Strengthening an Organization's Capacity to Demand and Use Data

Significant human and financial resources have been invested worldwide in the collection of population, facility, and community-based data. However, this information is often not used by key stakeholders to effectively inform policy and programmatic decision making. As a result, many health programs fail to fully link evidence to decisions and suffer from a decreased ability to respond to priority needs of the populations they serve. There are many possible factors that undermine evidence-based decision making which relate to (1) how information flows to decision-makers and how they make their decisions, (2) the context in which information is collected and decisions are made, and (3) the organizational infrastructure and technical capacity of those that generate and use data.

When barriers to data use exist, they often are numerous and interrelated in nature. To sustainably address barriers to using data in decision making, a comprehensive and systemic approach is required. MEASURE Evaluation assists organizations[1] in responding to these potential barriers through a multifaceted approach that employs a combination of strategies, tools, and capacity building techniques to strengthen demand for quality data and facilitate the use of information. MEASURE Evaluation's data demand and use approach is built upon a foundation of ongoing M&E system improvements and supports the use of high quality data at all levels of health systems to inform policy development and program design, implementation, and scale-up

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[1] The data demand and use approach broadly defines an organization as a division of the Ministry of Health (MOH) at the national, state, or district-levels.

MEASURE EVALUATION DATA DEMAND AND USE APPROACH

To meet the needs of organizations[1] to improve data-informed decision making, MEASURE Evaluation employs a multi-faceted approach intended to be adapted by context. The approach promotes:

- Identification and engagement of key data users and data producers in the data use process
- Implementation of a rapid assessment to determine the situation-specific barriers to data use
- Capacity building in data demand and use concepts, tools and technical skills
- Application of tools to facilitate data use
- Strengthening of institutional systems to support data use
- Coaching to support newly gained capacity and institutional changes

so that improvements in health systems and health outcomes are realized. The purpose of this document is to describe, through two examples in Nigeria, the inputs and process in the data demand and use approach employed by MEASURE Evaluation.

MEASURE Evaluation employs a participatory approach to data demand and use that focuses on bringing data users and data producers together to strengthen data-informed decision making. When data users and data producers work together, they can more easily identify and overcome barriers to data use. They also become aware of available data sources and decision-making processes in their contexts. Working together, users and producers have the opportunity to identify key programmatic

questions and concerns and to link these questions to the data available in their respective settings.

They can also jointly analyze and interpret data to answer programmatic questions. Linking data users and data producers strengthens the information cycle and clarifies the contribution data makes to program improvement. This approach is supported by the implementation of key tools, specific capacity building, and select organizational supports.

APPLYING TOOLS

MEASURE Evaluation has developed a series of tools to help promote evidence-based decision making and to improve the performance of M&E data systems and the decision-making process. The tools can be used alone or combined with other strategies (as outlined in this document) to facilitate data use. The tools include:

- *Stakeholder Engagement Tool* includes a *Stakeholder Analysis Matrix and Engagement Plan*. This tool provides a systematic and user-friendly way to document and assess the roles and capacity of all stakeholders that should be involved in a given activity.

- *Rapid Assessment of Data Use Constraints* is a key informant interview that can be used at the national, subnational, and facility levels to improve understanding of the demand for data and the technical, organizational, and behavioral constraints to data use.

- *Information Use Mapping* allows the user to visually depict the existing flow of health information to identify opportunities for improvement in data collection, compilation, analysis, storage, reporting, and use.

- *Framework for Linking Data with Action* is a management tool that supports evidence-based decision making by creating and strengthening links between data and decision making. The tool encourages greater use of information in decision making, better use of existing information, and allows the user to monitor information use.

- *PRISM* is a series of tools to assess the quality and use of routine health data. *PRISM* supports information system improvements by objectively measuring performance and identifying the factors that hinder performance.

BUILDING CAPACITY

The ability to affect the decision-making cycle, apply data demand and use tools and analyze, interpret, and present data must be improved to successfully utilize data to improve programs and policies. Specific skills are required to apply data in the decision-making process. MEASURE Evaluation's training materials help to build capacity in the data use process. Capacity building topics addressed include:

- Data-informed decision making key concepts: Orients learners to the decision-making process, the role of stakeholders, barriers to using data in decision making, and tools that can be used to facilitate data demand and use.

- Data analysis, interpretation, presentation, communication, and use: Introduces learners to basic analyses that are conducted by health facilities and programs with routine data. Specific topics covered include: basic statistical terms, program coverage, program retention, presenting data, and linking data with action. This curriculum also provides learners skill building exercises and includes the essential component of presentation of data and interpretation.

- Providing feedback and sharing information: Introduces learners to the importance of

providing feedback to facilitate information use at subnational levels (program and service delivery sites, district, and organization). Specific topics covered include information flow, examples of feedback mechanisms, and tips on establishing an effective feedback mechanism.

ORGANIZATIONAL SUPPORT

Bringing data users and producers together, applying tools to improve data use, and training health professionals in data-informed decision making cannot be sustained unless mechanisms are put in place to ensure that host organizations are supportive and committed to continued data use. To this end, MEASURE Evaluation addresses the following:

- Strengthening feedback mechanisms is achieved by using findings from the *Rapid Assessment of Constraints to Data Use* and/or the *Information Use Map* to identify weaknesses in an organization's data feedback mechanisms. Through an interactive process of identifying data needs, new feedback instruments and mechanisms are recommended and developed.

- Data use supportive supervision checklists are used when supervising data users and data producers at the facility level or within a program. The checklists include questions that alert the monitor to potential barriers to data use and breakdowns in the data-informed decision-making cycle.

- Coaching individuals in-person or via phone calls, provides ongoing support to trainees as they apply skills learned in the DDU training workshops. Coaching often targets others within the project or facility to introduce DDU concepts and highlight the usefulness of data-informed decision making. A supportive supervision checklist can also be used during coaching visits to ensure key DDU issues are covered.

- Institutionalizing the *Framework for Linking Data with Action* as part of the organization's regular management practices establishes a regular and sustainable approach to strengthening links between data and decision making.

- Documenting data use allows organizations to validate efforts to collect, analyze, and use data in decision making. Documentation provides tangible evidence that data can be used to improve decision making; evidence that investing in data use leads to informed decision making and can increase demand for information in the future.

EXAMPLE APPLICATION
Data Demand and Use Approach Country Application: Nigeria.

Since 2008, MEASURE Evaluation has worked in Nigeria at two different organizational levels to strengthen data demand and use. The data demand and use needs of each organization were rapidly assessed, and the general approach to improve those needs was adapted for each context. The following examples outline the approaches and inputs utilized.

Organization #1: Strengthening Data Use at the State-Level

Since 2003, MEASURE Evaluation has provided technical assistance and training to the Government of Nigeria (GoN) and implementing partners (IPs) funded by the US Government (USG) to facilitate demand for, and use of, quality information for policy-making, planning, and program management. MEASURE Evaluation's technical assistance initiatives focused on improving M&E systems and data quality at the national level. In 2006, the need for more strategic efforts to address data-informed decision making was identified. The MEASURE Evaluation Nigeria country program has served as a consistent testing ground as the project developed core data demand and use tools and strategies.

From 2006 to 2008, MEASURE Evaluation's work on data use in Nigeria included DDU capacity building workshops with the national level government and IPs that brought together data users and data producers from each organization (M&E Officers and Program Officers). While capacity was built in data demand and use, workshop participants reported facing difficulties in implementing the tools and approaches learned at the workshop once they returned to their home organizations. Participants

cited lack of buy-in from project leadership or senior management, lack of funding to implement specific strategies to improve data demand and use, and a lack of understanding among their colleagues and supervisors of the importance of data and its role in program improvement.

Based on feedback received from trainees, MEASURE Evaluation revised the team-oriented approach to strengthening data use to include representation from senior leadership in each organization and to increase the number of individuals participating in training events from each organization. MEASURE Evaluation hypothesized that by bringing together larger teams of individuals representing data users and data producers, as well as senior leadership, the data use planning process would be strengthened and the organization in turn would be more likely to own and adopt team-identified solutions. In addition, the training audience was expanded to include state-level MOH teams and indigenous IPs. Once states and IP teams were identified, MEASURE Evaluation conducted a rapid assessment to inform the workshop curriculum.

Rapid Assessment
In June 2009, MEASURE Evaluation used a two-phased approach to gain better understanding of the issues constraining data use within the organizations invited to participate in the workshop and to inform the development of a Capacity Building Strategy.

• Phase I—MEASURE Evaluation visited a selection of identified participant organizations to ask specific questions about current capacity to use data, barriers to data use, skills in M&E and existing data analysis and interpretation efforts within the organization. Select questions from the **Rapid Assessment of Data Use Constraints** tool informed the discussion. The team also applied the **Information Use Map** during site visits. This first stage of the assessment provided a foundation for developing a Capacity Building Strategy, including the selection of specific workshop sessions and the examples used during small group exercises. For instance, the organizations interviewed during the rapid assessment indicated that analysis, interpretation, and feedback mechanisms were weaknesses within the organization.

• Phase II—The second phase was comprised of a self-assessment conducted during the workshop through the application of data demand and use tools. The trainings were held in February 2010 with state and IP-level teams. The tools used during the workshop are described below.

Capacity Building Workshops
The training events involved six state teams and six implementing partners (IPs). Each state representative and IP that agreed to participate sent four to six representatives to the training workshop. These individuals represented different job functions within the organization: senior leadership, M&E, service delivery, and program management. The purpose of the training workshops was to strengthen the knowledge and capacity of national and state governments and implementing partners to increase the demand for quality data and facilitate the use of information for program improvement.

During the workshops, each team completed the selected MEASURE Evaluation Data Demand and Use tools as self-assessments to better understand existing barriers to data use and how they could strengthen the use of data within their organization. Specifically, teams developed an **Information Use Map**, facilitated small group discussions using an adaptation of the **Rapid Assessment of Data Use Constraints**, and developed a **Framework for Linking Data with Action**. The findings from the tool applications informed organization-specific plans to strengthen demand for data and increase instances of information use at different levels.

The workshop also applied existing Data Demand and Use Training Resources adapted to the IP and state-level needs and included sessions on data analysis, interpretation, and communication, as well as strengthening feedback mechanisms. Teams analyzed and interpreted data and led a discussion with other groups to provide further input into the interpretation. The teams then discussed possible feedback options to their program sites. Finally, application of the tools and other capacity building sessions conducted during the workshop helped to inform the team's selection of three commitments to improve data use that the organization pledged to address upon returning home.

Organizational Support

To support mentoring of states and IPs, MEASURE Evaluation is providing coaching through site visits, telephone calls, and e-mail and is also in the process of placing state-level Resident Advisors in three states represented at the workshop. These new state-based Resident Advisors will provide coaching to state-level teams on a variety of topics, including data demand and use. To support these efforts, MEASURE Evaluation developed a data demand and use supportive supervision checklist.

To date, state-based coaching shows promise as an effective approach to overcoming the barriers to data use identified during rapid and self-assessments, and supports emergent data use capacity. In one state, the State AIDS Control Agency (SACA) returned from the data use workshop and conducted a training on data demand and use among partners and LGAs. However, senior leadership within SACA noted that the staff in attendance at the training did not share the data demand and use tools and approaches within their organizations. During a coaching visit, the senior leadership within SACA requested further assistance from MEASURE Evaluation to increase data use. In response, MEASURE Evaluation staff conducted an impromptu data demand and use workshop with the entire SACA team to highlight the importance of sharing not only data but strategies and tools to improve its use. During the training a Framework for Linking Data with Action was developed.

Evaluation

MEASURE Evaluation followed-up with the teams trained in February 2010, through online surveys sent six months and one year post training. Further follow-up is conducted through mentoring visits, calls and emails.

Data collected through the six months post-workshop survey indicated that every respondent shared the information learned during the workshop with colleagues. Ninety-three percent of respondents reported that their team had addressed at least one of the commitments they made at the end of the workshop, with 53% addressing all three commitments. Seventy-five percent of respondents reported improvements in the feedback process,

and 62% have used a MEASURE Evaluation DDU tool since the training. The following are remarks from participants regarding positive changes made after the training.

> "The data obtained in the first quarter of the year showed a drop in the number of people accessing HCT at the facilities. This prompted me to find out from the staff at the facilities what the problem was. I got to know that there is a drop in the supply of test kits to the facilities. I informed the program manager and we are working with the state ministry of health to see how the state can get involved in the purchase and supply of test kits to the facilities. Also we have begun meetings with the FMOH and others on how supply can be improved upon."

> "Yes, I conduct additional analyses since the training. I was able to analyze the efficiency of our program in the services we gave to the PLHIVs and OVCs."

> "Provision and documentation of feedback at all levels of stakeholders was done by organizing a quarterly review meeting in March and July 2010 . . . where all the implementing partners and selected stakeholders were in attendance. We also now further analyse and interpret data for qualitative presentation to the management to inform decision making using graphs and tables at monthly meetings. The implementing partners have been given a step down on DDU and their monthly report and documentation has improved."

Through the use of HIV/AIDS strategic information, program managers and implementers can improve services provided to the Nigerian population at service delivery points as well as reporting to national authorities and donors to secure continued funding for expanding HIV/AIDS programs. Ultimately, improved M&E and data use capacity will contribute to a stronger overall health information system that will lead to improved health programs and a healthier Nigerian population.

National Commitment to Data Demand and Use

As testimony to the commitment of the national-level government and the success of the data demand and use approach in Nigeria, the National AIDS Control Council (NACA) and the Federal Ministry of Health's National AIDS and STI Control Program (NASCP) have requested that additional states take part in MEASURE Evaluation's DDU strengthening approach. NACA brokered a collaboration between

a DfID-funded project and MEASURE Evaluation to replicate the data demand and use curriculum with MEASURE Evaluation's technical assistance during which five additional states were trained. In addition, NACA requested assistance from MEASURE Evaluation to develop a National Data Demand and Use Strategy. The data demand and use self-assessment data that is collected as part of workshops funded by MEASURE Evaluation and DfID will provide the formative data for developing a national strategy.

Organization #2: Strengthening Data Use within a Service Delivery Project AIDSRelief

The AIDSRelief project, a PEPFAR Track 1.0 consortium led by Catholic Relief Services, works to assure access to high quality antiretroviral therapy for HIV infected persons and to develop sustainable indigenous capacity in nine countries: Guyana, Haiti, Kenya, Nigeria, Rwanda, South Africa, Tanzania, Uganda, and Zambia. The AIDSRelief Project is dedicated to collecting and using program data to improve HIV/AIDS services. Even with a data-informed decision mandate, AIDSRelief Nigeria noted that data were not being used effectively at sites or within the project.

The Strategic Information (SI) staff noted a pervasive mistrust of data among staff and at facilities, as well as a lack of understanding of how routinely-collected data could be used. They were particularly concerned about reported misunderstandings of how key indicators are calculated and what they mean for program improvement. MEASURE Evaluation and AIDSRelief/Nigeria identified an opportunity to collaborate to strengthen the use of data and information within this service delivery project. MEASURE Evaluation noted that with vast quantities of data being reported to NNRIMS and PEPFAR, improvements in data use at the facility level could positively influence data quality, compilation, analysis, and reporting up to the national level. AIDSRelief provided this opportunity.

Rapid Assessment
To first understand the issues constraining data use in the AIDSRelief/Nigeria program, a rapid assessment of barriers to data use was conducted in two phases beginning in January 2009.

- Phase I: MEASURE Evaluation sought to develop a Capacity Building Strategy based on a complete picture of the project—from the program's national-level headquarters to the facility level where services were delivered. The rapid assessment's first phase included:

  » Facilitated discussion with AIDSRelief/Nigeria SI team to gain an overall understanding of the project's structure, how data users and data producers on the project interact, the types of requests that they receive for information, and how the project staff currently uses information at each level.

  » An **Information Use Map** for AIDSRelief/Nigeria was developed with the SI team to provide a clear picture of how data flows through the project starting from the first point of data collection at the facility through to the national and donor levels.

  » Facilitated small group discussions among Program Managers, SI Officers, and Clinical Advisors using an adaptation of the **Rapid Assessment of Data Use Constraints** and initial versions of the **Framework for Linking Data with Action**. The **Rapid Assessment of Data Use Constraints** was adapted by selecting a subset of questions from the tool and using them to guide small group discussions. At this point, an action plan outlining potential solutions to overcome existing barriers was developed. The small groups then utilized an early draft of the **Framework for Linking Data with Action** to generate a list of priority programmatic questions that, if answered, could lead to program and service delivery improvements.

  » Observation of a Project "Dashboard Meeting": a management meeting for AIDSRelief/Nigeria leadership, program managers, clinical associates, and the SI Team to review program data provided insight into how the team interacts and communicates, how management uses data, their understanding of indicators, and the nature of their interactions with facilities.

» Brief visits to two AIDSRelief/Nigeria sites (St. Louis Hospital in Zonkwa and at St. Gerard's Hospital in Kaduna) accorded the assessment team with a snapshot of how the project is managed at the facility level, the types of questions facility staff have about program performance, and how the facility staff produce and use data.

• Phase II—A self-assessment was conducted during the workshops through the application of data demand and use tools. The tools used during the workshop are described below.

Capacity Building Workshops

Based on the rapid assessment, MEASURE Evaluation recommended several interventions to increase the demand for quality data and facilitate the use of information for program improvement and planning. These recommendations included a data demand and use capacity building and supervision strategy for project and facility staff. The assessment also highlighted the need to train facility-based M&E Officers and Program Coordinators separately. Considering the context of these facilities, staff hierarchy may have prevented M&E Officers from speaking freely in the same workshop with Program Coordinators. Also, the capacity building needs were quite different and required a different training approach.

The capacity building strategy centered on three interactive workshops. Central Project staff and facility-based M&E Officers were trained in June 2009, and facility-based Program Managers ("Program Coordinators") were trained in July 2010. These workshops involved discussing the decision-making context and importance of M&E/SI in program management; understanding performance indicators and the standard reporting package; using information for program improvement, including hands-on exercises in analysis and interpretation of data from monthly reports and performance indicators; and developing an action plan for addressing barriers to data use.

Existing Data Demand and Use capacity building and training resources were applied. These materials required minor adaptation to the PEPFAR service delivery context, mostly centered on the development of exercises that reflect the needs and realities of the AIDSRelief Project. In addition to training, the capacity building strategy also involved coaching trainees and supportive supervision.

Organizational Support

A key finding from the rapid assessment was that the SI Team, Program Managers, and Clinical Associates all functioned independently. The three did not share data, coordinate activities, or engage in joint planning. In June 2009, MEASURE Evaluation suggested that AIDSRelief implement a collaborative approach to supervision and feedback at the facilities. MEASURE Evaluation also provided a Data Demand and Use Supportive Supervision Checklist for evidence-based decision making at the facility level. AIDSRelief/Nigeria central staff has since improved coordination of supervisory visits to facilities as well as other forms of feedback. During these visits, central Program Managers meet with facility-based Program Coordinators to review the facility's performance based on monthly reports; SI Officers meet with M&E Officers and other staff at the facility to provide hands-on coaching in data compilation, analysis and interpretation; and Clinical Advisors continue to bring data into their supervisory visits with medical staff.

MEASURE Evaluation also provided organizational support to AIDSRelief/Nigeria by offering recommendations to the national Project Office, including the SI Team. These detailed recommendations served as a direct response to findings in the assessment and included the need to develop a standard reporting package and to revise the protocol for providing feedback to facilities. Other recommendations were to provide guidance to facilities on the importance of reviewing data during staff meetings; and requesting that central Program Managers and Clinical Advisors present data at the management-oriented "Dashboard Meetings" rather than the SI Team.

Evaluation

MEASURE Evaluation continues to follow up with central AIDSRelief/Nigeria staff and facility-based M&E officers, who were trained in June 2009. In response to a one year follow-up survey about

their use of skills learned during the workshop, 85% reported that information from monthly reports is now being used by their LPTF. Eighty-one percent of respondents were able to identify barriers to data use after the workshop, and of those identifying barriers, 82% identified solutions; 86% of those implemented solutions. Ninety-five percent of respondents are now able to explain the meaning of indicators to staff, and their relevance to service delivery, and 76% have assisted decision-makers with data interpretation. Select respondents from follow-up surveys reported the following successes:

> "The Program Coordinator, who is also the Director of Medical Services, now meets weekly with Heads of Departments in our facility to discuss activity progress, challenges and a way forward as it affects the various units. In the forum, information is shared and decisions made to enhance programmatic results. Hitherto, there was no forum for sharing information. Now, prompt actions are taken following reports made in the forum of Heads of Units. The workshop on Data Use for me has made great impacts in my project site. Now, every unit is sensitive to the fact that a little change to the positive direction will impact positively to the entire facility and vice versa. The Management is also sensitive to the fact that data generated from the M&E unit and other units are also important for decision making. Making the M&E officer part of every Management meeting is an indication of the importance attached to the department."

> "I presented a report that there is a high number of lost to follow up clients and I told them (decision makers) that with this shows we are not doing home visits because home visit is the only answer to the LTFU. I then asked for the permission to coordinate home visit activities which was granted. I did and now there is an active home visit team in the facility."

> "During one of our clinical meetings, we calculated the amount of money spent on each client for care so that we could come up with a proposal to help us leverage funds for patient care from the state government."

Facility-based Program Coordinators, who were trained one year later, in June 2010, expressed a great deal of interest in using their newly acquired DDU skills at their facilities. This workshop was a perfect opportunity to influence management styles and encourage evidence-based decision making, as many of the Program Coordinators were fairly new to their posts at AIDSRelief sites. Program Coordinators will be surveyed in early 2011 to determine if their new skills and knowledge have resulted in improved data informed decision making at their facilities. As part of the evaluation plan, efforts to overcome barriers to data use will be evaluated in early 2011.

AIDSRelief Commitment to Data Use
Anecdotally, MEASURE Evaluation has noted several changes within the project that are contributing to improved data use. New leadership within the AIDSRelief/Nigeria project promotes M&E and the use of data for program improvement. For instance, AIDSRelief/Nigeria fully funded the capacity building and training strategy suggested by MEASURE Evaluation, including the cost of the workshops described previously. Also, the atmosphere and communication at management meetings, such as the quarterly Dashboard Meeting, are more productive and collaborative than at meetings held only two years ago. Finally, monthly project reports now consistently include graphics and additional performance indicators of interest to project staff.

CONCLUSION

The examples presented in this document illustrate the success of MEASURE Evaluation's Data Demand and Use approach, which employs a combination of strategies, tools, capacity building techniques, and organizational supports to strengthen demand for data and facilitate the use of information. In each of the examples presented, individuals participating in the capacity building workshops reported increased capacity; organizations involved have addressed and removed barriers to data use; and individuals reported that new activities and improvements were implemented as a direct result of reviewing and acting on data. By employing a comprehensive approach that focuses on an organization in its entirety, rather than an individual, issues of sustainability of data-informed decision making are more effectively addressed. Moreover, by emphasizing the essential and complementary roles of data users and data producers, organizational ownership of data is built and the role of data in program improvement is fully realized.