

Technical Brief: Measurement of M&E System Strengthening

Application, Lessons, and Recommendations from a Retrospective Case Study Approach in Côte d'Ivoire and Nigeria



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Rationale

Monitoring and evaluation (M&E) are integral and individually distinct parts of program preparation and implementation. They are critical tools for forward-looking strategic positioning, organizational learning, and sound management. Monitoring and evaluation are meant to influence decision making, including decisions to improve, reorient, or discontinue the evaluated intervention or policy; decisions about wider organizational strategies or management structures; and decisions by national and international policy makers and funding agencies.¹

To a large degree, monitoring and evaluation depend on sound health information systems with reliable, timely, high-quality input and usable and available information output. National governments and subnational entities need this information to set policy, plan for needed resources, and design and implement effective, targeted programs. At the global-level, donors and partners use the information to track progress toward the goals of special initiatives in low-resource countries, such as the U.S. President's Emergency Plan for AIDS Relief (PEPFAR),² the President's Malaria Initiative,³ Family Planning 2020,⁴ and Ending Preventable Child and Maternal Deaths,⁵ among others. The

stronger a health information system is, the more available, accurate, and useful the information output is to meet the various needs. Global investment, therefore, should continue to support sustainable country-led health information systems.

Measurement of M&E systems strengthening has proven difficult from technical and political perspectives.⁶ Evaluations of the success of systems strengthening must take into account the specific sensitivities of environments where multiple donors, investors, and recipients operate when crafting findings and recommendations. At the same time, evaluations of the success of M&E systems strengthening must account for complex environments where multiple donors, investors, and beneficiaries operate.⁷

This case study to document M&E systems strengthening in Côte d'Ivoire and Nigeria sought to (1) document the M&E system strengthening interventions and investment from 2007–2012 and (2) identify M&E system strengthening progress and the need for future interventions. It was conducted with funding from PEPFAR and the U.S. Agency for International Development (USAID), MEASURE Evaluation.

Côte d'Ivoire and Nigeria were selected from 12 PEPFAR-focus countries in Africa based on the HIV/AIDS epidemic burden, donor interest, and the level of U.S. Government investment in HIV/AIDS strategic information over the last five years. From 2007–2013, Nigeria received over \$100 million in funding to strengthen M&E of its national HIV/AIDS response; Côte d'Ivoire received nearly \$30 million.⁸

¹ UNICEF, Programme Policy and Procedures Manual: Programme Operations, UNICEF, New York, Revised May 2003, pp. 109-120.

² Since 2005, the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) is the U.S. Government initiative to help save the lives of those suffering from HIV/AIDS around the world.

³ Since 2005, the President's Malaria Initiative (PMI) strives to reduce the intolerable burden of malaria and help relieve poverty on the African continent.

⁴ Family Planning 2020 (FP2020) is a global partnership that supports the rights of women and girls to decide, freely, and for themselves, whether, when, and how many children they want to have.

⁵ On June 25, 2014, the U.S. Agency for International Development (USAID) and the Governments of Ethiopia and India, in collaboration with UNICEF and the Bill & Melinda Gates Foundation, came together for a high-level forum called Acting on the Call: Ending Preventable Child and Maternal Deaths to celebrate progress, assess the

challenges that remain and identify the steps needed to sustain momentum in the future.

⁶ Operations Evaluation Department 2005; Porter et al. 2012.

⁷ Bennett et al. 2006; Institute of Medicine of the National Academies 2013.

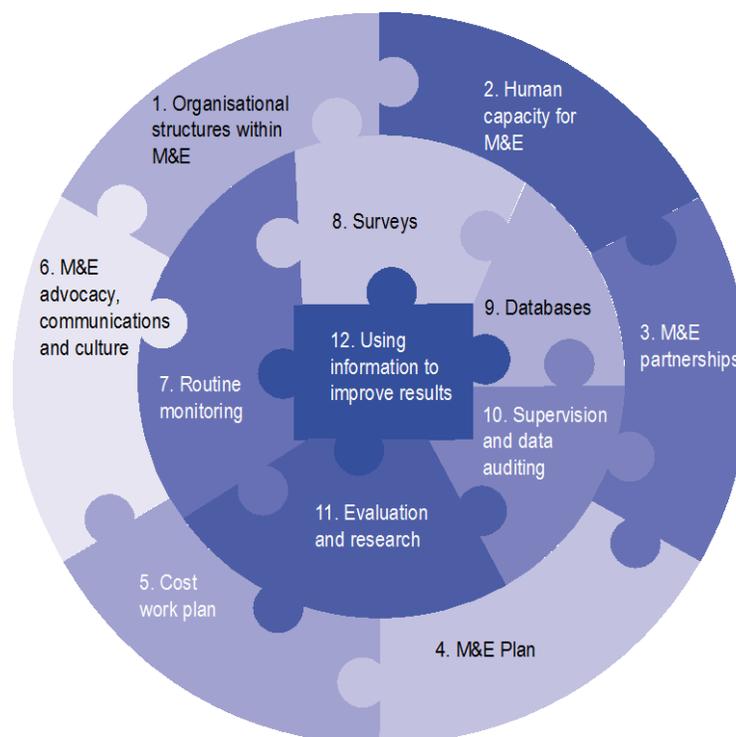
⁸ United States President's Emergency Plan for AIDS Relief (PEPFAR) 2010a; PEPFAR 2010b; PEPFAR 2011a; PEPFAR 2011b; PEPFAR 2012a; and PEPFAR 2012b.

This case study used *UNAID's Three-Ones Key Principles*⁹ to define the *One National HIV M&E System* in each country, which comprised the national AIDS coordinating authorities (in Côte d'Ivoire, the Ministry of Health in the Fight Against AIDS, formally the Conseil National de Lutte Contre le SIDA, and in Nigeria, the Nigerian National Agency for the Control of AIDS, or NACA), and all data sources and systems for the necessary data for national coordination, including United Nations General Assembly Special Session (UNGASS), PEPFAR, and other international development partners.

The case study focused on concepts from the middle ring of the *12 Components Organizing Framework*. As shown in Figure 1, the middle ring has five components that collect, verify, and transform data into useful information.¹⁰

The purpose of this technical brief is to highlight the methods applied to assess M&E system strengthening, share lessons learned, and provide recommendations for improving approaches to measure M&E system strengthening.^{11,12}

Figure 1: The 12 Components of a Functional M&E System



¹⁰ UNAIDS Monitoring and Evaluation Reference Group 2008.

¹¹ The full technical report, *A Case Study to Measure National M&E System Strengthening: Nigeria*, is available at https://www.cpc.unc.edu/measure/publications/sr-14-104/at_download/document.

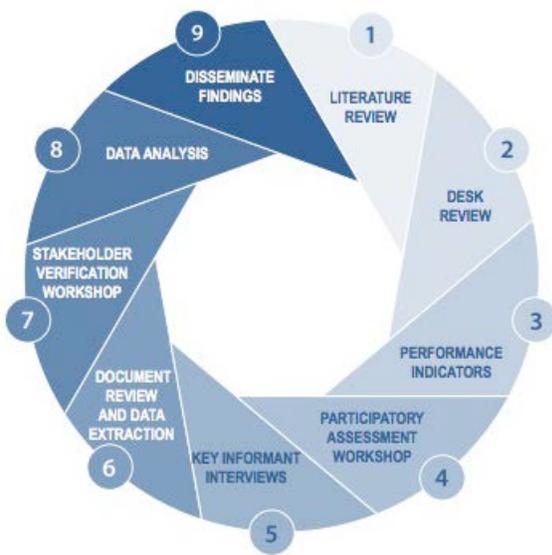
¹² The full technical report, *A Case Study to Measure National M&E System Strengthening in Côte d'Ivoire*, is available at: https://www.cpc.unc.edu/measure/publications/sr-14-102/at_download/document.

⁹ UNAIDS 2004.

Application

To ensure that the approach used met the objectives of this case study and the specific information needs in Côte d'Ivoire and Nigeria, the study team consulted the M&E units' leadership of each of the national AIDS programs. The mixed-method retrospective approach used in this case study included the elements shown in Figure 2.

Figure 2: Case Study Approach and Methods



1 LITERATURE REVIEW. Peer-reviewed journal articles published after 2001 to identify and summarize evidence of improvements in M&E systems in the health sector of low income countries and methods to assess or monitor M&E systems changes.

2 DESK REVIEW. A snapshot of both countries' HIV epidemiology, programmatic response to date, and funding. Key documents summarized describe the status of M&E system components and MEASURE Evaluation Phase III activities.

3 PERFORMANCE INDICATORS. Outcome indicators devised to measure M&E systems and required data sources and calculate system strengthening through trend analysis. Annex A has a complete list of indicators.

4 PARTICIPATORY ASSESSMENT WORKSHOP. *Most Significant Change* workshop with national AIDS senior program officers and M&E unit staff to elicit group prioritization through a participatory self-assessment.¹³

5 KEY INFORMANT INTERVIEWS. Explored interventions, their implementation, baselines and benchmarks, and how human capacity, partnerships, and planning supported data collection and use to strengthen system components identified in the participatory self-assessment.

6 DOCUMENT REVIEW AND DATA EXTRACTION. Reviewed country-specific documents and data to provide additional information on M&E system components and corroborate findings from the participatory self-assessment workshop and key informant interviews.

7 STAKEHOLDER VERIFICATION WORKSHOP. Preliminary findings presented to identify additional data sources and obtain feedback. Stakeholders and key informants received a summary of activities and key findings for validation.

8 DATA ANALYSIS. Qualitative and quantitative data from the key informant interviews analyzed and triangulated, translated, transcribed, and coded according to HIV M&E system components. Compiled, restructured, and analyzed data used to calculate performance indicators.

9 DISSEMINATE FINDINGS. Complete reports to be disseminated in-country for review and use in advocating and planning for M&E system strengthening activities.

¹³ Davies and Dart 2005.

Lessons

This mixed-method retrospective approach offers opportunities for further assessment of M&E system strengthening. Here is a summary of the successful aspects of this approach:

- The proven successful *12 Components Organizing Framework* provided a foundation for this approach.
- Stakeholders were involved to ensure that case study findings would be useful for planning and advocacy.
- The *Most Significant Change* scope of inquiry systematically used the proven participatory self-assessment method.
- Systematic data collection in Côte d'Ivoire and Nigeria produced evidence of HIV M&E system improvements.
- HIV M&E system-strengthening objective outcome measures used existing sources and trend analyses to identify M&E system performance.
- Although the mixed-method retrospective approach presented some challenges, the results demonstrated that the outcome indicators to measure M&E system strengthening have merit.
- Where data were available, baselines were established for outcome measurement indicators.

Despite these successes, the study team believes the approach should be streamlined to make it less cumbersome and more rapid in these two ways:

- The *Most Significant Change* scope of inquiry through the participatory self-assessment identified evidence of M&E system strengthening; however, it had a potential for stakeholder bias. This can be improved by using the findings from the performance indicator analysis to determine the successes that need follow up through key informant interviews.
- The document review was unfocused and could be improved by identifying and reviewing documents to calculate the performance indicators rather than all HIV M&E system documents available.

Recommendations

To improve the measurement of M&E system strengthening, the study team focused on ways to put performance measurement into operation, assess M&E system organizational environment, and understand the overarching political and organizational environment and how it influences functionality, performance, and strengthening.

Operationalize performance

measurement of the M&E system: The study team faced challenges in compiling case study performance indicators, which highlights the need to improve the availability and consistent use of performance indicators and to develop national and local M&E performance management plans. The study team made these specific recommendations:

- Use the transition to electronic and web-based databases as an opportunity to measure the performance of health information systems. For example, key respondents in Côte d'Ivoire said they are using reporting rates from the routine health information system to set benchmarks for the transition from donor to country ownership.
- Propose indicators and a monitoring plan tied to M&E system performance outcomes. The indicators and plan can derive from workshops and activities designed to self-assess, prioritize, and plan for M&E interventions. This will meet the need to assess M&E systems, develop action plans, and analyze trends in system changes.

Assess the organizational environment

in the M&E system: This case study focused on specific system components in the middle ring of the *12 Components Organizing Framework*; however, key informants and stakeholders noted that the implementation of activities and

interventions were affected by the organizational environment, which suggests the need to address outer-ring components of the framework more explicitly to understand and objectively measure these factors:

- The role, status, and implications of donor and country-specific partnerships to strengthen M&E systems
- The status and quality of M&E plans and costed work plans
- The availability of appropriate human resources and capacity to strengthen the M&E system

Understand the influences of the larger political and organizational environment on M&E system strengthening:

The context in which the M&E system and its components function affects efforts to strengthen the system, which suggests the need to better understand the challenges of implementing a functional M&E system in the context of *UNAIDS Three-Ones Key Principals*.¹⁴ In Côte d'Ivoire and Nigeria, the extent of organization of the national coordinating body, HIV strategy, and the M&E program are a good indication of the progress in M&E systems strengthening.¹⁵ Further assessment of the functionality of the national coordinating body and HIV strategy is indicated to understand the effect of these two principles on the functionality of the M&E system and the foundation that is required to plan and implement a successful and sustainable national HIV or health program.

¹⁴ UNAIDS 2004.

¹⁵ Peersman, Rugg, and Erkkola 2009.

Resources

- Bennett, S., Boerma, J.T., and Brugha, R. (2006). Scaling up HIV/AIDS evaluation. *Lancet* 2006; 367: 79–82. Retrieved May 14, 2013, from http://www.researchgate.net/publication/7372964_Scaling_up_HIVAIDS_evaluation/file/32bfe5101578bab48e.pdf
- Davies, R. and Dart, J. (2005). The most significant change technique: A guide to its use, from <http://www.mande.co.uk/docs/MSCGuide.pdf>
- Federal Ministry of Health (2010). Technical report on the 2008 national HIV/syphilis sero-prevalence sentinel survey among pregnant women attending antenatal clinics in Nigeria. Department of Public Health National AIDS/STI Control Programme. Abuja: Nigeria.
- MEASURE Evaluation. (2009). Performance of Routine Information System Management, PRISM Tools for Assessing, Monitoring, and Evaluating RHIS Performance.
- MEASURE Evaluation. (2014). *A Case Study to Measure National M&E System Strengthening: Nigeria*. Chapel Hill, NC: MEASURE Evaluation. Available at: https://www.cpc.unc.edu/measure/publications/sr-14-104/at_download/document.
- MEASURE Evaluation. (2014). *A Case Study to Measure National M&E System Strengthening; Côte d'Ivoire*. Chapel Hill, NC: MEASURE Evaluation. Available at: https://www.cpc.unc.edu/measure/publications/sr-14-102/at_download/document.
- Ministère de la Santé et de la Lutte contre le SIDA (MSLS), PEPFAR/USAID, and MEASURE Evaluation. (2012). Dictionnaire des indicateurs VIH nationaux. Edition 2012. Abidjan (Côte d'Ivoire): République de Côte d'Ivoire.
- National Agency for the Control of AIDS. (2011a). National HIV and AIDS monitoring and evaluation plan—Nigeria National Response Information Management Systems operational plan II; third edition. Abuja (Nigeria): The National Agency for the Control of AIDS. Retrieved April 8, 2013, from <http://sbccvch.naca.gov.ng/sites/default/files/NNRIMS%20Operational%20Plan%202011-2016.pdf>
- National Agency for the Control of AIDS. (2012). Global AIDS response country progress report: Nigeria GARPR 2012. Abuja (Nigeria): National Agency for the Control of AIDS. Retrieved July 13, 2013, from <http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/Nigeria%202012%20GARPR%20Report%20Revised.pdf>
- NACA and UNAIDS (2010). UNGASS country progress report—Nigeria: January 2008–December 2009. Abuja (Nigeria): National Agency for the Control of AIDS, Operations Evaluation Department.
- (2005). Committing to results: Improving the effectiveness of HIV/AIDS assistance, an OED evaluation of the World Bank's assistance for HIV/AIDS control. Washington, DC (USA): World Bank. Retrieved May 14, 2013, from <https://openknowledge.worldbank.org/handle/10986/7435>

- Porter, L.E., Bouey, P.D., Curtis, S., Et al. (2012). Beyond indicators: advances in global HIV monitoring and evaluation during the PEPFAR era. *J Acquir Immune Defic Syndr*. Aug 15; 60 Suppl 3:S120-6. doi: 10.1097/QAI.0b013e31825cf345. Retrieved May 2, 2013, from <http://www.ncbi.nlm.nih.gov/pubmed/22797733>
- UNAIDS (2004). "Three Ones" key principles: Coordination of national responses to HIV/AIDS—Guiding principles for national authorities and their partners. Geneva (Switzerland): UNAIDS. Retrieved February 4, 2010, from http://data.unaids.org/UNA-docs/three-ones_keyprinciples_en.pdf
- UNAIDS Monitoring and Evaluation Reference Group (MERG). (2008). Organizing framework for a functional national HIV monitoring and evaluation system. Geneva (Switzerland): UNAIDS. Retrieved June 30, 2010, from http://data.unaids.org/pub/BaseDocument/2008/20090305_organizingframeworkforhivmesystem_en.pdf
- UNAIDS Monitoring and Evaluation Reference Group (MERG). (2010). The 12 components monitoring and evaluation systems strengthening tool. Geneva (Switzerland): UNAIDS.
- USAID. (2002). HIV/AIDS in Nigeria: A USAID brief. Retrieved July 2, 2014, from http://pdf.usaid.gov/pdf_docs/Pnacq945.pdf
- The United States President's Emergency Plan for AIDS Relief (PEPFAR). (2010a). Nigeria operational plan report—FY 2010; FACTS Info v3.8.3.30. Washington, DC (USA): Office of the Global AIDS Coordinator. Retrieved June 18, 2014, from <http://www.pepfar.gov/documents/organization/145730.pdf>
- The United States President's Emergency Plan for AIDS Relief. (2010b). Côte d'Ivoire operational plan report—FY 2010. Washington, DC (USA): Office of the Global AIDS Coordinator.
- The United States President's Emergency Plan for AIDS Relief. (2011a). Nigeria operational plan report—FY 2011; FACTS Info v3.8.3.30. Washington, DC (USA): Office of the Global AIDS Coordinator. Retrieved June 18, 2014, from <http://www.pepfar.gov/documents/organization/199713.pdf>
- The United States President's Emergency Plan for AIDS Relief. (2011b). Côte d'Ivoire operational plan report—FY 2010. Washington, DC (USA): Office of the Global AIDS Coordinator.
- The United States President's Emergency Plan for AIDS Relief. (2012a). Nigeria operational plan report—FY 2012; FACTS Info v3.8.3.16. Washington, DC (USA): Office of the Global AIDS Coordinator. Retrieved June 18, 2014, from <http://www.pepfar.gov/documents/organization/212153.pdf>
- The United States President's Emergency Plan for AIDS Relief. (2012b). Côte d'Ivoire operational plan report—FY 2010. Washington, DC (USA): Office of the Global AIDS Coordinator.

Appendix A

Table 1: Performance Indicators

Indicator	Calculation	Components									
		3	4	5	7	8	9	10	11	12	
Research Question #1: How do key stakeholders perceive national level commitment to its health information systems (a subset of the M&E system) to have changed during the course of M&E systems strengthening interventions?											
Instances where country organizations or programs request and/or secure funding for M&E or HIS staff and/or activities ¹⁶	Disaggregate by funding source (gov't, donor, etc.)	X									
Percent of activities in the national M&E work-plan that are allocated to at least one lead host-country agency for implementation (line ministry, etc.) ¹⁷	# of activities in the national M&E work plan assigned to host country lead/total # of work plan activities			X							
Percent of total cost of the current year national M&E work plan which has been secured ¹⁸				X							
Percent of total budget for the current year national HIV M&E work plan which will be funded by government ¹⁹	# of activities resourced by HG/total # of work plan activities			X							
Percent of total program budget allocated to M&E ²⁰	MESST highlights 7%			X							
Research Question #2: How has M&E system performance improved as a result of M&E systems strengthening interventions?											
Percent of M&E plan indicators reported against (for strategic period or fixed year as defined by the national M&E plan) ²¹	# of indicators with reported data/total # of indicators in M&E plan (disaggregated by data source to inform components 7 and 8)		X								

¹⁶ Source: MEASURE Evaluation, Indicator 1.1, 2012

¹⁷ Source: UNAIDS MERG, page 27, question 1.4, 2010

¹⁸ Source: UNAIDS MERG, page 31, question 4.2, 2010

¹⁹ Source: UNAIDS MERG, page 31, question 4.3, 2010

²⁰ Source: The Global Fund et al, 2007

²¹ Source: UNAIDS MERG, page 39, question 16, and page 40, question 2, 2010

Indicator	Calculation	Components										
		3	4	5	7	8	9	10	11	12		
Percent of expected reports received from districts on time ²²	# of expected reports received from districts/# of expected reports received total (for selected indicator); data from sub reporting entities are available, on time, valid									X		
Percent of expected reports received from service sites (facilities or NGOs/CBOs) ²³	# of expected reports received from service sites/# of expected reports received total (for selected indicator); data from sub reporting entities are available, on time, valid									X		
Percent of districts receiving feedback from data submitted through RHIS ²⁴	# of districts sent feedback reports/# of districts											X
Joint reviews of the HIV response takes place during annual reporting, mid-term and end-of term NSP reviews ²⁵												X
The HIV research and evaluations findings are being used in policy formulation, planning and implementation ²⁶												X
There are guidelines to support the analysis, presentation and use of data (e.g. graphs on walls showing cumulative coverage) ²⁷												X
Number of states that submit their reports on timely basis (Nigeria-specific)										X		
Percent of subnational reports submitted that are complete and submitted on time (Nigeria-specific)										X		

²² Source: Aqil et al, 2009; The Global Fund et al, 2007

²³ Source: Aqil et al, 2009; The Global Fund et al, 2007

²⁴ Source: Aqil et al, 2009

²⁵ Source: UNAIDS MERG, page 48, question 2.1, 2010

²⁶ Source: UNAIDS MERG, page 47, question 1.8, 2010

²⁷ Source: UNAIDS MERG, page 49, question 5, 2010

Indicator	Calculation	Components									
		3	4	5	7	8	9	10	11	12	
Research Question #3: How has capacity of individuals – and organization’s ability to absorb and put to use that capacity – improved as a result of M&E capacity development interventions designed to strengthen the M&E system?											
Percent of surveys and surveillance activities planned for in the research inventory implemented within past 12 months ²⁸	# of surveys or surveillance activities planned for implemented/ # of surveys or surveillance activities planned for in the same period. An inventory of all HIV related surveys and surveillance conducted already (and to be conducted) in the country has been updated within past 12 months			X							
Percent of required DC points with computers to support capture ²⁹	# of dc points with computers/# of dc points requiring computers. IT equipment and supplies are available for maintaining the national and sub national HIV databases							X			
Percent of human resources required to support IT efforts available ³⁰	# of staff available to support IT/# of staff required. Human resources for maintaining and updating the national and sub national HIV databases are adequate							X			
Percent of identified sites receiving a supervision visit in the last 6 months as per national standards ³¹	# of sites receiving supervision/# of sites required to receive supervision (in the last 6 months). Supportive supervision was conducted as per the national protocols, in the past 6 months								X		
Percent of evaluation agenda implemented Research and evaluation findings are regularly disseminated and discussed ³²	Revise for retrospective; add % of agenda that produced info products on time and of sufficient quality to be useful. The use indicator (B33) will get at the outcome level? Should we move it here? The questions in Section 11 ought to be used to develop the IPS for this indicator.										X

²⁸ Source: UNAIDS MERG, page 40, question 1, 2010
²⁹ Source: UNAIDS MERG, page 43, question 4, 2010
³⁰ Source: UNAIDS MERG, page 43, question 6, 2010
³¹ Source: UNAIDS MERG, page 44, question 2, 2010
³² Source: UNAIDS MERG, pages 46-48, 2010

Indicator	Calculation	Components								
		3	4	5	7	8	9	10	11	12
Research Question #4: What is the degree to which the M&E system draws its data directly from national health information systems?										
	There is a functional integrated database for electronically capturing and storing data on a wide range of health services (including but not limited to HIV/AIDS services) ³³						X			

³³ Source: UNAIDS MERG, page 43, question 2, 2010