.policyproject.com/ (202) 775-9680 The Policy Project, a program of the Futures Group International in collaboration with Research Triangle Institute and the Center for Development and Population Activities, works to develop and promote policies that sustain access to family planning and reproductive health services in developing countries. Publication categories include:

POLICY Occasional Papers Working Paper Series Manuals Policy Matters (Research Briefs) Flyers Commissioned Research Country Reports

? National Center for the Dissemination of Disability Research (NCDDR), www.ncddr.org

NCDDR is the one organization investigated that does not deal with international public health, however as described in this report, the organization was consulted because of its emphasis on information dissemination. Started through a grant from the National Institute on Disability and Rehabilitation Research (NIDRR), NCDDR aims to bridge the information gap and ensure that disabilities research outcomes reach people with disabilities and their families. Activities include research, demonstrations of research outcomes, dissemination and utilization activities, and technical assistance. Publications include:

Brochures Newsletters Posters Reviews of Literature Special Reports and Guides

? BASICS II (Basic Support for Institutionalizing Child Survival) www.basics.org

BASICS II is a USAID project aiming to improving child health in developing countries with a 1999-2004 time frame following BASICS I of 1994-1999. The agency works partners with other USAID projects, donor agencies, ministries, private voluntary organizations, nongovernmental organizations, and the private sector to reduce child mortality. BASICS II publication's are focused on the following areas:

- IMMUNIZATION
- INTEGRATED APPROACHES TO CHILD HEALTH (IACH)
- <u>NUTRITION</u>
- PERI/NEONATAL
- <u>CROSS-CUTTING TECHNICAL AREAS</u>
- GENERAL CHILD SURVIVAL

? ORC Macro www.macroint.com

ORC Macro, formerly MACRO International, is a multifaceted organization that conducted projects for public and private sector clients around the world focusing on research and evaluation, training, management consulting and information technology. Its research and evaluation capacity, the focus for this investigation, includes a Demographic and Health Research group provides international research and support programs including the Demographic and Health Surveys and Child Survival Technical Support.

? Family Health International www.fhi.org

FHI "works to improve reproductive and family health around the world through biomedical and social science research, innovative health service delivery interventions, training and information programs." The NGO works with governments, academic institutions and other NGOs around the world. Their publications and training materials are aimed at policy and community leaders and health providers and educators who deal with family planning, reproductive health, material health, gender issues, sexually transmitted diseases, including HIV/AIDS. Publication categories include: scientific journal articles, news briefs, case studies, working papers, books and reports, training manuals and other multi-media materials.

Appendix D. Packard-Gates Population Leadership Fellows interviewed and interview question template

Population Fellows interviewed:

- Oscar Noel Ocho, Acting Director, Population Program, Ministry of Health, Trinidad
- Dr. Bernice N.K. Dahn, Director, Family Health Division, Ministry of Health and Social Welfare, Liberia
- Dr. Hassan Mohtashami, Reproductive Health Consultant, Iran
- Dr. Anthony A. Ofosu, District Director of Health Services, Ministry of Health, Ghana
- □ Dr. Moawia E. Hummeida, Head, Department of ObGyn and Reproductive Health, University of Kordofan, Sudan
- Edith R. Mukisa, Project Manager, Naguru Teenage Information and Health Center, Uganda

The following questions served as a template during the interviews, but the discussions varied based on each fellow's responses. Therefore the list below is intended to provide an idea of the kinds of probe questions asked.

1. What do you think of the following matrix of indicators and the questions designed to capture them? *For each point in the matrices the following questions were asked:*

a. Is this indicator important and relevant? Why or why not?

- b. Are there better ways to measure these indicators?
- c. (If another question is needed): How would you rephrase this?

d. (If an additional indicator was needed): How might we measure this? What might the question look like?

2. What is the point of entry of publications in your organization?

- a. Who is the recipient?
- b. Do publications get passed around or do they sit somewhere for a long time?
- c. How do these factors influence a publication's use?

3. Are there impediments to use that I have not mentioned or captured in this list of indicators and questions?

4. How do you think different audience segments, perhaps even readers within the same organization, should alter the evaluation approach? For example, should different indicators and therefore questions be developed to evaluation the impact of publications on program managers versus service delivery providers?

5. Are there any other evaluation strategies you know of or would recommend beyond paper surveys, focus groups and key-information interviews?

a. Are online survey strategies appropriate and worthwhile?

Appendix E. Indicator questions for surveys, key-informant interview and focus group

Questions for survey format (largely close-ended or with room for respondent's detail):

1. How have you used this publication? Check all that apply.

- \Box In my immediate work²⁷
- □ Passed on to colleagues
- □ Passed on to your organization's library or resource center
- □ Used for courses, training, and/or presentations (*question 2, below*, *probes this*).
- □ Have not read or used the publication
- □ Other(s), please describe:

2. How have you used the information in this publication? What kind of activities? Check all that apply.

- Designing policy
- Designing curriculum
- Designing programs
- □ Training
- □ Increasing awareness
- □ Advocacy
- □ Information dissemination
- □ Have not used the information
- Other: _____

3. Thinking about the activities you checked above, about how often do you use this publication?

- □ Daily
- □ Weekly
- □ Monthly
- □ Have not used it since reading it
- □ Have not used it or read it
- 4. How relevant is this publication's material to your everyday work?
 - □ Very relevant
 - □ Relevant

²⁷ Another question and/or the PATH'S CCP database will categorize respondent's type of work.

- □ Somewhat relevant
- □ Not relevant

5. How appropriate is this publication's material to your everyday work?

- □ Very appropriate
- □ Appropriate
- □ Somewhat appropriate
- □ Not appropriate

6. Did this publication provide you with new information about cervical cancer prevention?

- Yes: please describe: ______
- 🗆 No

7. Did this publication change your level of concern for cervical cancer? For example, did the information provided change your view of how cervical cancer prevention policies or programs should be prioritized?

- □ Yes, I am much more concerned about this issue now.
- □ I am a little more concerned about this issue now.
- □ No, my level of concern has not changed as I was already concerned.
- □ No, my level of concern has not changed.

8. Did you, or do you plan to, share this publication with colleagues?

- □ Yes
- □ No

8a. For about how many of your colleagues' work do you think this information is relevant and useful?

- 🗆 All
- □ Most
- □ Some
- □ None

8b. Out of these, about how many were you able to pass this publication on to or how many were actually able to read and use the publication?

- 🗆 All
- □ Most
- □ Some
- □ None

8c. To what extent do you think this publication will or could increase knowledge among your colleagues regarding cervical cancer prevention?

- □ A lot
- □ Somewhat
- □ A little
- □ Not at all
- □ If so, please describe how: _____

8d. To what extent do you think this publication will or could influence attitudes among your colleagues regarding cervical cancer prevention?

- □ A lot
- □ Somewhat
- □ A little
- $\Box \quad \text{Not at all}$
- □ If so, please describe how: _____

9. Have you cited this publication in a report, presentation, or meeting etc., or do you think you will do so in the future?

□ Yes □ No

10. Have you used material from this publication for health education?

- □ Yes
- D No

Point-of-entry and recipient organization dissemination process questions:

11. Who is the initial recipient of these publications in your organization?

- □ Yourself
- □ The Director
- □ Someone in a different/central office
- Library or resource center
- $\Box \quad Don't know$
- Other: ______

12. How does your organization typically circulate publications?

- □ Publications are sent to and kept in the library
- **D** Publications are passed around the organization via a distribution list
- **D** Publications typically stay in the office of the person who received it

- □ Publications are often lost or misplaced
- □ Other: _____

13. How available is the publication for you to use it when you want it?

Always available
Usually available
Sometimes available
Not usually available
Never available

14. Does the publication clearly explain how to get more copies if you want more?

- □ Yes
- 🛛 No

15. Did you (or your organization) receive enough copies of this publication?

- □ Yes
- □ No

Impediments to information use:

16. What are the factors that may prevent you from using information? That is, if the publication provided you with new information, are there reasons why you nonetheless are unable to use this information? Check all that apply:

- Budget constraints
- □ Cost
- □ Absence of infrastructure
- □ Lack of personnel
- □ No mandate
- □ No authority
- Other, please describe: ______

17. Do you find that there is inconsistency in the amount (and regularity) of receiving (these) publications at your organization?

- □ No
- □ Yes. If so, please check all that apply of the following:
 - Problems in the national mailing system
 - Change of address within your organization
 - Publications are being sent to a former staff member who has left
 - Publications are not arriving in a timely or consistent manner
 - Publications are often lost or misplaced

- My organization was taken off a mailing list because it did not respond to an earlier survey
- Other, please describe: ______

Open-ended questions for focus groups or key-informant interviews (in addition to those above which can also be used as open-ended questions):

18. What are your main information sources for cervical cancer prevention (CCP)? For example, where do you go to get the information you need on cervical cancer?

- □ Please describe.
- □ Probe: why do you choose these materials?
 - o Language
 - Organization of material
 - o Access
 - o Other

The following 2 questions are for service providers:

19. How, if at all, has the information in this publication helped you or influenced the way you conduct cervical cancer screening or other relevant services?

- Please describe:
- □ This publication has not helped or influenced my work or service delivery.

20. How has the information in this publication helped your organization or influenced the way it conducts cervical cancer screening or other relevant services? How might it help or influence services in the future?

- □ Please describe:
- □ This publication has not helped or influenced my organization's work or service delivery.

The following two questions are for program managers and policymakers:

21. Have you used this information during in reports, speeches or at conferences and meetings with other program managers and/or policymakers? For example, have you referenced this publication?

- □ Yes, please describe:
- □ No

22. Have you used information from this publication in program design, such as in training curriculum?

- □ Yes, please describe:
- □ No

23. *Barriers to use probe questions*: Please describe which of the following are impediments to use and why. Please also explain any others not mentioned here.

- □ Language
- □ Finding information in publications organization of information in publications
- Different levels of information impact at different levels of an organization
- □ The need for information that applies widely *and*;
- □ The need for specific information that is tailored to audience segments needs and potential application of information.
- □ The variation in level and activities of the publication recipient.

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