

# MEASURE *Evaluation* Bulletin

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INVESTING IN POPULATION, HEALTH AND NUTRITION  
MONITORING AND EVALUATION:  
LESSONS LEARNED



<b>Challenges in Monitoring and Evaluation of Population, Health and Nutrition Programs: An Introduction</b> <i>Sara Pacqué-Margolis</i> .....	<b>1</b>
<b>Performance Monitoring Plans and R4s: Field Practices and Lessons Learned</b> <i>Catherine Elkins</i> .....	<b>3</b>
<b>Monitoring Area-based Programs through Surveys: The Uganda DISH Experience</b> <i>Ruth Bessinger</i> .....	<b>7</b>
<b>Monitoring and Evaluation Practices of the USAID/Turkey Population Program</b> <i>Jill Mathis, Pinar Senlet, Ersin Topcuoglu, Rifat Kose and Amy Tsui</i> .....	<b>13</b>
<b>Investing in National Surveys for Monitoring and Evaluation: USAID in Tanzania in the 1990s</b> <i>Ties Boerma and Catherine Elkins</i> .....	<b>19</b>
<b>Monitoring Complex Projects with Results Frameworks: The Central American HIV/AIDS Prevention Activity</b> <i>Gabriela Escudero</i> .....	<b>25</b>

# Challenges in Monitoring and Evaluation of Population, Health and Nutrition Programs: An Introduction

Sara Pacqué-Margolis [1]

The last decade has witnessed an increased focus and investment by the United States Agency for International Development (USAID) in the development of systems for results-based program development, monitoring and evaluation. The catalyst for the results-based approach was the passing of the Government Performance and Results Act (GPRA) in 1993. Over time, USAID has developed or has supported the development of strategic planning and performance monitoring tools, guidelines and approaches to facilitate the Agency's responsiveness to the GPRA requirements. Simultaneously, the Agency has sought mechanisms to increase the capacity of its staff and field partners to effectively use these tools and guidelines for results-based programming and reporting.

As a result of the heightened focus throughout the Agency, and specifically in the Population, Health and Nutrition (PHN) sector, on accountability through demonstration of program impact, USAID-affiliated public health professionals are universally expected to be knowledgeable about monitoring and evaluation (M&E) concepts, methods, principles and tools. Yet despite the importance and nearly universal implementation of M&E activities in USAID health programs, there is a lack of shared knowledge and understanding among development practitioners concerning the objectives, methods, costs and challenges of monitoring and evaluation activities.

In addition, and just as importantly, it has become apparent that the findings of USAID M&E activities are less than optimally disseminated to the potential audience of users. Improving the use of data derived from M&E activities through program and policy development and advocacy is necessary to ensure maximum impact on health outcomes. This bulletin is an effort to begin to address these gaps by sharing lessons learned from the past five years of technical assistance to the field under the MEASURE *Evaluation* Project.

The following pages provide a snapshot of M&E experiences from USAID missions around the globe. The M&E challenges and approaches described in each country or region vary greatly. However, what the case studies share is a

## Box 1. Elements of the M&E Planning Process

- Specification of **WHY** the M&E plan is being developed (i.e., definition of the plan's objectives and potential uses of the M&E data)
- Definition of **WHAT** results are to be monitored (i.e., process, output, outcome) and/or **WHAT** questions are to be answered by the monitoring or impact evaluation activity
- Specification of **WHERE** or at what level the plan will be implemented (i.e., international, national, regional, district, etc.)
- Designation of **WHO** will be participating in the implementation of the M&E activity, with a clear specification of their roles and responsibilities, including those of the potential *users* of the M&E data
- Determination of **HOW** the M&E data will be collected, analyzed, disseminated and used
- Estimation of **HOW MUCH** the M&E plan will cost to implement

logical approach to a basic function of USAID program managers, that being M&E planning (Box 1).

The planning process itself is iterative. It may well turn out that, after having completed the first five steps above, the estimated cost of the proposed M&E activity may surpass the budget available. Under this scenario, the scope and proposed methods of the M&E activity must be revisited and modified in order to fit within the budget available, while ensuring that data quality is not compromised.

Finding the appropriate balance between cost and scope is but one of the many challenges that must be addressed in developing and implementing M&E plans. Many others are explicitly or implicitly described in the following articles, and include the following to name a few:

## ***Breadth and Depth***

As many USAID missions increasingly move towards program integration across health sub-sectors (e.g., family planning, child survival, HIV/AIDS) or social sectors (e.g., health and education) and multi-sectors (e.g., health, democracy and governance, economic growth), the demand to broadly monitor and measure program outcomes increases. In so doing, there is likely to be a loss in terms of the depth of measurement across aspects of any one of these program elements.

## ***Timeliness and Capacity Building***

As a U.S. Government agency, USAID is ultimately held accountable by Congress for the results it produces. The annual reporting requirements that underlie the periodicity of USAID data collection efforts influence the choice of what is measured (i.e., if it can't be measured or if it doesn't change on an annual basis, then it is a less feasible construct for an M&E plan.) The relatively short timeframe for data collection may also come into conflict with an equally important USAID objective: capacity building. A commitment to the transfer of competencies to local counterparts and institutions is a long-term commitment, often requiring the ability to wait for results or contributions well beyond the timeframe of USAID reporting requirements.

## ***Standardization and Flexibility***

One of the greatest challenges faced by M&E experts is how to design M&E plans that are flexible enough to respond to changes in the program environment, yet are standardized and fixed to the degree that comparisons can be made over time and trend analysis can be undertaken. The analysis of

data from M&E activities typically leads to a better understanding of factors underlying the strengths and weaknesses of a program. Consequently, programs may be modified with new results identified. The new results must also be measured, thereby requiring new indicators and/or different M&E approaches. However, if indicators are changed or the methods and metrics for measuring results change, the ability to monitor trends over time is undermined. M&E planners must continually assess the costs and benefits of modifying M&E plans in the course of program implementation, so as to balance the need for standardization with the need for flexibility.

The articles in the following pages highlight many of the issues discussed above by sharing specific experiences in monitoring and evaluation of USAID PHN programs in the field. While the methods and tools applied in the different countries are highly variable, the basic principles of planning M&E activities, implementing those plans, and using the data collected are universally applied. It is envisioned that the sharing of lessons learned from this limited set of MEASURE *Evaluation* technical assistance efforts will serve as a catalyst for increased sharing of experiences in the future, improved program monitoring and evaluation, and ultimately increased impact on health outcomes.

## ***Notes***

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## Performance Monitoring Plans and R4s: Field Practices and Lessons Learned

Catherine Elkins

- ✓ A review of the monitoring and evaluation (M&E) indicators used by USAID Missions to report on Population, Health and Nutrition (PHN) programs during the pilot period of the Government Performance and Results Act (GPRA) shows that, while most Missions use indicators tailored to their specific context, some convergence to widely used indicators is occurring.
- ✓ Several years of technical assistance by MEASURE *Evaluation* to Missions brings out the key challenges to better M&E, including selection of indicators and data collection methods, dissemination of results, assessment of quality of results, and flexibility of indicators over time.
- ✓ With the increasing emphasis on demonstrating measurable program results, further efforts to enhance M&E capacities within USAID Missions are crucial to M&E planning, implementation, and success.

The state of the art in Monitoring and Evaluation (M&E) for the U.S. Agency for International Development (USAID) has been shaped in recent years by the requirements of the Government Performance and Results Act (GPRA), passed in 1993. This Act was part of the “re-inventing government” phase of the first Clinton administration, and was conceived of as a way to focus the attention of federal agencies on maximizing the effectiveness of their programs and activities [1]. Although it requires specific steps in planning, implementation, and results reporting by each federal agency, operational details have been left largely to the discretion of each agency's administrators. In the 1990s, USAID met its GPRA obligations in part through requiring Performance Monitoring Plans (PMPs) and Results Review and Resource Request (R4) reports from its overseas Missions and other operating units. Although the R4 reporting format has been replaced by Annual Report guidelines, the basic M&E steps remain much the same. Each Mission's PMP is the fundamental document structuring M&E activities associated with single-country or regional programs over a number of years (usually five), and each Mission must annually report information on progress and achievements over the previous year and provide budget justifications based on performance and the Mission's (revised) plans and expectations.

At the core of PMPs and R4s are, therefore, indicators intended both to satisfy USAID's internal needs to monitor and evaluate the performance of its programs and activities and, at the same time, to meet GPRA requirements. In other words, useful performance indicators must serve a wide range of practical, methodological, and political needs, which means that finding useful performance indicators is a serious challenge and ongoing task. MEASURE *Evaluation* has provided technical assistance in the field to USAID's overseas Missions and their implementing partners, and has also provided analytical support to USAID/Washington on request.

### *Use of Indicators by Missions*

From early 1998 through 2000, MEASURE *Evaluation* maintained a database of results-oriented Population, Health and Nutrition (PHN) indicators drawn from USAID R4s. The reports used to create the database include those from USAID bilateral and regional Missions' PHN programs in USAID's Africa (AFR), Asia and Near East (ANE), and Latin America and the Caribbean (LAC) regions. The database was analyzed to identify those PHN indicators that were in wide use across the range of USAID Missions represented

in these three regions. Approximately 600 indicators from 41 USAID operating units across these three regions were examined for their commonalities. Twelve indicators exceed a threshold of use in at least 10 Missions in the 1998 R4 database, cumulatively representing approximately one-third of all indicators contained in the database (Table 1). Two-thirds of all indicators used, then, were used by relatively few Missions to monitor results of relatively uncommon or context-specific program activities.

Analysis of the database contents demonstrates that there is basic agreement on some indicators across Missions across all three regions. A total of 215 indicators (35%) from the database fit into one of these twelve sets. The two most frequently used indicators are contraceptive prevalence rate (CPR) and couple-years of protection (CYPs), with 37 and 30 reported uses, respectively. If Condom Sales/Distribution were combined with Condom Use, the resulting “condoms” set would include 38 indicators.

Several regional differences are immediately obvious: Knowledge of HIV/AIDS/STIs is most widely used in the Africa region. ANE and LAC Missions' indicators suggest stronger emphasis on fertility and infant mortality in those areas. CPR and CYPs, on the other hand, are reported nearly everywhere. The variation is likely associated with differences in PHN program priorities by region.

A variety of data sources is used to report on the indicators. Of the 236 known data sources for the widely used indicators, 127, or 54%, are surveys. Just under 35% of the known sources rely on routine data. DHS surveys are the primary source of survey data, even though there are long intervals between these surveys (typically, five years).

## **Lessons Learned from Technical Assistance**

Working within the framework of GPRA requirements over the last decade, USAID has invested resources in implementing, reviewing, and redesigning M&E efforts. MEASURE *Evaluation* has been engaged in helping USAID improve the M&E of PHN programs in many ways. Some of the lessons learned from these experiences are described below, with others also discussed in the following articles in this bulletin.

*Develop M&E plans with a diversified portfolio of data types and data collection activities.* Survey data can be expensive, and routine data can be unreliable; qualitative data can generate insight while quantitative data can inform managers about broader impacts and coverage. Although high quality data are always to be preferred, such data are not always available, or affordable. M&E plans that find ways to employ complementary data sources and data collection

techniques in order to triangulate the Mission's understanding of results and program impacts more completely are to be preferred, because they tend to be more resistant to unexpected change or unanticipated events (earthquakes, program revisions). Use of multiple data sources helps ensure that the M&E plan covers results at all levels, e.g., assessing the impact of activities on populations as well as facilities.

*Indicator selection must match the M&E needs of the program, project, and activity.* Deciding on indicators and the other elements of strong and effective M&E plans can be an arduous exercise for project partners, but it pays off significantly over time. Matching indicators to activities by clearly identifying objective and measurable results occurs most effectively through full participation and collaboration of partner organizations in all stages of M&E planning. Different partners have their own information needs at various levels, and all organizations have an interest in their activities and contributions to program results being represented as fully as possible to higher levels. Yielding to this tendency, however, can result in a bloated and unwieldy M&E plan, with so many indicators that it becomes difficult to discern the information that both enables sufficient oversight to detect potential problems and also reflects the essentials of intervention successes. Participatory identification of concrete, objective results can be a very useful tactic for selecting among the vast array of possible indicators, for instance through collaboratively creating a tool (e.g., Results Framework) for all partners to find the ones that best match the core interventions of the overall program.

*All indicators require critical scrutiny.* The most highly approved, officially sanctioned indicator is only good if it is appropriate for a particular program, particular activities, and particular desired results. Without critical scrutiny prior to adoption of M&E indicators, and again after data collection has been completed for those indicators, the program's M&E information may end up being both expensive and not useful. It is not necessary to design new indicators from scratch for every program and project, but it is always important to think critically about which indicators, using which data, from the universe of possible indicators and data, most appropriately serve a specific health intervention's M&E purposes in the specific operational context.

M&E information's value is based on its ability to contribute to understanding what is and what is not working, thereby contributing to improved program decision-making. Better decision-making means that costs can be minimized while impact is maximized.

**Table 1: WIDELY USED INDICATORS, COUNTS BY REGION, 1998**

	Regional Missions	Bilateral Missions			TOTAL
		AFR (18)	ANE (8)	LAC (13)	
Contraceptive prevalence rate		16	12	9	37
Couple-years of protection	1	11	7	11	30
Condom sales/distribution	3	10	4	3	20
Condom use		8	5	5	18
Immunization coverage		8	4	6	18
Total fertility rate		4	7	6	17
Infant mortality rate		1	6	7	14
Government allocations/expenditures		3	5	5	13
Knowledge of HIV/AIDS/STIs		10	1	2	13
PHN policies developed/implemented	1	5	4	3	13
Births attended by a trained provider		3	5	3	11
Oral rehydration therapy use		5	3	3	11
Total	5	84	63	63	215

*Data and data collection quality assurance may require professional/technical assistance.* It is not only survey data that can have serious technical flaws, such as coming from unrepresentative samples or being elicited through poorly constructed questions. Quality issues for non-survey data include appropriate and consistent coverage (for instance, in aggregated service statistics), adequate and sufficient training and materials for routine data collection on site, and selectivity biases. Other issues that may need to be considered from a technical perspective to assess impacts on data quality include frequency of data collection (e.g., mortality statistics), construction and calculation of indices or other complex indicators, and subjectivity in measurements. Many of these issues can be addressed with minimal technical expertise; however, program managers and local M&E staff may not always be able to recognize when problems exist, or be able to diagnose how serious the technical issues may be. Local experts and professional M&E colleagues may be able to pool their knowledge and help each other critique data and indicators. They should also be able to recommend external technical assistance when it may be a worthwhile and cost-effective use of resources.

*Maintain a paper trail.* Often, so much time and energy is needed to figure out what program predecessors did, and why, that there may be little enthusiasm left for managers and staff to take the extra time and trouble to establish and maintain their own paper trail. Unfortunately, this can ensure that the same cycle will return to plague successors. Investing resources into creating a clear paper trail that documents the decisions made, with particular attention paid to recording rationales and trade-offs, as an M&E plan is built, will be valuable in subsequent rounds of data collection and

analysis under that plan. Such a paper trail is absolutely invaluable when the time comes to revise or renew Strategic Plans, Results Frameworks, and M&E plans.

*Find ways to make reporting requirements work in the interests of decision-making needs.* A participatory approach to the design of M&E plans can help make the reporting experience a valuable one for all contributors. Keeping in mind other M&E goals, such as data-based program management and dissemination of results, when collaborating over how to meet reporting needs is one way to ensure that M&E is seen not as a chore but as an opportunity for partners to gather and share information they themselves need, about how their activities are - or are not - working.

*M&E results must be interpreted in context and disseminated appropriately in order to contribute productively to program effectiveness over time.* While well-designed M&E helps identify areas of project success or stagnation, the numbers alone do not tell the full story. Designing an M&E plan requires thinking ahead to the stories the numbers might tell, and how the rise or decline in the value of an indicator might be explained by contextual factors that may, for instance, be beyond the program's control. In order to attribute changes in the values of indicators to program activities, one must take into account the activities of other donors, other host government programs, and many other factors; and taking these variables into account almost invariably is best pursued as a collaborative venture among partners and stakeholders. Local ownership and appropriate sharing of results data are fundamental to fruitful discussion of all relevant factors, leading toward better understanding of ongoing

ing measurement of program impacts, which is more likely to lead to better-informed programmatic decision-making.

*Trends must be interpreted cautiously and from multiple perspectives.* Combining data from sound surveys that have used similar sampling frames and validated indicator-driven questions with data from program implementation and activities provides a more complex, and more complete, way to understand the impact of various interventions within the appropriate “big picture.”

*When programs evolve significantly, M&E must evolve.* It is important to maintain continuity in implementing M&E plans, so that longitudinal data can inform program implementation and allow meaningful interpretation of impact and results. However, this must be balanced against the costs of data collection and the scarce resources that typically constrain M&E efforts and activities over the life of a project. In many cases, incremental changes can be made, or data for two related indicators can be collected, or new indica-

tors calculated retroactively, in order to assess their appropriateness for measuring the results of a program's revised activities and establish or approximate baseline values. Most programs should not see much significant change within an M&E plan's implementation period, but where programmatic changes are significant the M&E plan may also require revision in order to maintain its usefulness for measuring the results of actual, ongoing activities.

## Notes

[1] Albert Gore, Jr., *Creating a Government That Works Better and Costs Less* (Washington DC: GPO, 1993). See also the Government Performance and Results Act of 1993, which requires the reporting of “objective, quantifiable, and measurable” program results. The current administration of George W. Bush has indicated an interest in results-oriented management of federal operations; see, e.g., <http://www.whitehouse.gov/news/usbudget/blueprint/budix.html>.

# Monitoring Area-based Programs through Surveys: The Uganda DISH Experience

Ruth Bessinger

- ✓ **MEASURE *Evaluation* supported the Uganda Mission in developing and implementing an extensive monitoring and evaluation (M&E) system for the Delivery of Improved Services for Health (DISH) project. The M&E system included the DHS, focused population-based surveys, facility surveys, and Health Information System (HIS) data.**
- ✓ **As a result, DISH was able to demonstrate impact of program interventions on some reproductive health behaviors and to identify and address less successful interventions. Also, the Uganda Mission had regular meaningful data for program management and annual reporting.**
- ✓ **The use of multiple sources of data allows more flexibility and regularity in reporting and is more robust if problems occur with one of the planned sources of data (such as inadequate or poor routine health information).**

The Delivery of Improved Services for Health (DISH) project, funded by the U.S. Agency for International Development (USAID), is one of the largest reproductive health programs in Uganda. The project operates in 12 of the country's 45 districts, covering about 30% of the country's population. The DISH project aims to increase health service utilization and to change population behaviors related to reproductive, maternal, and child health. The first phase of the DISH project ran from June 1994 to September 1999 with a second phase running from October 1999 to September 2002 [1].

## ***Design of the Monitoring and Evaluation System***

At the start of the DISH project, a monitoring and evaluation (M&E) system was put into place that was the result of a collaborative design effort among The EVALUATION Project (predecessor of MEASURE *Evaluation*), USAID/Uganda, and DISH. This system was structured around use of the Uganda Demographic and Health Surveys (UDHS) and smaller-scale interim surveys to monitor trends in reproductive health knowledge and behaviors in the DISH intervention districts. The surveys were to be conducted

about every two years; a period of time long enough to allow for an assessment of changes in indicators, but short enough so that timely data would be available to monitor and report on program progress periodically. In addition to population-based surveys of men and women of reproductive age, interim surveys were to include facility surveys (FS) to monitor the availability of services and readiness of health facilities to provide quality services. These data would also be used to evaluate the effect of DISH program activities on reproductive health knowledge and behaviors.

Funding for the M&E system was provided by USAID/Uganda through field support funds to MEASURE *Evaluation* for technical assistance, and through DISH to cover the local costs of implementing the surveys. MEASURE *Evaluation* worked with DISH on the design of the surveys and instruments, training of field staff, and data analysis and reporting. MEASURE *Evaluation* also provided technical assistance directly to the mission in performance monitoring and annual reporting and conducted further analyses of the data. While the total costs of the M&E system varied from year to year depending on whether or not a survey was fielded, the average cost for technical assistance was about \$200,000 per year.



## Street Scene in a DISH District, Uganda



### *Design and Implementation of Surveys*

Although true measurement of indicator baselines was not possible, the 1995 UDHS did provide some data near the start of the project in the DISH areas. The 12 DISH project districts were oversampled in the 1995 DHS in order to allow estimation of key indicators for project area populations (Figure 1).

The smaller-scale interim surveys, DISH Evaluation Surveys (DES), were conducted in 1997 and 1999. Approximately 1,700 women 15-49 years old and 1,000 men 15-54 years old were surveyed in each round, using the same sampling scheme and the same clusters as the 1995 DHS had used in order to ensure comparability of results between surveys. In addition, the DES used many identical questions. The interim surveys, however, focused on measuring program outputs such as exposure to mass media messages, and program outcomes, such as changes in knowledge and behavior, rather than trying to measure demographic indicators such as fertility or mortality. Indicators selected for program monitoring and captured by the surveys were those most directly linked to program activities and those most likely to change over a two-year period.

As planned, a facility survey was also conducted immediately following the population-based survey in both 1997 and 1999. The facility surveys were designed to assess the availability of reproductive and child health services and the readiness of health facilities (based on staff training and the availability of equipment, supplies, and commodities) to provide such services. In 1997, the sample included ap-

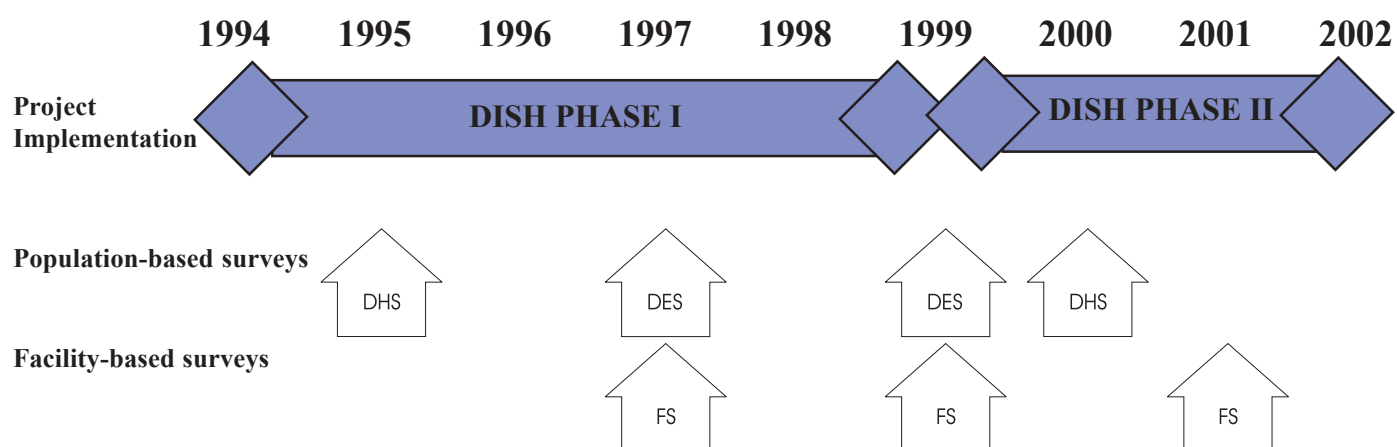
proximately 170 public sector facilities. In the 1999 survey, the sample was redesigned to capture both public and private sector facilities and included a total of nearly 300 service delivery points [2].

The 2000/01 UDHS also oversampled the DISH districts to provide precise estimates of key indicators in project areas. Because of the broader scope of collection, data from the 1995 and 2000/01 UDHS also allowed comparison of key indicators across DISH and non-DISH districts for the first five years of the project.

The third round of the DES was originally planned to start in early 2002 to ensure its completion by the end of the DISH project later in the year. Implementation at this time would have meant following the fieldwork for the 2000/01 UDHS by about a year, however, and such a short interval between surveys was unlikely to allow meaningful assessment of population changes or any reliable indication of trends. Thus, the 2002 DES included a facility survey but not a population-based survey.

While this article focuses on lessons learned from experiences with the surveys constituting the essential core of the DISH M&E system, the M&E system also includes periodic use of data obtained from other sources to monitor other results and report other performance indicators. Project records provide annual data on the results of training, among other activities, while health information system (HIS) data provide annual information suggestive of emerging trends in the target population's utilization of maternal, reproductive, and child health services at sentinel sites.

Figure 1. Surveys during the DISH Project



### Program Monitoring

*Lesson learned: Well-designed M&E helps identify areas of project progress versus stagnation.* Periodic surveys enabled the project to identify activity areas where progress was being made and other areas where little seemed to be changing. Positive change can be shown in the area of family planning, a major focus of DISH activities. Results from the population-based surveys show changes in individuals' exposure to mass media messages that focused on promoting family planning and contraceptive use. In the DISH districts, the percentage of women who reported having heard advertisements on the radio about family planning in the six months prior to the survey increased from 47% in 1995 to 75% in 2000/01. The greatest increases in exposure to mass media messages occurred during the first two years of the project (1995-1997). Over the course of the project, use of a modern method of contraception among married women in DISH districts rose from 13 to 24%, again with the most dramatic increases being seen in the early years of the project (Figure 2).

While the survey data showed strong progress in the area of family planning, it also highlighted the existence of areas where little progress was being made. For example, while the project also aimed to increase antenatal care utilization, the survey data show that there was no change over time in the percentage of women who made their first antenatal clinic (ANC) visit during the first trimester (about 17%), or the percent making the recommended minimum number of visits (about 75%).

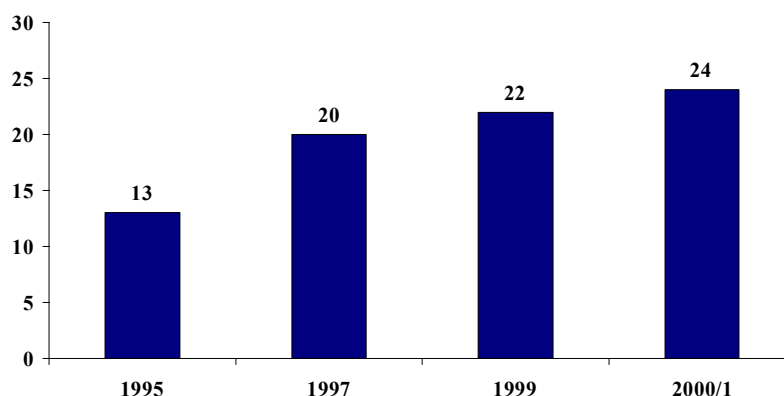
The facility surveys provided information complementary to that obtained in the population-based surveys. The facility surveys in 1997 and 1999 demonstrated the increasing

availability of family planning and other reproductive health services in the DISH districts. This was a result of training of health care providers coupled with expansion of services. The facility surveys also revealed significant problems that facilities were experiencing in maintaining adequate stocks of contraceptives, a factor that may have negatively affected contraceptive use. In 1999, for example, almost one-quarter of government facilities had experienced a stockout of oral contraceptives in the month prior to the survey, while over one-half had experienced a stockout of condoms. The DISH project therefore was able to use this M&E information and take action to improve the logistics system, ensuring a more continuous supply of contraceptives and other key commodities.

### Health Information System

*Lesson learned: Low-quality data require complementary M&E efforts to interpret results.* While data for monitoring utilization of services were available annually from the HIS, data quality and completeness were suspect. In addition, HIS data come from sentinel sites in the public sector, so the representativeness of any trends seen in the HIS data would be questionable. The survey data therefore were needed both to confirm and to explain trends seen in the HIS indicators. For example, the annual number of antenatal care visits at HIS sentinel sites fluctuated somewhat from year to year with no clear trend apparent. Results from the population-based survey however also indicated that there was little change in antenatal care utilization among women living in DISH districts. Since the data from the two sources were consistent, it can be concluded that the HIS data accurately reflected the lack of overall change in utilization of ANC services in the DISH districts and could thus be relied upon to track ANC service utilization.

**Figure 2. Percent of Married Women Currently Using a Modern Method of Family Planning, DISH Districts, Uganda.**



Couple-years of protection (CYPs), another HIS indicator, fluctuated greatly from year to year, actually declining in the middle years of the project. On the other hand, the survey data indicated that the contraceptive prevalence rate (CPR) was continuing to increase over that same period. More detailed analysis of the survey data revealed that a declining percentage of women was obtaining contraception from public facilities while the percentage of women obtaining methods of contraception from the private sector was increasing. As the HIS only covers the public sector, the increase in the use of the private sector for family planning was not reflected in that data. In addition, survey data showed that the increase in CPR was due to increased use of short-term methods, such as injectables and condoms, which have a relatively small impact on CYPs due to calculation factors. This was accompanied by a decline in the use of permanent methods, which have a proportionately greater impact on total CYPs.

## Evaluation

*Lesson learned: Impact analysis shows DISH did make a difference.* In addition to program monitoring, the survey data have been used to evaluate the impact of the DISH project on reproductive health outcomes. Analyses of the 1997 and the 1999 DES linked facility- and population-based data to assess impacts of changes in the health facility environment on the population's reproductive health knowledge and behaviors. Results of an impact analysis of the 1999 data indicated that, in rural areas, greater choice of family planning supply methods (condoms, pills and injectables) had a measurable effect on current use of modern contraceptives. Other characteristics of the service delivery environment, such as training of staff and availability of educational materials, were not significant factors. On the other

hand, in urban areas, the availability of trained staff and the presence of private sector facilities (perhaps because they increased the availability of contraceptives) were shown to be positively associated with women's use of modern contraceptives.

An analysis of the data from the series of population-based surveys highlighted the positive effect of exposure to mass media messages promoting family planning on women's intention to use and use of a modern method. A similar analysis found that exposure to mass media messages on STI prevention and condom use were associated with a significant increase in knowledge and use of condoms for HIV/STD prevention, for both men and women.

## Dissemination and Use

*Lesson learned: Adequate staff time and resources must be allocated to M&E follow-up.* The results of the DISH surveys have been disseminated widely in Uganda and internationally to a variety of audiences. DISH disseminated the findings from the 1997 surveys at annual meetings with USAID, NGO partners, Uganda Ministry of Health officials and district-level counterparts. Unfortunately, limited staffing in the research and evaluation office of DISH in the early years of the project constrained more intensive dissemination and discussion of results at that time. In 1999, a much greater effort was spent on disseminating results within Uganda. In addition to workshops with stakeholders in Uganda to disseminate program progress, the project put time and resources into emphasizing dissemination at the district level. District-level seminars were held in each of the 12 DISH districts to disseminate information about trends seen in the DES as well as results from other research activities conducted by the project. Discussion of

results and implications for program planning also occurred as part of work-plan meetings with district staff.

The USAID mission in Uganda relied heavily on the DISH M&E data for its annual reporting to Washington. While the relatively small samples and close timing of surveys meant that it was not always possible to assess whether changes in some indicators might be due to sampling error, or instead might reflect real changes in the phenomena underlying those indicators, having repeated data points collected over time did allow for trends to be assessed. As previously noted, the survey data were used to provide context for and to validate patterns revealed in the less reliable HIS results. This use of the DISH M&E data was particularly important since the HIS data were drawn on more heavily for annual reporting in the years that no survey data were available.

The DISH project also used the surveys as an opportunity to collect additional information needed for program planning, especially for behavior change communication (BCC) activities. For example, questions were included in the population-based surveys to capture media listening habits, and the data on responses to these questions were found to be extremely useful for planning further mass media activities.

### **Learning M&E Lessons through DISH Collaboration**

An M&E system is a long-term activity involving, in this case, several partners. The DISH M&E system was incorporated into the plan for the project in the early phases, with commitments from both USAID/Uganda and DISH to carry out the plan through the life of the project. While changes in staff at the mission and in DISH project management did influence the content and scope of the surveys, comparability of key indicators was maintained over time and the surveys were implemented at regular intervals. Changes in reporting requirements instituted by USAID/ Washington also influenced the need for data and thus heightened the importance of the surveys for annual reporting by the mission.

The monitoring of key indicators in the DISH districts demonstrated progress in a number of areas, family planning in particular. When results of the 2000/01 UDHS became available so that trends in both DISH and non-DISH districts could be comparatively assessed, there were clear improvements in both for many indicators. While other projects did intervene in these non-DISH districts, and some of the DISH interventions may have had effects outside the boundaries of the project areas, the progress in the non-DISH areas was

greater than expected. A possible lesson suggested from this experience may be that in order to attribute progress to project activities in subnational intervention areas, it would be advisable to include additional planning for and funding of M&E to cover the rest of a country, or at least selected non-intervention areas, from the early stages of developing a project to its conclusion. If budgets and logistical constraints allow, including M&E of non-intervention areas for comparative purposes can certainly create a clearer picture of the effects of a project's interventions.

An effective and useful M&E system requires close collaboration between the implementing organization and the group providing the technical assistance in M&E. In the case of DISH, this collaboration was facilitated by having a DISH staff member with training and expertise in M&E. DISH M&E staff participated in MEASURE *Evaluation* workshops for building skills in monitoring and evaluation and increasing their exposure to state-of-the-art M&E strategies in relevant and targeted reproductive health areas. This contributed to the quality of the data as well as ensuring that data needs at DISH were appropriately met throughout the surveys' implementation and analyses.

### **Notes**

[1] Pathfinder International was contracted to oversee the implementation of DISH I. Collaborating partners were the Johns Hopkins University Center for Communication Programs (JHU/CCP), the University of North Carolina Program for International Training in Health (Intrah), and E. Petrich and Associates. Johns Hopkins University (JHU) is the prime contractor for Phase II. Implementing partners are the University of North Carolina Program for International Training in Health (Intrah), and Management Sciences for Health (MSH).

[2] Results from the first two rounds of the DISH surveys are available in the following publications:

Katende C, Bessinger R, Gupta N, Knight R, Lettenmaier C. Uganda Delivery of Improved Services for Health (DISH) Evaluation Surveys 1999. MEASURE *Evaluation* Technical Report Series No.6. Carolina Population Center, University of North Carolina at Chapel Hill. July 2000.

Katende C, Knight R, Gardner R, et al. Uganda Delivery of Improved Services for Health (DISH) *Evaluation* Surveys 1997. MEASURE *Evaluation* Technical Report Series No.1. Carolina Population Center, University of North Carolina at Chapel Hill. March 1999.

## Monitoring and Evaluation Practices of the USAID/Turkey Population Program

*Jill Mathis, Pinar Senlet, Ersin Topcuoglu, Rifat Kose and Amy Tsui*

- √ **USAID/Turkey made substantial investments in the development and implementation of a monitoring and evaluation (M&E) system for a family planning/reproductive health program that aimed to increase access to and quality of services.**
- √ **Close monitoring of results through facility surveys resulted in important adjustments of the program, and ultimately important improvements in the quality of services were demonstrated.**
- √ **A comprehensive and well-designed M&E plan was a significant program asset and local ownership and leadership was fundamental to success.**

Simple, state-of-the-art monitoring and evaluation (M&E) plans enable programs to make data-based decisions regarding public health interventions. These plans also provide funding agencies and those planning future interventions with evidence-based program outcomes. The USAID/Turkey Population Program implemented an innovative M&E system in order to better track progress and assess improvements in the quality of family planning services in Turkey [1].

Significant program improvements were targeted by the USAID/Turkey M&E plan and subsequently achieved over the 1998-2001 period, including:

- Availability of three or more modern methods increased from 70% in Istanbul and 67% in Cukurova facilities to 94% for both regions (Figure 1).
- Distribution of information, education, and communication (IEC) materials during client visits increased from 17 to 78% in Istanbul facilities and from 6 to 90% in Cukurova facilities.
- Scores on contraceptive commodity forecasting, budgeting, and procurement improved from 60 to 92%.

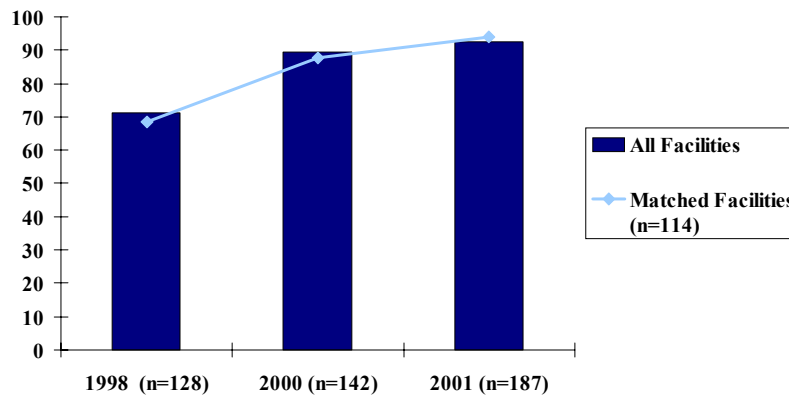
- The proportion of the government's Women's Health/Family Planning Plan activities that were completed rose from 18 to 67%.
- The proportion of health facilities that had a supervisory visit in the prior six months rose from 48 to 82%.

In addition to using indicators developed specifically to track improvements in the quality of and access to family planning and reproductive health (FP/RH) services, the M&E plan incorporates several accepted best practices in monitoring and evaluation. The M&E plan was designed to be a user-friendly tool for health facilities and local program managers, in order to improve prospects for program success and sustainability.

### ***The USAID Turkey M&E Plan***

*Strategic Framework.* USAID/Turkey designed its Family Planning and Reproductive Health Program to address issues of FP/RH service access, quality, and use. The overall strategic objective of the USAID/Turkey Population Program was to increase the utilization of family planning and reproductive health services. The program employed two major strategies to achieve this goal: 1) strengthening the

**Figure 1. Number of Istanbul Facilities That Provide 3 or More Modern Methods**



sustainability of the FP/RH program and 2) expanding high quality FP/RH services in the public and private sectors.

*The Monitoring Task Force and the M&E Plan.* USAID/Turkey organized several workshops during the M&E Plan design process, including workshops to identify data sources and establish indicators. Numerous in-country partners were therefore able to be involved in the development of the M&E Plan over the one-year planning period. These workshops were led by USAID staff with participating members including representatives from Turkish government agencies, universities, NGOs, pharmaceutical companies, and USAID Cooperating Agencies (CAs). The monitoring and evaluation plan for the USAID/Turkey program included a standard schedule for annual data collection to take place every June. Each September, a Monitoring Task Force would meet to compare measured indicator values with planned targets, and to develop action plans for modifying program activities accordingly.

*Use of Performance Benchmarks.* The Monitoring Task Force developed performance benchmarks for the USAID/Turkey Population Program using the information available on past progress, baseline indicator values, and the estimated capacity of implementing organizations.

### Indicators

The data collection activities and sources listed in the following section yield a total of 14 indicators, which are incorporated in the M&E plan. These indicators were determined in a collaborative and participatory process involving in-country partners and key stakeholders. Some of the program's indicators are commonly found in USAID performance monitoring plans. The M&E plan for Turkey, however, also includes several innovative indicators that were developed specifically to track improvements in the quality

of and access to FP/RH services, an emphasized target in the program. Three of these innovative indicators are described below.

*Quality Index.* The Quality Index is a composite measure made up of six indicators calculated from data from the quality surveys. The Quality Index helps track progress in achieving the expansion of quality FP/RH services, one of USAID/Turkey's two major program results. The six separate component indicators are measured in order to capture multiple dimensions of quality in family planning service delivery: modern method availability, availability of trained personnel, perceived quality of family planning counseling, adequate infection prevention measures, availability of IEC materials, and presence of clinic signs. Results from each of the six component indicators are combined to construct a composite index of family planning service quality.

*Joint Indicator for Contraceptive Self-reliance.* The contraceptive self-reliance indicator measures Turkey's growing ability to supply public sector facilities with contraceptives without external donor assistance. This joint indicator consists of three component indicators designed to capture the key areas of contraceptive commodities and logistics: forecasting, budgeting, and procurement; storage; and distribution.

*Indicator for Application of Training Skills.* The M&E plan includes an indicator that measures the percentage of health providers and trainers who apply new skills to their work. Specifically, the indicator measures the percentage of providers and trainers trained in IUD insertion, tubal ligation or no-scalpel vasectomy in the last 12 months who are performing those procedures or who are training others to do so.

## Rapid Data Feedback for Program Management



### Data Sources

Monitoring and evaluation of the USAID/Turkey Population Program uses data from the following sources:

- National population-based surveys (DHS)
- Administrative, service and financial statistics
- Self-administered assessments for NGOs and questionnaires for the Government of Turkey
- Quality Survey (local)
  - Facility check-list
  - Client exit interviews
  - Anonymous client visits (mystery clients)

All data were collected on an annual basis, with the exception of the DHS which is administered approximately every five years.

### Lessons Learned

USAID/Turkey, Cooperating Agencies in Turkey, and other Turkish stakeholders have learned a great deal from the development and administration of the M&E plan, which can be helpful for other programs that need to monitor family planning interventions and their effects on services. A range of principles and practices, listed below, contributed to the success of USAID/Turkey's M&E plan.

#### *Link the M&E Plan to the Strategic Plan and Workplan.*

While such a linkage may seem an obvious necessity, the USAID/Turkey M&E Task Force made an explicit effort to draw on workplan activities to derive specific Strategic Results, and to identify indicators corresponding closely to each of these results in order to track program progress. In other words, data collection in an M&E plan is but one step in the full M&E planning process, which should contain the following six elements:

- 1) Set program priorities
- 2) Develop program framework
- 3) Develop M&E plan
- 4) Collect data
- 5) Set/review targets (and review indicators if necessary), using M&E data
- 6) Develop program action plans and workplans, using M&E data

While steps 1 through 3 need to be addressed only once per program planning period (typically five years), the last three steps should be repeated annually. The annual collection of data thus forms a continual feedback loop, driving the revision of targets and the development of program workplans.

## Sample Feedback Report for Facilities in the Quality Surveys

<b>VISIBILITY</b>			
Permanent signs indicating the availability of FP services should be posted in each of the following three places:			
1.	Outside the building		
2.	Inside the building		
3.	On the door of the FP clinic		
<b>PERMANENT SIGN</b>			
State Hospitals	Outside the building	Inside the building	On the door of the FP clinic
Hospital A	-	-	-
Hospital B	-	+	-
Hospital C	+	+	+
...			
...			
Average for State Hospitals (%)			
Average for Province (%)			
<i>Percent of the facilities that have all three signs was: 17.2%</i>			

*Emphasize Efficiency and Cost-effectiveness.* Program M&E ideally balances quality and costs while providing speedy feedback of relevant data and maintaining a manageable level of simplicity. USAID/Turkey's annual indicators are drawn from quality surveys, NGO self-assessments, and service records and reports, and thus data can be collected and analyzed quickly and inexpensively. The required data collection procedures and analysis techniques are simple and can be carried out by local staff, which are key to quick and inexpensive measurement of results. Mechanisms to ascertain the level of quality of data collected from self-assessments and service records are equally essential.

*Use Data from Multiple Sources.* USAID/Turkey's FP/RH M&E plan takes a comprehensive approach in utilizing information from multiple data sources. Existing data from service statistics are also used where feasible in order to improve the efficiency of M&E activities. Use of multiple data sources helps program managers gauge progress at various levels of the program, from increases in contraceptive prevalence rate (CPR) at the national level to the improvement of infection-prevention measures at locally targeted clinics. At the same time, maintaining an appropriate

level of standardization and quality of all data being used is necessary.

*Employ a Participatory Approach.* Participation in planning tends to lead to stronger interest and participation in M&E exercises that occur later. Numerous in-country partners were involved in the development of the Turkey M&E plan, and they remain involved in the analysis of data and indicators. Monitoring Task Force members and their in-country staff participated in defining and measuring performance indicators, the collection and analysis of data, and in annual reports of indicator results to USAID/Turkey.

*Draw on the Best Combination of International and Local Expertise.* While some of the indicators in Turkey's M&E plan have been used extensively worldwide, some innovative indicators were developed locally. Local innovations in indicators require additional attention in their construction and local testing to ensure their utility and validity. In the case of the Population Program's innovative indicators, such as those drawn from the quality surveys, USAID/Turkey sought technical guidance from several CAs and adopted the indicators only after careful review of each vis-à-vis the international state-of-the-art in M&E practices.



**Table 1: Trends in Components of Quality Index: Istanbul 1998-2001, Cukurova 1999-2001**

Components	Istanbul (percent)					Cukurova (percent)		
	1998 Actual	2000 Actual Target		2001 Actual Target		1999 Actual	2001 Actual Target	
<b>Method Availability</b>	70.5	89.3	86.0	94.2	90.2	67.2	93.8	88.9
<b>Trained Staff</b>	70.6	75.6	81.0	77.8	79.8	51.6	56.0	62.2
<b>Quality of FP Counseling</b>	70.7	74.7	75.0	79.3	78.0	67.4	89.1	75.2
<b>Infection Prevention</b>	24.5	55.1	43.0	82.4	65.3	29.8	77.2	61.2
<b>IEC Materials</b>	17.2	67.2	73.0	78.3	84.4	5.5	90.3	55.0
<b>Visibility of Signs</b>	18.0	40.2	90.0	55.8	53.3	2.8	42.1	54.4

*Disseminate the Results to a Broad Audience.* Dissemination both inside and beyond a program's components completes the feedback circle. Dissemination of information at different levels within Turkey and through different forums takes place throughout the year. For instance, preliminary results of quality surveys are shared with the M&E Task Force. Input and feedback from the Task Force are then incorporated into a preliminary report, which is used for rapid regional dissemination. Results are shared and discussed in greater detail with a larger group of managers and service providers in a series of meetings at the provincial levels. A final report of quality survey results is then disseminated to a broad group of stakeholders on a national and international basis. Broad dissemination and discussion of results at all levels enables an exchange of information, creative thinking, and innovative solutions to outstanding issues.

*Facilitate the Use of Data for Program Improvement.* The feedback loops are important for an M&E plan's success, because M&E information must inform program decisions (whether confirming that activities and management are on the right track, or suggesting areas that need revision or a complete overhaul) to be fully useful. "Best practices" M&E plans yield "living data" by establishing structures to facilitate the use of data for rapid program improvement. Planning for presentation and use of M&E data at various levels identified a number of appropriate audiences for these results, and different dissemination approaches were used in the USAID/Turkey Population Program.

*Promote Sustainability.* Because local in-country staff designed and implemented the USAID/Turkey M&E plan with limited external technical assistance, the planning processes and M&E practices should be replicable by local partners in additional provinces and, following the USAID phase-out, with little external donor assistance.

While USAID currently still coordinates the M&E plan, responsibilities for selected M&E activities are being transferred over to the Ministry of Health so that M&E exercises can be continued by host country partners after USAID's phase-out.

### *Facilitating Features in Turkey*

*Local Talent and Initiative.* The implementation of an M&E plan requires high-caliber local expertise that is not always available in all countries. Because such expertise was available in Turkey, a locally driven M&E plan could be built in a relatively short period of time with limited outside assistance.

*Decentralized Structures.* Two features that facilitated the efficiency of the Turkey M&E plan were the decentralized structure and the established operations of health care organizations.

*Start-up Time for M&E Planning Processes.* Development of the Turkey M&E plan, including the indicators and benchmarks required approximately a year's worth of work and involved over 40 individuals representing various organizations. Such extensive time was fundamental to success because all elements of the plan were able to undergo regular modification and testing before being finalized.

*Aspects of Sustainability.* The Turkey M&E plan has been receiving financial and technical support from USAID. Over the years, the amount of assistance has decreased as financial and technical responsibilities gradually shifted from USAID to the local partner organizations. In particular, technical assistance needs decreased substantially as the local staff accrued more experience over the years.

Significant improvements in family planning programs and services have been measured through implementation of the M&E plan, as shown in Table 1. Trends in the quality index as well as other indicators from the Turkey M&E plan demonstrate the progress made towards targeted results in FP/RH service quality and program sustainability through this program.

## **Notes**

1. Mathis, Jill, Senlet P, Topcuoglu E, Kose R, Tsui A. 2001. Best Practices in Monitoring and Evaluation: Lessons Learned from the USAID Turkey Population Program. Carolina Population Center: University of North Carolina at Chapel Hill.

## Investing in National Surveys for Monitoring and Evaluation: USAID in Tanzania in the 1990s

*Ties Boerma and Catherine Elkins*

- ✓ **The USAID Mission in Tanzania invested heavily in national-level monitoring and evaluation (M&E) through surveys, and was the primary donor agency for four household surveys and four facility surveys in the 1990s, all based on nationally representative samples.**
- ✓ **Fertility and family planning results show that scaling-up programs must be accompanied by a proportional increase in M&E activities.**
- ✓ **Trends in child mortality results show that we should be cautious and systematic in interpreting trends and drawing conclusions from data at only two points in time.**

National surveys are an important source of data in the assessment of the impact of national programs on population and health outcomes. Large-scale national household surveys, such as a Demographic and Health Survey (DHS), can provide accurate information on levels and, if repeated over time, trends in fertility, child mortality, modern contraceptive use, and key child health interventions. Facility surveys can also provide similarly reliable information on the levels and, over time, trends in the provision of essential family planning and health services.

The USAID Mission in Tanzania invested heavily in national-level monitoring and evaluation (M&E) through surveys, and was the primary donor agency for four household surveys and four facility surveys in the 1990s, all covering nationally representative samples. What were the benefits of investing in these surveys? Were lessons learned that influenced program implementation? Have the surveys yielded valuable data for national-level monitoring and evaluation?

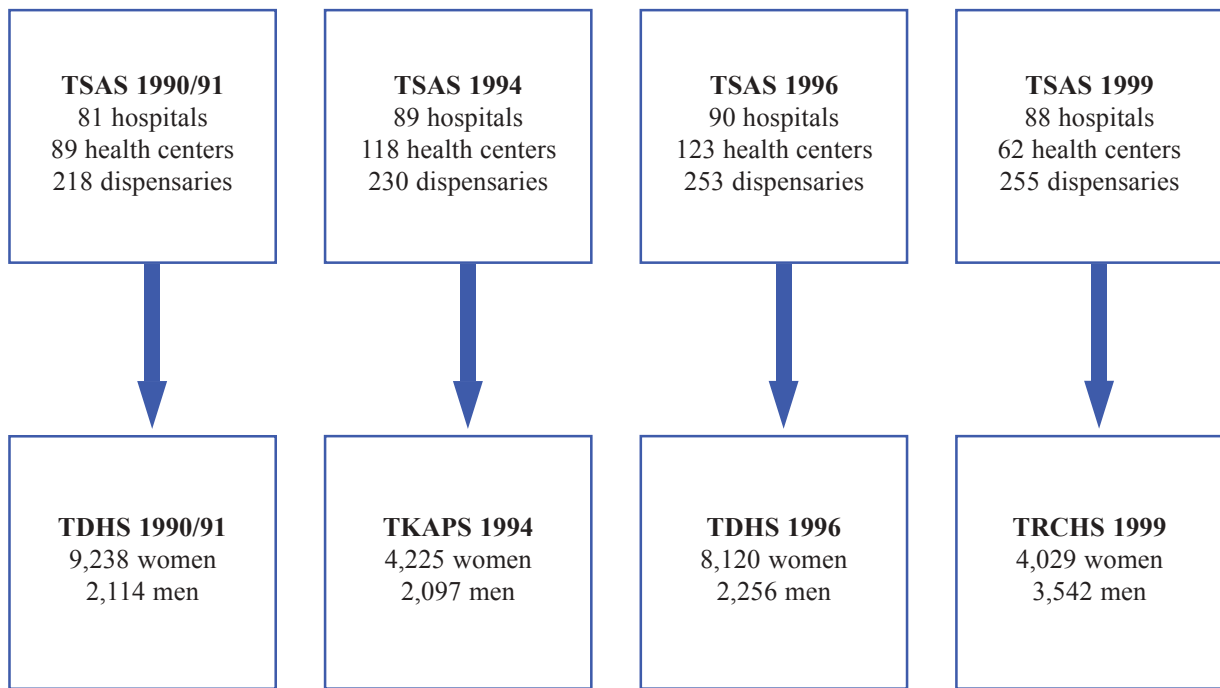
### ***The Investment***

Tanzania is a country of long-standing U.S. interest and involvement. From 1981-95 USAID spent an average of about \$17 million per year on assistance to Tanzania, of which about \$3.5 million were spent on development assistance to

health and social services [1]. The annualized cost of the four population-based and four facility surveys completed between 1991 and 1999 was approximately \$325,000 per year, the equivalent of about 10% of the total population, health and nutrition budget of USAID/Tanzania.

The push to collect high-quality and nationally representative data on program coverage, health behaviors and health outcomes was instigated by USAID/Washington. In 1991 USAID's Africa Bureau cabled several of its Missions in that region to draw their attention to "major gaps in the understanding of what the Bureau means when it requests reporting on people-level impact." Tanzania was listed among those Missions in need of improvement. In this message, the Africa Bureau used USAID/Tanzania's indicators to illustrate the lack of emphasis on population-level impact indicators [1]. The \$17.7 million Tanzania Family Planning Services Support Project was the first project to have measurable population-level impact indicators, such as fertility and contraceptive use. The program had three main components: improvement of logistical support, training of providers to enhance service delivery, and information campaigns to increase demand and utilization of family planning services. During the nineties, USAID/Tanzania also made major investments in AIDS-prevention programs, particularly through non-governmental organizations.

**Figure 1. Surveys and Sample Sizes**



### **Fertility and Contraceptive Use: Success First**

The first DHS in Tanzania (TDHS) was carried out in 1991/92, about three years after its neighbors Kenya and Uganda had completed their first DHS surveys. The first TDHS was a large survey which generated a great deal of baseline data for the population and health programs (Figure 1). The TDHS 1991/92 showed high fertility and low contraceptive use across Tanzania. Rather than letting the standard five years pass before the second Tanzania DHS, USAID/Tanzania decided that it would be best to conduct a mini-DHS, a Knowledge, Attitudes and Practices Survey (TKAPS) focusing on family planning and AIDS in 1994. The results of the TKAPS 1994 provided data on results that went far beyond those anticipated: the contraceptive prevalence rate (CPR) had nearly doubled and fertility (TFR) had declined rapidly (Figures 2 and 3). USAID/Tanzania and the national Family Planning Program could be proud of their achievements over such a short period of time.

Unfortunately, these impressive gains did not continue. When the next TDHS was done in 1996, the data showed basically no change in TFR or CPR between 1994 and 1996. A closer look revealed that urban women were still on the right track with a modest increase in CPR in 1996, but, since almost 9 out of 10 women in Tanzania lived in rural areas, the overall change was insignificant.

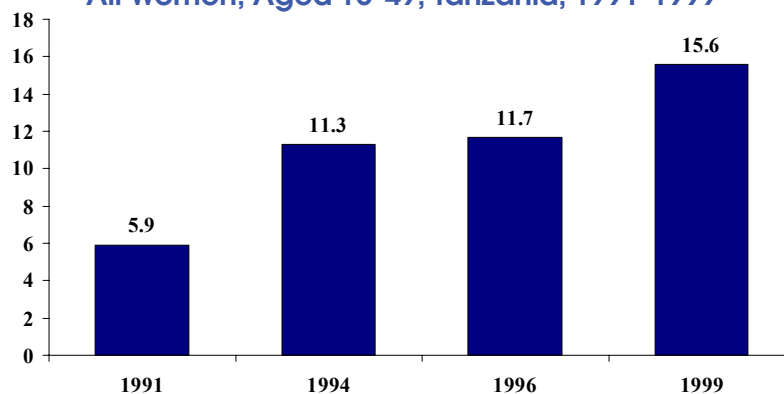
Just three years after the 1996 full-scale DHS, the Tanzania Reproductive and Child Health Survey (TRCHS) was implemented and its data analyzed, funded by multiple donors with USAID still as the main funding agency. The 1999 survey did show further increases in the use of modern contraceptives, even though overall use levels were still disappointing, staying below 20%. Fertility remained around the same overall level as surveys had shown in 1994 and 1996, although fertility in the urban areas had declined to 3.2 children per woman.

Figure 4 shows the trends in the use of the four most common methods of contraception. Not shown are about 1.5% of women who reported sterilization in all surveys. Use of the pill increased between 1991 and 1994 but has not changed much since. Condom use increased between 1996 and 1999 and IUD use remained low throughout the period. Only injections showed a consistent increase over time, becoming the leading method of contraceptive use in Tanzania by 1999.

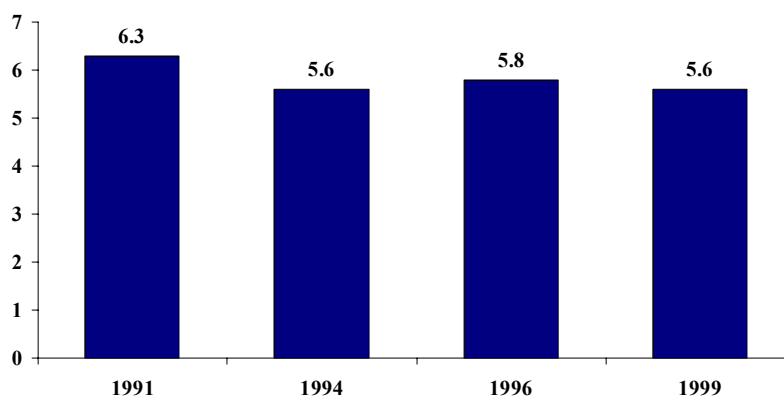
### **Service Provision**

What happened? Was it the supply or demand side that caused the increase or stagnation? The four facility surveys provide valuable information about whether or not the supply side can explain the different trends in contraceptive use. The first three surveys included only the nearest hospi-

**Figure 2. Trends in Modern Contraceptive Prevalence Rate among All Women, Aged 15-49, Tanzania, 1991-1999**



**Figure 3. Trends in Total Fertility Rate Women, Aged 15-49, Tanzania, 1991-1999**



tal, health center and dispensary within 30km of each of the 357 clusters covered in the associated population survey. The fourth survey included all facilities within a specified geographic range of the survey cluster. Initially, the quality of services in facilities, measured by supplies and presence of trained staff, showed substantial improvements, but these were followed by a leveling off in the mid-nineties [2]. Figure 5 shows the rapid increase in availability of injections in the most peripheral (rural) public health facilities in Tanzania early in the nineties. It also shows that a significant proportion of dispensaries that offer family planning services had injections (20%) or pills (10%) out of stock on the day of the survey interviewer's visit to the facility. The increased demand for services had apparently outpaced the supply of contraceptives.

The sampling strategy of the 1999 facility survey allowed an estimate to be done of the proportion of services provided by the private sector. In 1991 the Tanzanian government's prohibition on the private practice of medi-

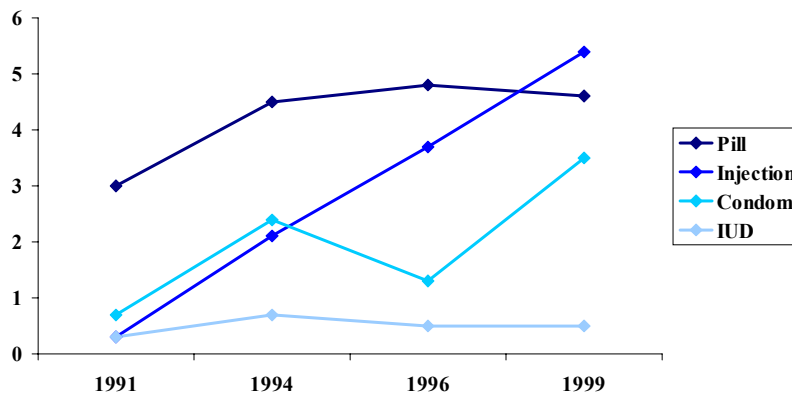
cine had been removed, so that individuals were allowed to establish their own facilities. By 1999, 18% of all new family planning clients were being seen in private facilities.

### **Child Mortality Trends**

Data on child mortality were collected in the 1991, 1996, and 1999 surveys. Tanzania has fairly high levels of child mortality: about 14% of children die before reaching their fifth birthday. It does not appear that Tanzania experienced a strong decline in child mortality during the nineties, but the small differences gave rise to considerable discussion and speculation on the quality and reliability of these surveys' data and the causes of any real changes in child mortality.

To reduce sampling error in surveys, under-five mortality is typically estimated for the five-year period preceding the survey. When under-five mortality in 1996 was 3% lower

**Figure 4. Trends in Current Use of Specific Contraceptive Methods among All Women, Aged 15-49, Tanzania, 1991-1999**



than in 1991, no concerns were raised. A decline is a decline, and welcome. The 1999 TRCHS, however, generated an estimate of under-five mortality that was 7% higher than the 1996 estimate, which was quite troubling. The conclusion of a thorough assessment by MEASURE *Evaluation* and MEASURE DHS+ was that under-five mortality in Tanzania has stayed pretty much at the same level – with perhaps a slight decline in urban areas – since the mid-eighties, at a level of about 140 per 1,000 live births. In recent years, HIV/AIDS seems to have become a more significant cause of death, which may have neutralized or at least slowed the modest decline in child mortality that seemed to be occurring in 1996.

Uncritical over-interpretation of a small decline in the mid-nineties may have been an important part of the perceived problem and resulting controversy. All stakeholders that invest in programs (from international agencies and donors to NGOs and the Tanzanian government) are understandably pleased if trends go in the right direction. However, small changes should not be interpreted too optimistically.

### AIDS Prevention

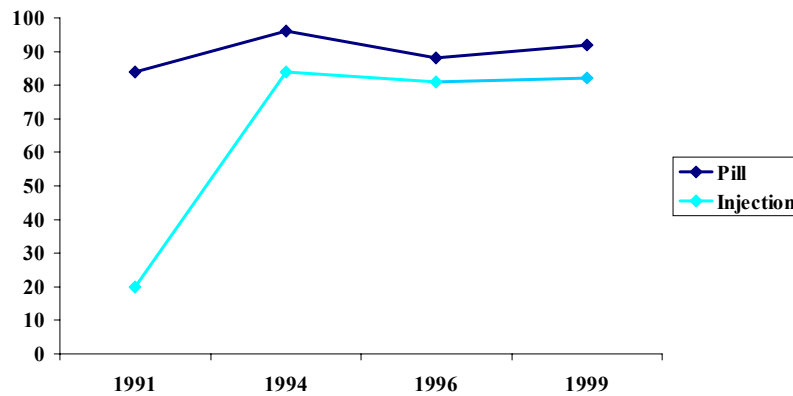
The four national population surveys form a unique basis for the assessment of trends in knowledge, attitudes and practices related to HIV/AIDS. Not surprisingly, problems of the comparability of questions and indicators arise. Since AIDS is a new field and sexual behavior measurement is still one of the most difficult areas of health interview surveys, HIV/AIDS-related questions have been evolving. Yet, it was possible to obtain a fairly good picture of trends in a number of key indicators during the nineties [3]. This information provides a solid grounding to assist policy and program decision makers in better evaluation of future trends in the new millennium, as AIDS programs continue to scale up.

Tanzania is one of the few countries with an extensive database on trends in knowledge, attitudes and behaviors, which allows an assessment of trends to be done. Knowledge levels have improved over time, but behaviors – with the exception of a modest increase in condom use during casual sexual relations – have changed little. Ideally, the prevention program will eventually change behavior, but, in the interim, these data suggest that at least the survey responses are not biased. A major concern in measurement of trends in knowledge, attitudes and sexual behavior is that people may simply report what they think the interviewer wants to hear, especially if prevention messages have been heard over and over. The Tanzanian data and data from similar surveys in other countries provide evidence that many of the indicators can reproduce the same result over time, provided the questions are asked in a similar manner. For instance, the percentage of men reporting a non-marital partner in the past year has been fairly similar in repeated sample surveys in the same population.

### A Few Lessons Learned

*Did USAID waste resources by inserting a survey between the scheduled DHS surveys to assess progress of its family planning program?* No, not at all. Without the 1994 survey, the results of the 1996 survey would have been compared to the 1991/1992 data and considered a success for the program, with a substantial increase in contraceptive use and a decline in fertility. Having the 1994 survey created a more complete and accurate picture of the situation. The stagnation of progress after 1994 was diagnosed and understood to be a problem. Facility survey data also indicated, helpfully, that ensuring contraceptive supplies were in stock (perhaps because of increased demand) was increasingly an issue for program activities to address. Also the marked imbalance in the urban vs. rural distribution of newly trained

Figure 5. Dispensaries with Pill or Injection Seen in Stock, Tanzania



providers was discovered, leading to important programmatic changes sooner, rather than later.

*Can we conclude that more surveys are better than fewer surveys?* Surveys compete with other methods of monitoring and evaluation, and with program activities themselves, for scarce resources. In some instances, a survey every five years should suffice. If programs are scaling up rapidly, however, and if we have reasonably good measurement tools, it is wise to invest in some kind of survey in between two major surveys. Ultimately, a series of surveys leads to a more solid basis for trends assessment and program evaluation, and allows the program to adjust when needed instead of several years after the problems develop.

*How can we assess trends through surveys?* It takes two points to draw a line, but it takes at least three to ascertain a trend. Too often results are interpreted as success if a small improvement can be seen between two points, and almost always the survey methodology is questioned if a small deterioration is observed. We should be cautious and systematic in interpreting trends and use multiple sources of data to confirm or dispel trends that may be observed initially in data from large national surveys.

*What about program data?* Program monitoring data have too often been neglected in the interpretation of results of surveys. Only a combination of sound survey data and complete and accurate program monitoring data will help us answer the basic monitoring and evaluation questions about changes in health outcomes and health behaviors, especially regarding attribution of such changes to programs. Facility

surveys can be an objective method to obtain program data. Routine statistics are another way of collecting data on service availability.

*What is the added value of facility surveys?* Hitherto, facility surveys have often tended to be only partly useful. Sampling strategies were suboptimal and questionnaire contents were typically either too ambitious or too specific for long-term comparability. With an indicator-driven questionnaire and a sampling strategy that aims to evaluate impact, facility surveys can provide essential information for population and health programs in both the short and long term.

## Notes

[1] From Snook, SL. *An Agency under Siege: USAID and Its Mission in Tanzania*. In: Hyden G, Mukandala R (eds.). *Agencies in Foreign Aid: Comparing China, Sweden and the United States in Tanzania*. London. MacMillan Press Ltd. 1999.

[2] Chen S, Guilkey D. 2002. *Determinants of Contraceptive Method Choice in Rural Tanzania between 1991 and 1999*. MEASURE *Evaluation Working Paper* WP-02-52. Carolina Population Center: University of North Carolina at Chapel Hill.

[3] MEASURE; National AIDS Control Programme, Tanzania; and Bureau of Statistics, Tanzania. 2001. *AIDS in Africa during the Nineties: An Analysis and Review of Surveys and Research Studies: Tanzania*. Carolina Population Center: University of North Carolina at Chapel Hill.

National Bureau of Statistics, Tanzania





## Monitoring Complex Projects with Results Frameworks: The Central American HIV/AIDS Prevention Activity

Gabriela Escudero

- ✓ **The Central American HIV/AIDS Prevention Activity consists of a range of activities in seven countries, and it used the Results Framework approach in program planning and evaluation.**
- ✓ **A midterm review and ongoing monitoring and evaluation (M&E) feedback to the project helped decision makers collaborate and redesign project strategies and activities as needed.**
- ✓ **Changes over the course of the project present a challenge to M&E, but careful adaptation of frameworks and indicators can ensure that M&E continues to be useful over the lifetime of a dynamic program.**

### ***The Central American HIV/AIDS Prevention Activity***

In 1995, the U.S. Agency for International Development (USAID) launched a regional HIV/AIDS prevention initiative through its Guatemala-Central American Program (G-CAP). This G-CAP initiative, the Central American HIV/AIDS Prevention Activity, was one of the first projects to adopt USAID's new Results Framework approach in the design, monitoring, and evaluation of program activities (Box 1) [1]. Its program activities originally covered three areas: improving policy dialogue and public awareness, strengthening non-governmental organizations (NGOs), and expanding condom social marketing (CSM). A consortium headed by the Academy for Educational Development (AED) with The Futures Group and International Planned Parenthood Federation/Western Hemisphere Region (IPPF/WHR) signed a cooperative agreement in 1995 to implement two of these components (policy enhancement and NGO strengthening) under the acronym PASCA (Proyecto Acción SIDA de Centroamérica). Although PASCA's original completion date was May 2000, the agreement was subsequently amended to extend the project to 2003 with AED and The Futures Group continuing as implementing partners. The third component of the G-CAP program, condom social marketing, was awarded to Population Services In-

ternational (PSI) as PASMO (Pan-American Social Marketing Organization) in 1996, and is scheduled to end in 2003. Both the PASCA and PASMO projects are active in all seven Central American countries (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama).

Early in the implementation of these two projects, USAID/G-CAP, PASCA, and PASMO staff agreed to integrate monitoring and evaluation (M&E) into their activities, consistent with the Results Framework approach. Several collaborative meetings were held among staff from USAID/G-CAP, PASCA, PASMO, and The EVALUATION Project (the predecessor of MEASURE *Evaluation*), as well as with other key partners and customer representatives, to develop a working consensus on the Results Framework for the program and the indicators to use for results at each level. Staff from The EVALUATION Project (and subsequently MEASURE *Evaluation*) provided technical assistance in developing indicators for each level of results in the program's framework and in designing related evaluation instruments and methodologies [1].

Figure 1 presents the original Results Framework for the PASCA and PASMO Projects. While all three components share the same strategic objective ("enhanced capacity to respond to the HIV/AIDS crisis"), an indicator for each com-

ponent was developed at this level and other levels to measure the specific contributions of each component's activities to the attainment of overall targeted results. For example, the AIDS Policy Environment Score (APES) was the original indicator at the strategic objective (SO) level intended to monitor expected progress in the specific component covering policy dialogue and public awareness. The APES was developed specifically for the PASCA project and designed to measure the extent to which a given country's overall policy environment was supportive of effective HIV/AIDS programs, according to in-country experts.

### **The Midterm Review**

As part of its M&E efforts, USAID/G-CAP requested in 1998 that MEASURE *Evaluation* conduct a midterm review of the Central American HIV/AIDS Prevention Activity. Due to delays in the start-up of PASMO activities, this review focused primarily on PASCA's activities and results to that point. Feedback generated throughout the midterm review process enabled PASCA to improve the focus and direction of its activities. Where changes were significant, and therefore generated new monitoring and evaluation needs, it also allowed the project to adjust subsequent program management planning and M&E implementation (e.g., via appropriate frameworks and indicators) to match the dynamic evolution of this program. While it is important to maintain continuity in M&E activities so that longitudinal tracking of results is possible, that objective must be balanced against the costs of collecting data to measure and assess results that may no longer be meaningful in terms of a project's actual and ongoing activities.

Objectives of the midterm review included measuring results as originally planned in order to construct a detailed understanding of the strengths and weaknesses of the project to date, especially with respect to the enhancement of capacities in Central America to respond to the HIV/AIDS crisis. The midterm review was also specifically intended to generate data-based recommendations to assist in management decisions to make best use of its efforts and resources over the rest of the life of the project. The review process culminated in a meeting that gathered all of the key regional players together, including representatives from USAID, PASCA, PASMO, MEASURE *Evaluation*, and UNAIDS. This participatory review meeting had the additional goal of assisting USAID with deciding whether or not a follow-on to the PASCA project would be feasible and beneficial [2].

Results from the midterm review indicated that measurable changes in the region's policy environment for HIV/AIDS had occurred between 1996 and 1998. The AIDS Policy

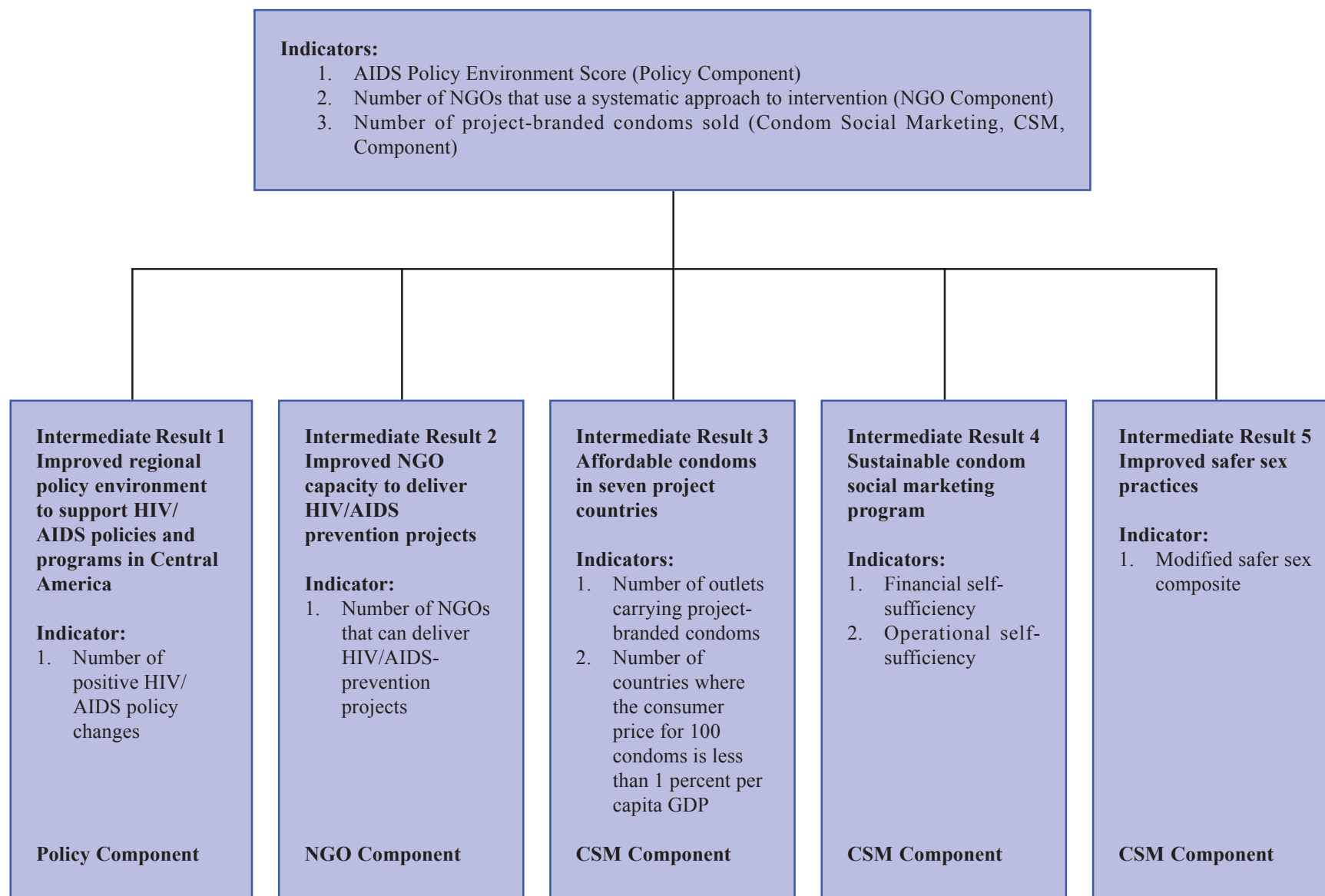
### **Box 1. The Results Framework**

In the early 1990s, USAID developed the Results Framework approach, a program planning, monitoring, and evaluation tool that is now a standard for USAID projects worldwide. This approach begins by identifying a program's strategic objective (SO), which is the ultimate outcome the program's designers expect to achieve at the population level within the program's lifetime. Subsequently, program staff identify the intermediate and lower-level results that will contribute directly to achieving the SO. The intermediate and lower-level results (IR and LLR) represent the essential conditions or changes necessary in order to attain the SO. Each level of results must have one or more indicators and program staff must set quantifiable benchmarks indicating progress toward the achievement of results. The process of developing a Results Framework and obtaining consensus on results and indicators should take place among USAID, program staff, partners, and customers. USAID and program staff can then use the indicators to continuously monitor and evaluate program activities, and also use the framework to guide and manage activities aimed at achieving the stated and desired programmatic results.

See <http://www.usaid.gov/pubs/ads/> for current statement of USAID Automated Directives System (ADS) guidance on the use of Results Frameworks and related issues.

Environment Score increased from 44 to 52 points, exceeding the targets set for the full five years of the project. While it was not possible to quantify the extent to which the change in the APES was attributable solely to PASCA activities, the project had implemented a series of activities closely linked to a number of specific elements included in the policy environment score; therefore the dramatic overall results were encouraging (PASCA Midterm Review, 1998). The capacity of NGOs also showed measurable progress at both the SO and intermediate results (IR) levels, according to the Systematic Approach Scale (SAS) and the Management/Financial Sustainability Scale indicators (see Box 2 for details on the calculation of values on these scales).

**Figure 1. Strategic Objective**  
**Enhanced Central American Capacity to Respond to the HIV/AIDS Crisis**



## **M&E Lessons from the Midterm Review**

### *M&E feedback helps decision makers collaborate and prioritize productive activities*

While PASCA was viewed positively as an active partner of NGOs in the region, participants at the midterm review meeting nonetheless criticized PASCA for “trying to be all things for all NGOs (breadth instead of depth)” [2]. Participants reviewed results and recommended that PASCA would be more productive if it instead channelled energies into strengthening a more limited number of NGOs with the greatest potential for making a difference in addressing the HIV/AIDS epidemic (e.g., NGOs that focus on high-risk groups). As a result of this feedback, PASCA decided to focus subsequent program efforts on building the capacity of 15 priority NGOs in the region. Other results-based recommendations discussed among participants at the midterm review meeting included making greater efforts to encourage participation by people living with HIV/AIDS in PASCA’s advocacy activities, and shifting the focus of some NGO-related activities to policy implementation and the building of alliances and networks between different agencies (local, regional, NGOs, Ministry of Health, and the private sector).

### *Indicators should measure key aspects of desired results with available, reliable data*

At the time of the midterm review meeting, PASMO had completed a Knowledge, Attitudes and Practices (KAP) survey of target groups in five of the seven Central American countries. The 1997 KAP served as the baseline for original project indicators, and PASMO also used the data to develop behavior change messages. On examining KAP data from 1997, PASMO changed its SO-level indicator from the number of project-branded condoms sold to measurement of a modified safe-sex composite index. After implementation of the follow-up KAP survey in 2000, however, PASMO reconsidered the index, and determined that it was inadequate for measuring change in targeted behaviors. Accordingly, PASMO revised its SO-level indicator again and selected an indicator that would measure increased condom use among the target populations. Therefore, the revised SO indicator measures consistent condom use with different partners in order to provide a more accurate indication of measurable changes in condom use among the target groups (commercial sex workers and men who have sex with men). Finally, PASMO also combined its original IRs into a single IR, which was redesigned to reflect more accurately the active intent of the project, to establish an effective regional HIV/AIDS condom social marketing program.

## **Box 2. Calculation of SAS and MFSS indices**

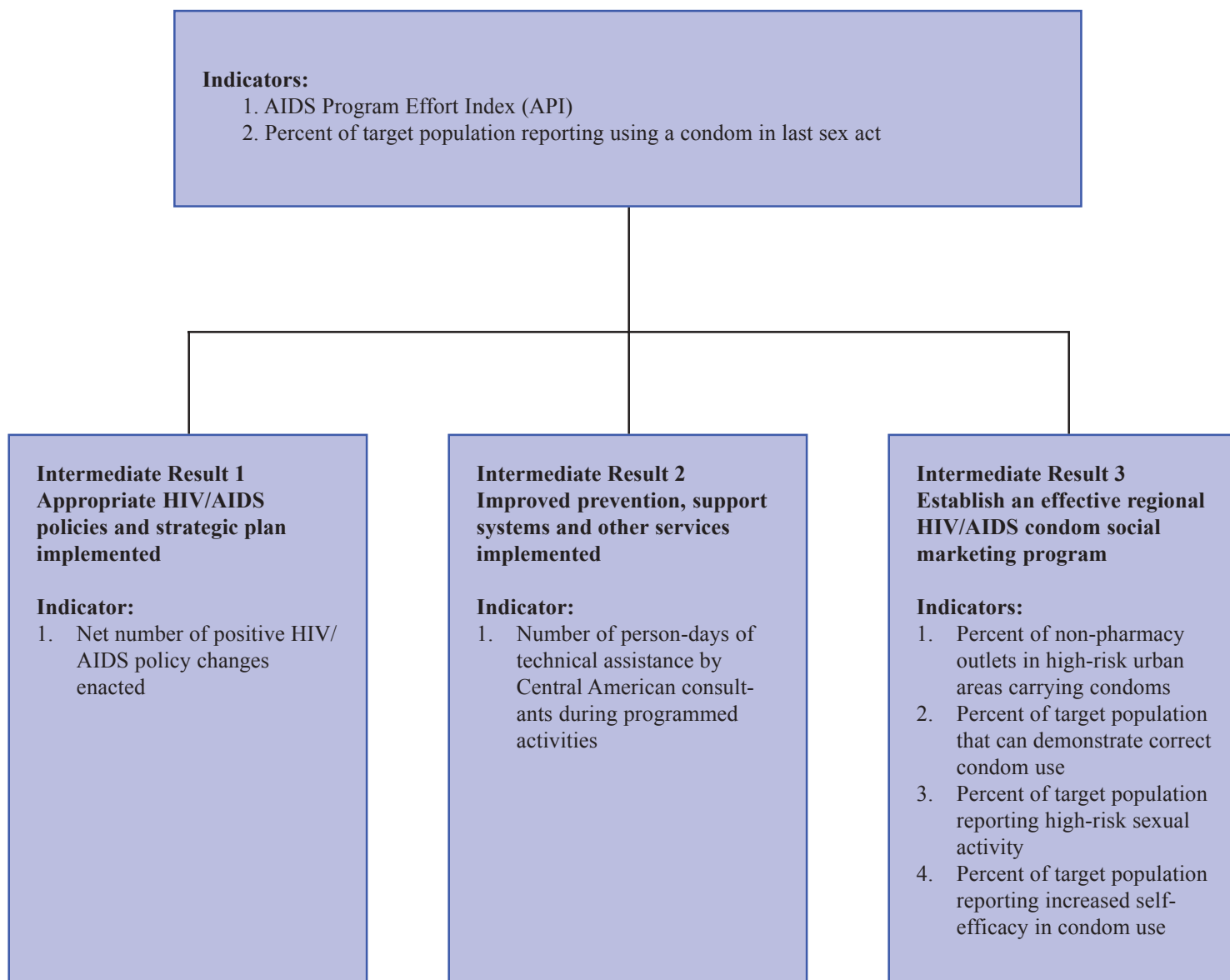
The Systematic Approach Scale (SAS) measures an organization’s use of a systematic approach in the design, management, and monitoring of its primary intervention. The SAS scores organizations in three key areas: project design, audience needs assessment, and monitoring and evaluation. Organizations meeting or exceeding the standard criteria for all three areas were considered to have demonstrated a systematic approach to HIV/AIDS and to possess the capability of responding effectively to the HIV/AIDS crisis.

The Management/Financial Sustainability Score (MFSS) assesses organizations on a seven-point scale according to their reported structures and skills in each of the following seven areas: organization mission, internal structure, human resource management, strategic planning, monitoring and evaluation, information systems, and financial and accounting structures. NGOs meeting or exceeding the standard criteria for at least five of the seven areas were judged to have sufficient ongoing capacity to deliver HIV/AIDS prevention projects.

### *Adapting frameworks and indicators carefully to match revised activities and priorities helps ensure that useful M&E feedback can continue as programs mature*

Program changes after the midterm review affected both the policy enhancement and the NGO components of PASCA’s activities. USAID/G-CAP, in consultation with the key partners, revised its results framework, according to the revised strategy for the period 2002-2006, based on progress already made and the changing environment for HIV/AIDS programs (See Figure 2). Specifically, USAID/G-CAP revised PASCA’s strategic objective indicator, dropping the AIDS Policy Environment Score to use the AIDS Program Effort Index (API) instead. The revised API encompasses all aspects of program effort [3]. In 2000, the API was used in place of the APES and the resulting score was 53, the same score as obtained by the APES in 1998. However, when the API was applied retrospectively to 1998, the score was 39 indicating that experts who responded to the API perceived significant changes between 1998 and 2000 [4]. PASCA will report the API results again in 2003.

**Figure 2. Revised Strategic Objective  
Enhanced Central American Capacity to Respond to the HIV/AIDS Crisis**



For the NGO component, the SO- and IR-level indicators measuring the progress of the 15 NGOs increased substantially, and USAID declared the NGO-strengthening activities a “success” (see Box 3). As a result, PASCA shifted the main thrust of its activities away from the strengthening of specific NGOs towards networking activities for improved advocacy. Therefore USAID/G-CAP felt it necessary to revise the related indicator accordingly in order to have and use indicators more appropriate to the revised key activities (monitoring progress in appropriate HIV/AIDS policies and the implementation of strategic plans, and improvements in prevention, support systems and other services). Some lower-level indicators were also adjusted in order to maintain the usefulness of the results framework as both a monitoring and evaluation tool and a project management tool.

### ***Continuing Lessons from the Central American HIV/AIDS Prevention Activity***

In January 2002, USAID/G-CAP requested that MEASURE *Evaluation* coordinate a meeting between USAID representatives, PASCA, PASMO, and other key partners in the region to review lessons learned in HIV/AIDS prevention and to reach agreement on further priorities for HIV/AIDS prevention in Central America. By using the Results Framework tool and associated indicators, all of the meeting’s participants agreed that PASCA and PASMO had demonstrated a considerable amount of progress toward meeting program objectives.

Participants reviewed the measured changes at the SO level in the HIV/AIDS policy environment since 1996. The previous APES and more recent API reveal important improvements in the policy environment since 1996 (increasing from 39 to 53 points). Although more recent API figures do not show significant improvement from 1998 to 2000, one reason may be the changing context of the HIV/AIDS epidemic: policy areas that were considered sufficient or adequate in the past may be considered now to be possibly insufficient and/or inadequate (e.g., access to anti-retroviral medications). As circumstances continue to change, meeting participants felt changes in the policy environment may in the future be better measured through relying on a different kind of indicator, such as one tracking the project’s results in efforts to effect desired changes in policies and legislation. PASCA, for instance, has monitored 68 positive changes in policy and legislation since 1996.

Reported condom use during the last sexual encounter, another SO-level indicator, showed no statistically significant change from 1997 to 2000 for men who have sex with men (about 50% with regular partner and 60% with sporadic partners). Reported risky sexual activity did, however, show a decline, while the 2000 KAP results for commercial sex workers indicated considerable increases in condom use with

### ***Box 3. Institutional Capacity Assessment***

The Institutional Capacity Assessment (ICA) is a tool used to assess the response of non-governmental organizations (NGOs) to the HIV/AIDS epidemic in Central America. It was applied to 15 NGOs selected by the PASCA Project for special assistance during 1998 - 2000. The ICA solicits information regarding an organization’s HIV/AIDS-prevention projects and target audiences, the level of collaboration with other local and/or regional programs, and management and financial structures and capabilities.

PASCA is among the few projects worldwide using an organizational capacity assessment tool longitudinally to monitor the progress of specific capacity building activities among NGOs. Data from the ICA were used to calculate values on the Systematic Approach Scale (SAS) and the Management Financial Sustainability Scale (MFSS), used in USAID/G-CAP’s results framework to evaluate the capacity of NGOs to deliver HIV/AIDS prevention activities. All NGOs that scored two points or lower on the SAS in 1998 scored higher in 2000. Eighty-seven percent, or 13 of 15, of the NGOs scored the maximum of three on the SAS, an improvement of 34 points over 1998’s results with only 53% scoring three. Eleven of the 15 NGOs improved their MFSS scores with one holding steady, and none scoring less than five points. All 15 NGOs receiving assistance from PASCA improved in general in all of the categories covered by the ICA, attesting to the effectiveness of PASCA’s capacity-building activities.

regular, sporadic, and all clients in the last sex act. On the other hand, condom use by commercial sex workers with spouses or regular partners remained low. In this context, meeting participants noted that PASMO’s activities only began in earnest in early 2000, agreeing that there may have been insufficient time before the survey to produce many measurable changes in sexual behavior. PASMO’s current strategy is to decentralize its efforts and further develop capacities to implement more intensive activities on a per-country level, and some indicators may be revised accordingly.

## Conclusions

While both the PASCA and PASMO Projects have undergone several changes over the years, their approach to monitoring and evaluation has not. Both, with USAID/G-CAP's support, have consistently utilized the results framework approach to gather information crucial in guiding their strategies and activities. When M&E results suggest that some redesign of a few activities, framework results, or indicators would benefit the efficiency and impact of subsequent program initiatives, staff from each project have generated useful revisions to the M&E tools and their implementation. Great care must be taken, as it was here, to ensure that framework revisions or indicator changes are as incremental as the underlying evolution of the program, so that the final result maintains the M&E benchmarks and baselines to a meaningful degree. When a program changes significantly, however, it is equally important to make sure that M&E effort and program resources are not fruitlessly expended on collecting data for the construction of indicators that no longer track meaningful program effort or targets. Using M&E and feedback in this dynamic and ongoing way ensures that over time these efforts continue to measure the effect of a program's activities accurately and usefully.

## Notes

1. The basic approach to using the Results Framework in program planning and evaluation is described in Toffolon-Weiss M, Bertrand JT, Terrell S. The Results Framework – An Innovative Tool for Program Planning and Evaluation. *Evaluation Review* 1999, 23, 336-359.
2. MEASURE *Evaluation*. 1998. PASCA Mid-Project Review Report.
3. The API, adopted by UNAIDS, was applied in 40 countries in 2000 (Measuring the Level of Effort in the National and International Response to HIV/AIDS: The AIDS Program Effort Index (API). UNAIDS and POLICY, February 2001.)
4. At an “Expert’s Meeting” held in Washington in April 2001, it was decided that a two-year interval was not a realistic timeframe in which to measure changes in the index, and evidence indicated a shift in the frame of reference had occurred in certain content areas (e.g., with the new focus on access to retrovirals, what previously represented “sufficient” resources may now be regarded as “very insufficient”). USAID, PASCA, The Futures Group, MEASURE *Evaluation* and other key partners decided to continue to focus on the legal-regulatory and political commitment components of the index as a measure of the program success. (For more discussion, consult, Measuring the Level of Effort in the National and International Response to HIV/AIDS: The AIDS Program Effort Index (API). UNAIDS and POLICY, February 2001.)

## **MEASURE *Evaluation* Bulletin, Number 5: Investing in Population, Health and Nutrition Monitoring and Evaluation: Lessons Learned**

Over the last thirty years, interest in the monitoring and evaluation (M&E) of the impacts of assistance and development programs has steadily increased. Whether the focus is a safety net (poverty relief), emergency aid (disaster relief), or development (progress in third-world countries), both compassionate and pragmatic donors want to know that their monies are being spent wisely and to maximum effect. In the United States, such interests are compounded by desires on the part of politicians to supervise bureaucrats, and especially their budgets. In 1993, passage of the Government Performance and Results Act (GPRA) into law ensured that U.S. federal agencies would be required to meet a broad array of these expectations. The Act required all federal agencies to begin reporting “objective, quantifiable, and measurable” indicators to Congress by the year 2000.

Many agencies, including the U.S. Agency for International Development (USAID), began implementing GPRA requirements prior to 2000. USAID integrated the new reporting requirements at the Mission level while updating existing country, regional, and global USAID systems for M&E of program efforts. During each reporting period, USAID has invested resources in implementing, reviewing, and redesigning M&E efforts, largely within the framework of GPRA demands.

Since 1998, the MEASURE *Evaluation* project has been engaged in helping USAID improve M&E of Population, Health, and Nutrition (PHN) programs in multiple ways. This MEASURE *Evaluation* Bulletin includes primarily articles that analyze case studies in M&E of selected countries for lessons learned, framed by general technical discussions. In the introductory article the key challenges in M&E of PHN programs are summarized.

### **Previous MEASURE *Evaluation* Bulletins**

- 2001, No. 1    Monitoring the Quality of Care in Family Planning
- 2001, No. 2    Indicators for Monitoring and Evaluation of AIDS Programs
- 2001, No. 3    Monitoring Population and Health Program Efforts with Composite Indices
- 2002, No. 4    A New Tool to Focus and Monitor AIDS Prevention Efforts: The PLACE Method



Each issue of the MEASURE *Evaluation* Bulletin addresses a specific theme, and the contents are summary papers based on research and technical assistance supported by MEASURE *Evaluation*.

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