



MEASURING AND MONITORING ADAPTIVE LEARNING

A Landscape Review

MOMENTUM Knowledge Accelerator



MAY 2022

MOMENTUM works alongside governments, local and international private and civil society organizations, and other stakeholders to accelerate improvements in maternal, newborn, and child health services. Building on existing evidence and experience implementing global health programs and interventions, we help foster new ideas, partnerships, and approaches and strengthen the resiliency of health systems.

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TABLE OF CONTENTS

List of Figures.....	iv
List of Tables.....	iv
List of Boxes.....	iv
Acknowledgements.....	v
Acronyms	vi
Executive Summary.....	vii
Introduction.....	1
Rationale for Monitoring Adaptive Learning Interventions.....	2
Structure of the Review	3
Methodology	3
Expert Interviews and Consultations.....	4
Data Synthesis and Analysis.....	4
Limitations	5
Status of adaptive learning measurement and monitoring.....	5
Adaptive Learning: Definitions And Purpose.....	5
Measurement in the Context of Adaptive Learning.....	8
Framing Adaptive Learning Measurement and Monitoring.....	9
What should be measured and monitored to assess adaptive learning interventions?.....	22
Three Domains of Adaptive Learning Intervention and Measurement.....	22
Approaches to Measuring and Monitoring Adaptive Learning	24
Recommendations for MOMENTUM.....	34
What Adaptive Learning Measurement Strategies are Relevant to MOMENTUM?	34
Short-List of Indicators for MOMENTUM’s MEL of Adaptive Learning	35
Appendix 1: Indicative Standards and Assessment Matrix for Adaptive Management by Role.....	39
Appendix 2: Key Performance Indicators to Assess Adaptive Management Competencies	41
Appendix 3: Making Adaptive Rigor Work: The Adaptive Rigor Inventory – Version 1.0	43
References.....	47

LIST OF FIGURES

- Figure 1. Adaptive Management Cycle 3
- Figure 2. Evaluation and Learning is Central to the Adaptive Management Cycle 9
- Figure 3. EPIS (Exploration, Preparation, Implementation, Sustainment) Framework 11
- Figure 4. CLA Framework 12
- Figure 5. From Central Planning to Disjointed Incrementalism 13
- Figure 6. Abt Associates Adaptive Programming Framework 13
- Figure 7. REAL Framework 15
- Figure 8. Three Levels of Adaptive Learning Intervention 23

LIST OF TABLES

- Table 1. Critical Terms and Concepts for Understanding Adaptive Learning 7
- Table 2. Comparing Six Resources that Inform the MEL of Adaptive Learning 17
- Table 3. Focus of Measurement, Illustrative Metrics and MEL Requirements for Adaptive Learning ... 27
- Table 4. Selected Tools and Methods Used to Monitor and Evaluate Adaptive Learning 30
- Table 5. Recommended Indicators for Monitoring Adaptive Learning in MOMENTUM 38

LIST OF BOXES

- Box 1. All MOMENTUM Awards Share a Result Focused on Adaptive Learning 2
- Box 2. Benefits of Focusing on Measurement in Adaptive Learning 3

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ACRONYMS

ADAPT	Adaptive Management Self-Assessment Tool
CA4AM	Contribution Analysis for Adaptive Management
CLA	Collaborating, Learning and Adapting
CSO	Civil Society Organizations
EPIS	Exploration, Preparation, Implementation, Sustainment
EBP	Evidence-Based Practice
FP	Family planning
GESI	Gender Equality and Social Inclusion
GLAM	Global Learning for Adaptive Management
MEL	Monitoring, Evaluation, and Learning
MEL4AM	Monitoring, Evaluation, and Learning for Adaptive Management
MELF	Monitoring and Evaluation Learning Framework
MERL	Monitoring, Evaluation, Research, and Learning
MNCHN	Maternal, newborn, child health and nutrition
MOMENTUM	Moving Integrated, Quality Maternal, Newborn, and Child Health and Family Planning and Reproductive Health Services to Scale
ODI	Overseas Development Institute
PDIA	Problem Driven Iterative Adaptation
PDSA	Plan Do Study Act
PILLAR	Politically Informed, Locally Led, and Adaptive Responses
REAL	Rapid Evaluation, Action, and Learning
RH	Reproductive Health
TOC	Theory of Change
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

This landscape review explores the measurement, monitoring, and evaluation of adaptive learning interventions. **Adaptive learning** is “the intentional adoption of strategies and actions to facilitate critical reflection and analysis of data, information, and knowledge—on a continuous basis and from a wide range of sources—to inform decisions that optimize program implementation and effectiveness in expected, unexpected, and changing circumstances.”¹ The introduction of adaptive learning processes and skillsets in global health programming is part of an emerging strategy to advance a learning culture within projects and teams for the purpose of improving health program performance. The use of adaptive learning addresses the need for dynamic and agile approaches that enable implementers to work within complex, nonlinear, and unpredictable environments in health sectors at the country level, and reflects USAID’s recommended principles and practices found in the [Collaborating, Learning and Adapting Toolkit \(CLA\)](#).

This landscape review complements the [MOMENTUM Adaptive Learning Guide](#) to inform health program actors on potential approaches and challenges related to the monitoring and evaluation of adaptive learning interventions. It summarizes the status of adaptive learning measurement and monitoring based on a rapid review of documents and tools and interviews with program and evaluation practitioners. It also presents a curated collection of relevant frameworks, approaches, tools, and metrics to inform the development of strategies for monitoring and evaluating adaptive learning interventions.

The primary reason for measuring adaptive learning practices is to “monitor if and how adaptive learning processes have been introduced, are being used, and are having the intended results. These results will indicate where changes may be needed as teams work to strengthen their adaptive learning practices.”² As such, this landscape review focuses primarily on routine monitoring approaches to track the changes anticipated in capacity and performance as a result of adaptive learning interventions. However, it also considers the importance of evaluating adaptive learning as a program improvement strategy (i.e., the impact pathway from adaptive learning to program outcomes).

The monitoring and evaluation of adaptive learning is an emergent field. The resources reviewed for this landscape highlight the mindsets, organizational structures, processes, and data systems that support adaptive programming approaches—including elements such as culture and leadership, dynamic teams, appropriate analysis, responsive implementation and operations, and an enabling environment (e.g., donor funding and relationships). Although there is a growing body of literature on adaptive programming more generally, there is a limited knowledge base on the monitoring and evaluation of adaptive learning interventions and their impacts. Discussions of measurement and monitoring focus mostly on the need for adequate and tailored monitoring, evaluation, and learning (MEL) systems to collect and use data in implementing adaptive learning. There is little guidance or documented experience on the monitoring and evaluation of adaptive learning interventions themselves (i.e., assessing the processes, outputs, and outcomes of integrating adaptive learning into implementation units and organizations). Unlike other implementation strategies or program management approaches, there are no standard metrics or a monitoring and evaluation framework to track the integration, implementation, and effectiveness of adaptive learning in health programming. Evidence that explores the influence of adaptive learning on program processes, outcomes, and sustainability is equally scarce. Poor articulation of how adaptive learning will impact program processes and outcomes points to the need for a theory of change (TOC) to guide the generation of evidence and testing of the relationship between adaptive learning and program impact.

The landscape review highlights the learning from five adaptive programming guidelines and toolkits and one implementation science framework to inform the monitoring and evaluation of adaptive learning: [EPIS \(Exploration, Preparation, Implementation, Sustainment\) Framework](#);³ [USAID’s Collaborating, Learning and Adaptation \(CLA\) Framework](#);⁴ [MOMENTUM Adaptive Learning Guide](#); [Abt Associates Implementing Adaptive Management](#) guide;⁵ [Making Adaptive Rigor Work: Principles and Practices for Strengthening Monitoring, Evaluation and Learning for Adaptive Management \(MEL4AM\)](#);⁶ and Rapid Evaluation Action and Learning (REAL) Framework and Toolkit.⁷ It also presents a curated inventory of key MEL questions, illustrative metrics, and existing methods and tools that are relevant for conducting monitoring and evaluation of adaptive learning.

The key resources suggest common themes related to defining essential capacities, processes, and performance in adaptive learning, including structures, team composition and roles, management and MEL procedures, and skillsets. In the absence of any single, standardized framework related to adaptive learning capacity and performance, these resources can help shape the focus of measurement and the selection of metrics to monitoring and evaluation strategies. Learning from the six resources is compared briefly below in Table 2. The EPIS and CLA frameworks, the MOMENTUM Adaptive Learning guide, and the Abt Associates Implementing Adaptive Management guide⁸ place adaptive learning broadly in the context of a comprehensive implementation strategy or program cycle. They consider a range of program capacities and processes that must be introduced or strengthened at different levels when building an adaptive learning approach. A central element of adaptive learning capacity found across all guidance documents is the need for capacity in data generation and data use to inform continuous cycles of learning and adaptation. The MEL4AM and REAL resources focus specifically on processes, standards, and mindsets relevant to data collection and data use (e.g., use of TOCs, experimentation cycles, the choice of metrics, data quality assurance, and data visualization), the need for strengthening skills in data interpretation, and steps to facilitate collective decision-making around program modification. All six resources identify an enabling context as being important to the success of adaptive learning introduction, institutionalization, and performance. None of these resources present an impact pathway or TOC that links adaptive learning actions to program outcomes. However, all resources anticipate that adaptive learning contributes to improved program performance.

DOMAINS OF ADAPTIVE LEARNING AND MEASUREMENT

Current adaptive learning interventions focus at one or more of the following levels, suggesting three possible domains for adaptive learning monitoring and evaluation.

Level 1: Integration and institutionalization of adaptive learning practices in teams, project or organizations

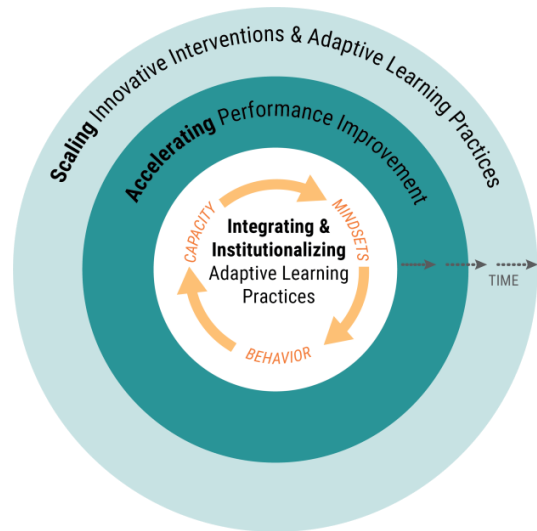
Level 2: Utilization of adaptive learning processes to achieve and accelerate program performance improvement

Level 3. Scaling up adaptive learning products, solutions, and practices beyond team or project settings

At this emergent stage of practice, most practitioners and organizations implementing adaptive learning are integrating or strengthening adaptive learning approaches in their own teams or working collaboratively to integrate adaptive learning into other entities (e.g., public sector health management units at national, district or facility level or in implementing partners such as nongovernmental organizations [NGOs] and

private sector providers). It is expected that measurement and monitoring at **this first level** would focus on the **outputs and outcomes of adaptive learning interventions** or the **effectiveness of efforts to introduce and institutionalize adaptive learning in public health programming**. It involves the collection and use of data that track the introduction and uptake of adaptive learning and the quality and performance of adaptive learning practices as they evolve. As defined by the EPIS, CLA, and other frameworks, performance in adaptive learning depends on both internal skills and an enabling context for adaptive learning, which form the basis for an adaptive learning monitoring and evaluation framework. The outputs and outcomes of this system strengthening include structures, skills, behaviors or practices, and team mindsets (e.g., perceptions of and motivation for adaptive learning) that are considered relevant to the practice of adaptive learning as an implementation and learning improvement strategy. Documentation, measurement, and monitoring inform understanding of the process of adaptive learning capacity development as well as the effect of these investments.

THREE LEVELS OF ADAPTIVE LEARNING INTERVENTION AND MEASUREMENT



The **second level** of adaptive learning activity and measurement focuses on addressing the **effectiveness of adaptive learning as a performance improvement strategy**. It aligns with and builds on standard monitoring and evaluation activities designed to assess the effectiveness of a public health solution or program intervention but introduces specific learning questions on the relative value or influence of adaptive learning approaches in improving program outcomes (e.g., access, uptake, quality, impact). Measurement and monitoring at this level require mapping and exploring **the impact pathway from adaptive learning to program improvement**. Investment is needed to define a TOC that hypothesizes how adaptive learning influences implementation processes and outcomes in global health programming to guide evaluation of the influence of adaptive learning strategies and practices.

The **third level** of adaptive learning intervention reflects the intent of organizations and public sector institutions to roll out adaptive learning capacity across country systems or to translate learning on adaptive approaches from one setting to another. The integration and institutionalization of adaptive learning in this sense is not a project-focused intervention, with a defined end-state, but an intervention that could drive health system or organizational change beyond the initial investment in adaptive learning by a program team.

RECOMMENDATIONS FOR MOMENTUM

By the end of the MOMENTUM’s first five years of implementation, most award teams will have conducted adaptive learning activities at all three levels – intervention, evaluation, and scale - to varied degrees. However, in the early stages of implementation of MOMENTUM, the focus of adaptive learning activities is on the integration and institutionalization of adaptive learning (Level 1). Measurement and monitoring will therefore focus on tracking and guiding the effectiveness of adaptive learning interventions. We recommend that program teams blend the MEL approaches that drive adaptive learning processes with those that are

useful for evaluating the effectiveness of adaptive learning intervention to optimize investment and efforts. Program implementers also recommended the use of narrative and descriptive assessment of adaptive learning experience rather than accountability for adaptive learning strengthening and adaptive learning performance. Examples of appropriate approaches include: case studies focused on specific learning questions, reflection diaries where teams document internal changes and learning over time as they integrate new approaches, and qualitative impact assessment data collected through key informant interviews and focus group discussions. Full-scale evaluation and assessment of efforts to scale up adaptive learning practices may come with time, as country level interventions take hold and interest in replication grows.

This landscape review includes some proposed MOMENTUM metrics and measurement strategies that will provide an aggregated picture of adaptive learning activities and learning. Beyond these metrics, broad questions around adaptive learning and measurement in the context of adaptive learning also need to be addressed.

To address the need for research evidence on the pathway from adaptive learning to program improvement, further exploration of the hypothetical pathway from adaptive learning to program outcomes may be needed. This exploration would incorporate accumulated learning on key elements of adaptive learning capacity and performance to examine the relationship between adaptive learning and public health system and program outcomes. Program implementers could integrate this effort into a program or impact evaluation strategy for MOMENTUM investments. Through sophisticated research designs conducted at larger scales, MOMENTUM teams could serve as important contributors and innovators in the effort to fill the gap in research evidence on the value and effectiveness of adaptive learning.

INTRODUCTION

MOMENTUM is a suite of U.S. Agency for International Development (USAID) awards designed to accelerate reductions in maternal, newborn, and child mortality and morbidity by increasing the capacity of host country institutions and local organizations to introduce, deliver, scale up, and sustain the use of evidence-based, high quality maternal, newborn, and child health services and nutrition (MNCHN); voluntary family planning (FP); and reproductive health care (RH). Key to this approach is the implementation of adaptive learning and adaptive management approaches to allow teams to quickly react and pivot in the ever-changing and complex environments in which they work.

To support this area of programming, the MOMENTUM Knowledge Accelerator conducted a landscape review of approaches to measuring and monitoring adaptive learning carried out in the context of global health and development programming, including frameworks, methods, tools, and metrics. The purpose of the landscape review was to inform the design and selection of evidence-based strategies to guide, track, and evaluate adaptive learning within the MOMENTUM consortium and to facilitate cross-MOMENTUM reporting and learning related to adaptive learning. It builds on the [MOMENTUM Adaptive Learning Guide](#)⁹ that provides information and resources to integrate adaptive learning into the design, implementation, and improvement of MNCHN/FP/RH programs.

To address Result 3 of the MOMENTUM results framework (Box 1), MOMENTUM awards are employing adaptive learning as an implementation or program improvement strategy as well as developing skills and capacity for adaptive learning among public and private sector organizations and implementation units at country level. The [MOMENTUM Adaptive Learning Guide](#) suggests steps that teams can take to effectively incorporate adaptive learning approaches into their work and to develop and foster cultures of learning. This landscape review, focusing on measurement and monitoring of adaptive learning, is intended to complement the Adaptive Learning Guide, offering framing and guidance on ways in which program teams might document, measure, monitor, and evaluate adaptive learning efforts and outcomes. It **does not** focus on the design of monitoring and data use strategies, tools, and metrics used in adaptive learning practices (e.g., Monitoring, Evaluation and Learning for Adaptive Management or MEL4AM¹⁰) except in suggesting frameworks and performance standards to inform measurement and monitoring of the introduction and effectiveness of these internal monitoring, evaluation, and learning (MEL) systems.

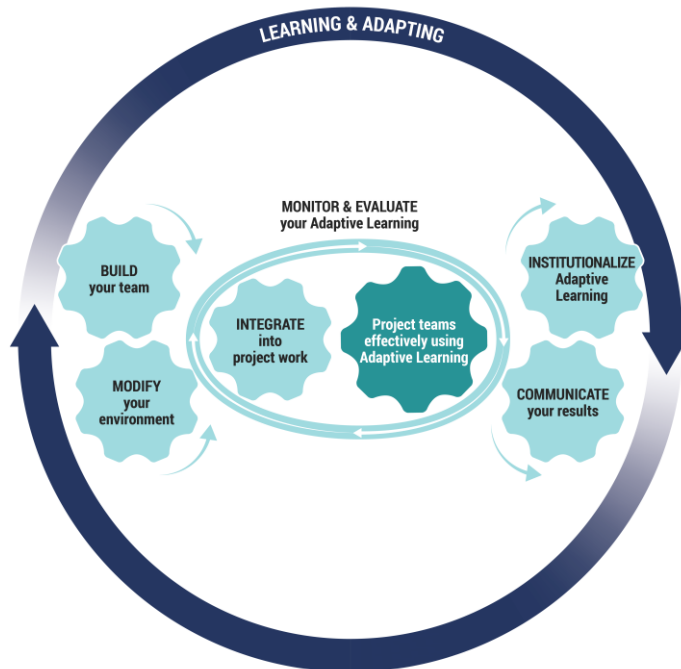
Box 1. All MOMENTUM awards share a result focused on adaptive learning

Result 3 of the MOMENTUM Results Framework is: Adaptive learning and use of evidence in MNCH/FP/RH programming through sustained USAID and host country technical leadership increased. It has three associated intermediate results.

RATIONALE FOR MONITORING ADAPTIVE LEARNING INTERVENTIONS

The [MOMENTUM Adaptive Learning Guide](#) highlights the MEL of adaptive learning as a critical element of introducing and improving the practice of adaptive learning (Figure 1). It notes that the primary reason for measuring adaptive learning practices is to “monitor if and how adaptive learning processes have been introduced, are being used, and are having the intended results. These results will indicate where changes may be needed as teams work to strengthen their adaptive learning practices.”¹¹ As such, this landscape review focuses primarily on routine monitoring approaches to track the changes anticipated in capacity and performance as a result of adaptive learning interventions. However, it also considers the importance of evaluating adaptive learning as a program improvement strategy (i.e., the impact pathway from adaptive learning to program outcomes) and exploring its role in program improvement. Increased understanding of measurement and monitoring in the context of adaptive learning will provide lessons for advancing adaptive learning practices in a range of program settings and build a stronger evidence base of the influence and value of adaptive learning as a program improvement strategy (See Box 2 for additional benefits of advancing measurement of adaptive learning).

FIGURE 1. ADAPTIVE LEARNING CYCLE



(Source: Ross et al. 2021)

Box 2. Benefits of Focusing on Measurement in Adaptive Learning

The benefits of focusing on measurement in the context of adaptive learning include:

- Developing a shared set of outcomes and goals for adaptive learning.
- Creating transparency in “what success looks like,” which can build trust and support a common vision.
- Defining the value of adaptive learning for all parties, enhancing the potential for sustained use of adaptive learning practices.
- Improving the practice of adaptive learning and interventions to introduce and integrate it into public and private sector health sector organizations.
- Finding synergies and economies of scale when investing in MEL systems.
- Generating accountability and demonstrating success to stakeholders and funders.
- Identifying successful approaches to scale-up of adaptive learning.
- Documenting adaptive learning in context to elucidate its theory of change.

STRUCTURE OF THE REVIEW

The methodology section presents the approach taken to conduct this review; it is followed by the section on the findings of the landscape review, focusing mainly on the status of measurement and monitoring of adaptive learning. This section introduces definitions of key concepts and terms, briefly summarizes the status of relevant literature and experience, and frames the measurement and monitoring of adaptive learning, drawing on six frameworks or guides related to adaptive programming that are helpful for informing adaptive learning monitoring and evaluation strategies. The next section discusses the three levels of intervention, the focus of measurement related to adaptive learning, and potential approaches to measuring and monitoring adaptive learning. It also offers an illustrative list of methods and tools that are relevant to the MEL of adaptive learning interventions. The final section of this landscape review considers the MEL of adaptive learning for MOMENTUM awards.

METHODOLOGY

The broader research question guiding the scope of inquiry for this work was: What are emerging practices and experiences in integrating measurement and monitoring into programs that employ adaptive learning in the health sector in low-resource settings? Specific questions guiding the landscape analysis were:

1. What experience and evidence are found in the literature on approaches to framing and measuring adaptive learning performance and effectiveness?
2. How are MOMENTUM and other projects currently framing and measuring adaptive learning and conducting monitoring of adaptive learning activities?
3. How might MOMENTUM and other projects define measurement and monitoring related adaptive learning?

Evidence included in this study was derived from a combination of expert interviews, peer-reviewed articles, and gray literature identified through PubMed and Google Scholar and targeted websites, and a desk review of MOMENTUM project plans and MEL strategies.

DESK REVIEW

Two members of the team independently searched the following databases for eligible articles and materials: PubMed and Google Scholar. Online searches were conducted to identify project and gray literature and examples of frameworks and tools, including the websites and resource repositories of several global health, research, and development institutions. All online searches were completed in May and June 2021. Search terms were chosen to include a wide scope of possible ways of describing adaptive learning and adaptive learning measurement, including “adaptive learning,” “adaptive management,” iterative use of data,” quality improvement/Plan Do Study Act,” “measurement,” “indicators,” “performance improvement,” “monitoring,” “metrics,” and “frameworks.” Each individual search consisted of a combination of one or more of these search terms. All articles and reports were uploaded to Mendeley, a reference management software, and duplicates removed. Due to the limited number of published articles focusing on measuring and monitoring adaptive learning, we had few restrictions on article eligibility. There were no restrictions based on publication/release date or program-setting. Articles reporting on studies using quantitative, qualitative or

mixed methods were included. Articles that did not address either measurement or monitoring of adaptive learning were excluded. In addition, all articles not written or translated into English were excluded.

Search results produced over 50 sources, which were independently screened and critically appraised by the two authors. The authors reviewed the titles and abstracts of every article and eliminated those that did not address some aspect of the integration of measurement in adaptive learning programming. Articles that contained research or programmatic evidence pertaining to the topic or cited evidence regarding the topic in health or other sectors were selected for final inclusion. To determine the eligibility of an article identified in the search, the two authors reviewed article titles and abstracts and introductions. If upon reading the abstract or introduction the eligibility was unclear, the full paper was read to determine eligibility. If discrepancies resulted between the two independent reviewers, a discussion was conducted to come to consensus. Reference lists of the source materials were also searched for additional eligible articles or reports. The research team then reviewed each document or tool to map existing experience and evidence and synthesize emerging practices when integrating measurement in programs that took an adaptive and iterative learning approach. The team completed data extraction on a collaborative document to ensure standardization and uniformity in data collection across reviewers and logged a summary of relevant findings, insights, and recommendations into the sheet.

To establish the scope of existing and intended MOMENTUM adaptive learning practices and interventions as well as related measurement approaches, reviewers also conducted a desk review of MOMENTUM award documents, including MEL plans and metrics.

EXPERT INTERVIEWS AND CONSULTATIONS

Expert interviews with global health program and research and evaluation practitioners were conducted to supplement the evidence gathered during the literature and desk reviews. Experts included individuals from MOMENTUM award teams and other global health organizations who had experience working on adaptive programming and use of measurement to monitor and drive adaptive learning. Interviews were conducted by a lead interviewer using an interview guide; notes taken during the interview by the interviewer or a second researcher were expanded and stored for analysis. In total, nine expert interviews were conducted to understand stakeholder experience shaping measurement strategies for use in programs that apply or were planning to apply an adaptive learning approach.

In addition to expert interviews, a 1.5-hour technical consultation workshop was held on June 9, 2021 with USAID representatives and MEL leads from each of the MOMENTUM awards. During the workshop, the 25 participants were provided with an overview of the landscape review's objectives, methods, and findings from the rapid literature review. The latter half of the workshop focused on actively seeking feedback from participants on the proposed indicators related to the measurement of adaptive learning processes. From this process, the team captured both positive and constructive feedback from participants and incorporated it into a revised shortlist of adaptive learning indicators (see Section 5 and Table 7).

DATA SYNTHESIS AND ANALYSIS

Data from all eligible source materials, MOMENTUM program documents, and interviews were synthesized. Content analysis was utilized to identify common themes around framing adaptive learning, the role of measurement in adaptive learning, and types of measurement approaches. Researchers worked

collaboratively to analyze all data outputs. Analysis focused mainly on identifying and reviewing research or program design frameworks that were relevant to adaptive learning; reviewing experience, methods and tools applied in adaptive program settings; and examining guidelines to introduce and institutionalize adaptive learning approaches. Findings were then used to understand and describe measurement strategies in adaptive learning and limitations in current approaches to measurement and to document and sort frameworks, tools, and guidelines for future reference for program teams. During the rapid review and interview synthesis, the research team focused on documenting specific examples of practical use of measurement in the context of adaptive learning, noting gaps if they were present.

LIMITATIONS

The use of measurement to drive and to monitor (or evaluate) adaptive learning is emergent. Although there is a growing body of documentation and guidance on adaptive programming generally, and the use of data in that context, there is only a limited body of experience related to the monitoring and evaluation of adaptive learning interventions and their effects. This review therefore relied on a range of frameworks and practices related to conducting adaptive programming in general as the basis for informing approaches to measuring its progress, quality, and effect. Given that standards of practice in adaptive learning are still evolving, this paper is only able to offer basic guidance on framing measurement and the use of existing tools to help advance and document learning in this area.

STATUS OF ADAPTIVE LEARNING MEASUREMENT AND MONITORING

ADAPTIVE LEARNING: DEFINITIONS AND PURPOSE

Adaptive learning is defined as “the intentional adoption of strategies and actions to facilitate critical reflection and analysis of data, information, and knowledge—on a continuous basis and from a wide range of sources—to inform decisions that optimize program implementation and effectiveness in expected, unexpected, and changing circumstances.”¹² It is a strategy, process, and skillset that is increasingly applied in global health programming for the express purpose of improving program performance and advancing a learning culture. The integration of adaptive learning reflects the need for dynamic and agile approaches that enable implementers to work within complex, nonlinear, and unpredictable environments in health sectors at the country-level and also reflects USAID’s recommended principles and practices found in the [Collaborating, Learning and Adapting \(CLA\) Toolkit](#). Adaptive learning is differentiated from adaptive management—“an intentional approach to making decisions and adjustments in response to new information and changes in context”¹³—in its deliberate use of a range of data sources and iterative learning cycles as the basis for program monitoring and modification, as well as the collaborative nature of inquiry and decision-making used throughout an adaptive learning practice.

Adaptive learning sits at the nexus of the fields of improvement science and implementation science,*

* Broadly, improvement science refers to systems-level work to improve the quality, safety, and value of health care, whereas implementation science refers to work to promote the systematic uptake of evidence-based interventions into practice and policy. (<https://ascopubs.org/doi/10.1200/JOP.17.00083>) Both are intended as learning strategies.

and is reflected in different types of continuous program improvement strategies, such as Quality Improvement, Developmental Evaluation,¹⁴ Problem Driven Iterative Adaptation (PDIA),¹⁵ and Strategy Testing.¹⁶ Adaptive learning is also found in program planning and shaping practices such as Human Centered Design,¹⁷ which applies iterative learning and testing cycles (e.g., prototyping) to the early stages of program design (or solution development). These continuous learning approaches are characterized by problem solving through the collection and use of data and knowledge in iterative cycles of thoughtful reflection and learning that inform program design and adaptation decisions, with the purpose of identifying ways to increase program effectiveness and/or decrease the time frame during which program effectiveness might emerge (e.g., pace of change). Adaptive learning approaches are also equated with the practice of evaluative thinking.^{18, 19, 20, 21} Table 1 provides definitions of terms that are relevant to the discussion of adaptive learning and adaptive learning measurement and monitoring.

TABLE 1. CRITICAL TERMS AND CONCEPTS FOR UNDERSTANDING ADAPTIVE LEARNING

Term	Definition
Adaptive Learning	<i>“the intentional adoption of strategies and actions to facilitate critical reflection and analysis of data, information, and knowledge—on a continuous basis and from a wide range of sources—to inform decisions that optimize program implementation and effectiveness in expected, unexpected, and changing circumstances.”²²</i>
Adaptive Management	<i>“an intentional approach to making decisions and adjustments in response to new information and changes in context.”²³</i>
Adaptive Programming	<i>“responds to several key understandings about development: that development actors may not be able to fully grasp the circumstances on the ground until engaged; that these circumstances often change in rapid, complex and unpredictable ways; and finally that the complexity of development processes means actors rarely know at the outset how to achieve a given development outcome—even if there is agreement on the outcome of interest. Adaptive programming suggests, at a minimum, that development actors react and respond to changes in the political and socio-economic operating environment.”²⁴ Adaptive programming is the term that frames an approach to development intervention.</i>
Evaluative Thinking	<i>“a means of thinking, of viewing the world, an ongoing process of questioning, reflecting, learning, and modifying. Evaluative thinking is an inherently reflective process, a means of resolving the “creative tension” between our current and desired levels of performance. It allows us to define the lessons we want to learn, to determine the means for capturing those lessons, and to design systems to apply them in improving our performance. By going beyond the more time- and activity-bound processes of monitoring and evaluation, evaluative thinking is learning for change.”²⁵</i>
Collaborating, Learning and Adapting	<i>“a set of practices that help us improve our development effectiveness. Learning has always been part of USAID’s work, and most USAID missions and implementing partners are already practicing CLA in some way. Our aim now is to make CLA more systematic and intentional throughout the Program Cycle, and to dedicate the resources necessary to make it happen.”²⁶</i>
Collaborating	<i>“Engagement with internal and external stakeholders, especially with regard to informing decision making.”²⁷</i>

Term	Definition
Learning	<i>“Consulting, generating, and adding to existing evidence bases, especially in relation to developing and testing theories of change and monitoring context and responding to changes.”²⁸</i>
Adapting	<i>“Pausing to reflect, especially to consider new evidence to inform course correction or to take advantage of unanticipated opportunities, and to make change.”²⁹</i>
Quality Improvement	<i>“Quality improvement in public health is the use of a deliberate and defined improvement process, such as Plan-Do-Check-Act, which is focused on activities that are responsive to community needs and improving population health. It refers to a continuous and ongoing effort to achieve measurable improvements in the efficiency, effectiveness, performance, accountability, outcomes, and other indicators of quality in services or processes which achieve equity and improve the health of the community.”³⁰</i>
Developmental Evaluation	<i>“an approach to continuous adaptation of interventions through the use of evaluative thinking and tools. It includes having one or more evaluator[s] integrated into the implementation team on a full-time basis. Development evaluations are methodologically agnostic and utilization-focused. They adjust as the project changes and deliver contextualized and emergent findings on an ongoing basis to inform learning and adapting across and within teams.”³¹</i>
Problem Driven Iterative Adaptation	<i>“is a step-by-step approach which helps you break down your problems into its root causes, identify entry points, search for possible solutions, take action, reflect upon what you have learned, adapt and then act again.”³²</i>
Human Centered Design	<i>“focuses on understanding the users of products or services and creating things which are beneficial to them. Human perspectives are considered at multiple points in the design process, from observing what the problem is, through coming up with ideas, to testing out potential solutions. Establishing a personal connection with users in order to see the world through their eyes and gain a deep understanding of their needs is therefore crucial.”³³</i>
Strategy Testing	<i>A monitoring approach that requires program teams to take periodic, structured breaks from day-to-day program implementation to collectively reflect on what they have learned and to ask whether the assumptions underpinning their program strategies are still valid in light of new information, insights, and shifts in local context. Based on such reflection and reassessment, program teams adjust their programs as needed with the aim of increasing the likelihood of achieving results.</i>

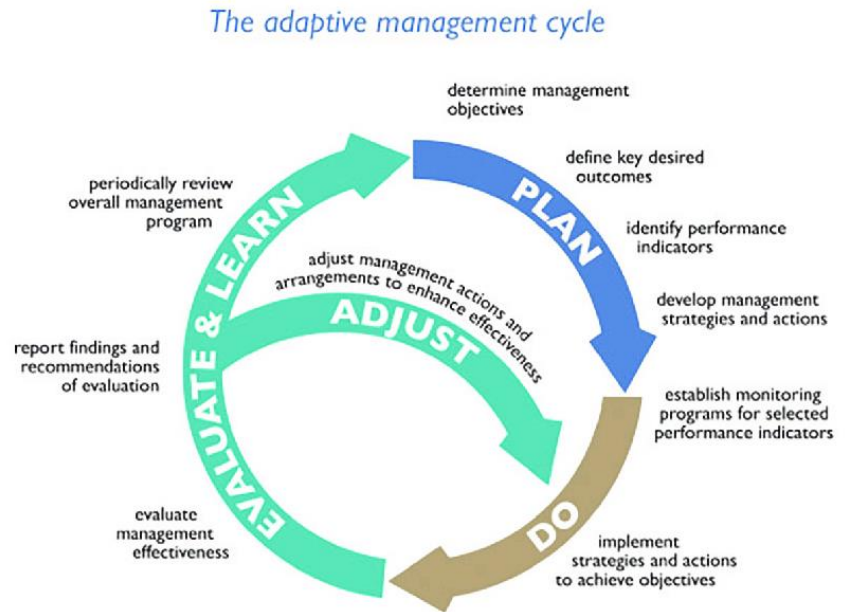
MEASUREMENT IN THE CONTEXT OF ADAPTIVE LEARNING

SUMMARY OF EXISTING LITERATURE AND GUIDANCE

As the prevalence of adaptive learning implementation increases, practitioners require a shared understanding of what constitutes an effective adaptive learning practice as well as a sense of how adaptive learning contributes to program outcomes. Calls for integrating adaptive learning approaches have increased across the global health and development fields, and advocates have made a strong case for applying it as an alternative to linear, less dynamic, traditional approaches to program implementation and evaluation.^{34,35,36,37,38} Consequently, there is an emerging body of literature and experience around the **operationalization** of adaptive management and adaptive learning,^{39,40,41,42} including guiding frameworks, preparedness checklists, and case examples to illustrate how implementation teams introduced adaptive learning and what was learned during this process. Within this body of literature and experience, discussion of measurement and monitoring focuses mostly on the need for adequate and tailored MEL systems for the collection and use of data *in the execution of adaptive learning*.⁴³ Use of evidence and knowledge is central to the iterative, reflective process (Figure 2)⁴⁵ of adaptive learning and provides the foundation for deciding whether and how to modify program strategies and interventions. Guidelines on adaptive programming encourage implementers to strengthen and focus their MEL systems on key learning questions and tools as they integrate adaptive learning practices into implementation units.⁴⁶

In contrast, there is little guidance or documented experience on the monitoring and evaluation of adaptive learning itself *or the use of measurement for critically assessing the processes, outputs, and outcomes of integrating adaptive learning into implementation units and organizations*. Unlike other types of management and learning practices, adaptive learning in the health sector has not yet defined its own monitoring and evaluation framework and metrics to track and support adaptive learning integration, implementation, and effectiveness. In addition, research evidence that explores the influence of adaptive learning on program processes, outcomes, and sustainability is equally scarce, indicating the need for a theory of change (TOC) to illustrate the influence pathway of adaptive learning in the context of addressing health system and health outcomes.

FIGURE 2. EVALUATION AND LEARNING IS CENTRAL TO THE ADAPTIVE MANAGEMENT CYCLE



(Source: West, S. 2016)

FRAMING ADAPTIVE LEARNING MEASUREMENT AND MONITORING

WHAT CONSTITUTES ADAPTIVE LEARNING?

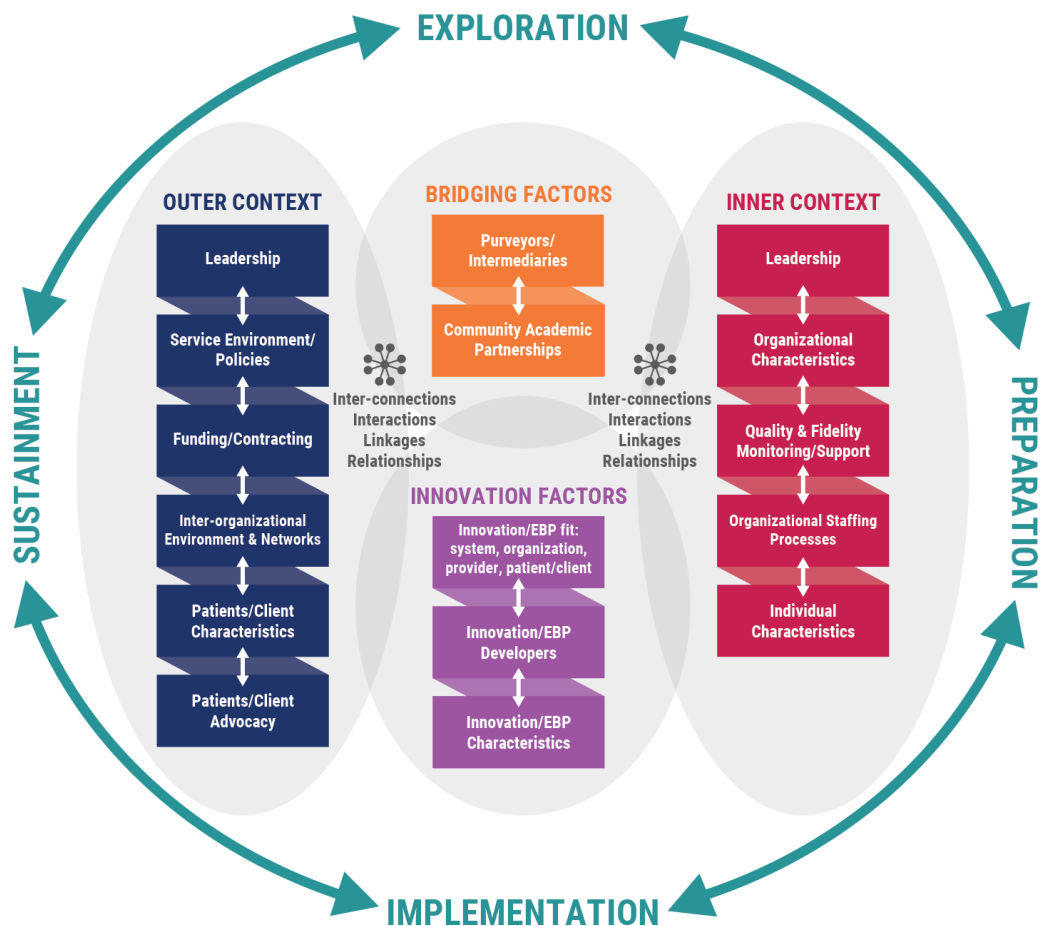
Given the limited experience and guidance on the MEL of adaptive learning, it was necessary to draw on emerging experience shaping and implementing adaptive programming strategies generally to begin to articulate systematically the intended outputs and outcomes of adaptive learning interventions and approaches (i.e., to define adaptive learning capacity and performance). Many of the resources reviewed for this landscape analysis highlight the kinds of mindsets, organizational structures, processes, and data systems that support adaptive programming approaches,⁴⁷ including elements such as: culture and leadership, dynamic teams, appropriate analysis, responsive implementation and operations, and an enabling environment (e.g., donor funding and relationships). These resources are useful for defining potential areas of focus for the MEL of adaptive learning investments and interventions and inform potential adaptive learning MEL frameworks and strategies. We highlight here five adaptive programming guidelines and toolkits and one implementation science framework that illustrate a range of approaches to conceptualizing and applying adaptive learning. Each of these resources is summarized below in Table 2 highlighting their potential contribution to defining adaptive learning capacity and performance.

EPIS Framework

EPIS (Exploration, Preparation, Implementation, Sustainment)⁴⁸ is an implementation science framework for understanding and guiding implementation processes associated with introducing evidence-based practices (EBP) mainly into public sector institutions (Figure 3). The framework is considered relevant to public sector human service organizations “with a strong focus on development of new knowledge and understanding of best practices (i.e., learning organizations),⁴⁹ as well as incentives to adopt best practices,”^{50,51,52} embodying the ethos of adaptive learning and its role as a performance improvement tool. In studying the four phases of the EPIS implementation framework, researchers and implementers have documented the value of iterative cycles of learning and adaptation⁵³ with an emphasis on adaptations to “improve fit.” They note the concept of “values-innovation fit” stating that “innovation implementation will be more successful if there is a high degree of fit between the values and needs of stakeholders and the characteristics of the innovation to be implemented.”⁵⁴ A systematic review of EPIS applications notes the balance that must be struck between adapting the implementation process to different settings and stakeholders while ensuring fidelity to “EBP core elements that are responsible for clinical or service outcomes.”⁵⁵ Adaptation is deemed particularly important to ensuring the sustainment phase, in which the public sector entity can continue delivering the EBP over time and translate the intervention to different settings.

The EPIS framework informs adaptive learning MEL because it highlights a pathway to impact that is influenced by adaptive learning. It prioritizes an iterative testing and learning process and positions it in the context of a comprehensive implementation strategy. It introduces the notion of the “fit” between the intervention and stakeholders, defining them as core elements of a successful adaptive learning process. It also takes a broad view of the implementation pathway and defines key structures and skills needed to introduce learning and innovation (e.g., inner context) and the importance of ensuring external support (e.g., external context) for innovation and learning processes.

FIGURE 3. EPIS (EXPLORATION, PREPARATION, IMPLEMENTATION, SUSTAINMENT) FRAMEWORK



(Source: Moullin, et. al, 2019)

USAID Collaborating, Learning, and Adapting Framework and Maturity Model

The **USAID CLA framework** (Figure 4) identifies components and subcomponents of an adaptive learning approach to help implementers frame an appropriate strategy for a particular organizational or project context.⁵⁶ The CLA Maturity Tool⁵⁶ guides USAID Missions and their partners in a facilitated process of assessing and making plans to integrate continuous learning and improvement processes into the program cycle and strengthen them over time. Like the EPIS framework, the CLA framework includes both internal program (or implementation) cycle components and components of an enabling environment, emphasizing the importance of both as key elements of successful adaptive learning intervention. The CLA framework and Maturity Model informs adaptive learning MEL by defining broadly elements of adaptive learning skills and processes that can be tracked with a project MEL plan.

MOMENTUM Adaptive Learning Guide

The MOMENTUM Adaptive Learning Guide⁵⁷ includes six functional units, each focusing on an element of adaptive learning and how to integrate adaptive learning and build adaptive learning capacity as part of a program implementation strategy. It provides a comprehensive picture of the strategies that drive adaptive learning capacity and performance as well as a breakdown of the skills, structures, behaviors, mindsets, and contextual foundations for success. Unit 7 of the guide—Monitoring, Evaluating, and Learning of Your Adaptive Learning—offers several resources for designing and implementing an MEL strategy for adaptive learning-focused interventions, including the choice of indicators and tools, to measure efforts to “strengthen and use adaptive learning and integrate them into existing MEL systems.”⁵⁸ In this context, the guide states that MEL results not only “provide lessons for enhancing adaptive learning within a particular activity and more broadly within [a] project,” they are also useful for “advocating for and sustaining adaptive learning internally and externally, and for sharing lessons learned with other MOMENTUM projects or other MNCHN/FP/RH implementing partners.”⁵⁹

FIGURE 4. CLA FRAMEWORK



(Source: USAID Learning Lab. 2016)

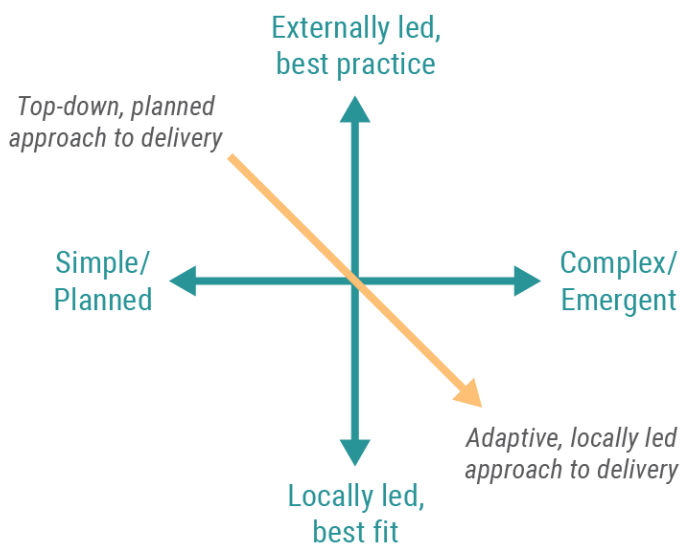
The [MOMENTUM Adaptive Learning Guide](#) also provides information about how to prepare a team, unit or project for measurement and monitoring of adaptive learning. It suggests key performance domains for an MEL system that support adaptive learning, including data quality, data rigor, and timeliness as well as the value of documenting using qualitative methods to capture observations and learning such as process documentation,⁶⁰ pivot logs, and lessons learned logs to track the use of adaptive learning as well as the decisions and the rationale for decision to make changes or keep things the same. The major investment for MEL of adaptive learning is in the monitoring of implementation processes and outcomes (e.g., adaptive learning strengthening).

Guide for Implementing Adaptive Management

The Abt Associates document on adaptive management written by Teskey and Terrell (2021)—**Implementing Adaptive Management: A Front-Line Effort**⁶¹ advises donors, implementers, and front-line staff on the application of adaptive management in practice.

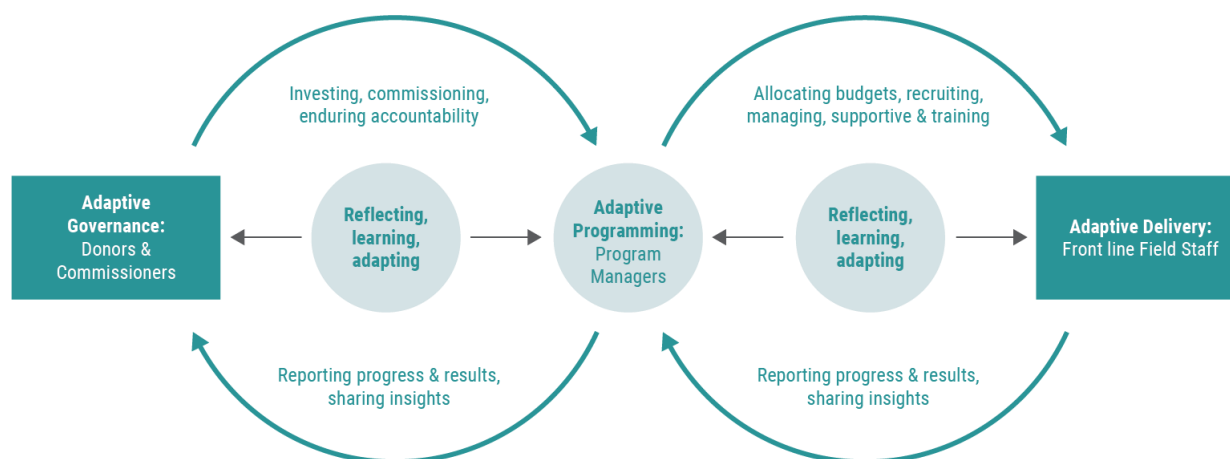
It aims to fill a gap in guidance for operationalizing adaptive management as a strategy that counters the “log-frame approach to development aid, helping practitioners and funders moving away from linear and planned approaches, towards models which foster local leadership and can engage with emergent and complex systems.” (Figure 5)⁶² The document advocates an end-to-end approach to program planning and implementation that is intentionally locally led and driven by adaptive learning processes informed by local political and contextual parameters (i.e., Politically Informed, Locally Led, and Adaptive Responses or PILLAR).⁶³ It includes an adaptive programming framework (Figure 6) and 15 tools to guide adaptive management, including a tool on measurement. As such, it sets up “aid-driven” interventions to be more effective in facilitating adaptive learning through the project cycle, rather than introducing a deliberate capacity development process that aims to integrate adaptive learning as an emergent skill or practice in country-level systems and organizations.

FIGURE 5. FROM CENTRAL PLANNING TO DISJOINTED INCREMENTALISM



(Source: Teskey, G. & Tyrrel, L. 2021)

FIGURE 6. ABT ASSOCIATES ADAPTIVE PROGRAMMING FRAMEWORK



(Source: Teskey, G. and Tyrrel, L. 2021)

Similar to the CLA framework, the Abt Associates Implementing Adaptive Management guide (Teskey and Tyrrel, 2021) re-imagines the project cycle in a way that makes it conducive to adaptive learning and outlines the role of key actors at each level (e.g., governance, program, and delivery) in driving adaptive learning from the pre-implementation phase (e.g., contracting) through to the point of delivery (Appendix 1). Like the EPIS and CLA frameworks, it considers both internal and external enablers and drivers of effective adaptive programming, with a particular focus on the governance (e.g., donor) level's role in supporting adaptive processes. Its stated goal is to "give donors confidence to 'let go' within the confines of an aid project, and know that those implementing and delivering aid have the necessary systems, incentives, and staff in place. Among the five frameworks and guidelines presented here, it is unique in proposing three performance outcomes that are expected to emerge from introducing and institutionalizing adaptive programming. In particular, it proposes an approach to measurement and monitoring in adaptive programming that is "emergent," where implementation and learning cycles inform strategy as well as the metrics used to track progress, and results evolve based on learning, collaborators' experience, and perceptions of what constitutes success.

- (1) A shift of power and authority to local actors to define problems and solutions to those problems
- (2) Adoption of a program learning and management process that allows activities to be informed and adapted based on learning and a deep understanding of context (including politics and gender) – rather than on an externally driven agendas
- (3) Acceptance of a MEL process where outputs, results, and outcomes can occur and be "measured" in emergent ways through implementation, rather than be locked in at design"⁶⁴

In terms of monitoring and evaluating adaptive programming performance, the document presents a set of standards for donors, implementers, and front-line teams to guide practice and inform performance measurement (Appendix 1). It also provides examples of individual and team competencies at each level and key performance indicators (Appendix 2) to track the effectiveness of adaptive programming practices.

Making Adaptive Rigor Work: Principles and Practices for Strengthening MEL4AM

One of the most accessible and comprehensive sources of information and guidance on adaptive learning measurement is found in the [Global Learning for Adaptive Management](#) (GLAM) initiative led by the Overseas Development Institute (ODI).⁶⁵ Focusing on MEL4AM, Ramalingam, et.al. (2019a)⁶⁶ argue for "adaptive rigor" in the process of adaptive management, which means "having a documented, transparent trail of intentions, decisions and actions, so if programs need to change, it is on the basis of MEL mechanisms that support rigorous evaluative thinking and collective decision-making, and there is scope to change what is being measured and evaluated when and if needed." The focus is on strengthening the project MEL system to ensure availability and relevance of data presented in accessible formats and to facilitate routine review and interpretation of data. The MEL4AM approach proposes three steps to integrating rigor into MEL systems for adaptive programming: (1) improving the quality of MEL data and systems, (2) ensuring appropriate investment in MEL across the program cycle, and (3) strengthening capacities and incentives to ensure effective use of evidence and learning as part of decision-making.

In addition to strengthening the data sources and availability, MEL4AM requires attention to facilitating evidence-based decision-making. The authors recommend investment in program and MEL team capacity to: (1) work with TOCs and determine appropriate data sources; (2) facilitate the flow of timely data; and (3) effective data management systems that facilitate integration of data and increase awareness around the

importance of reviewing, interrogating, and exploring data and its relevance to program implementation in real time for learning, not for accountability to program funders. Prioritizing data relevance, completeness, and timeliness for use in examining implementation is key.

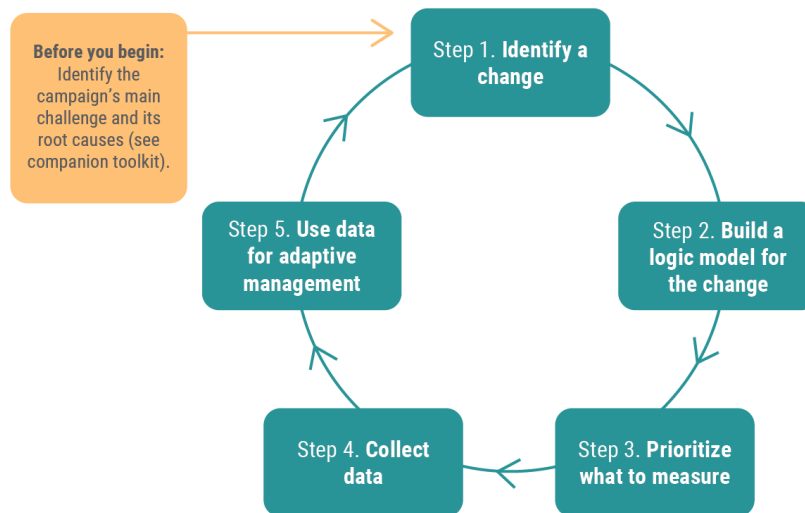
The Rapid Evaluation Action and Learning (REAL) Framework and Toolkit

Path’s REAL framework and toolkit⁶⁷ focuses mainly on the key attributes and functions of an organization’s or project’s MEL system for collecting and using data to drive adaptive learning and performance improvement. It responds to “growing global interest in fit-for-purpose, rapid testing, adaptive learning approaches to evaluation, and the need for a culture shift towards iterative adaptation and improvement that integrates measurement and evidence-informed decision-making into daily practice.”⁶⁸ The REAL Toolkit provides a step-by-step process to facilitate these cycles of problem solving with data (Figure 7). The REAL tool enables program managers to define metrics and measurement approaches for adaptive learning as well as to “articulate how to iteratively and continuously adapt interventions—and the implementation of interventions—to optimize outputs and outcomes.” Designed for the purpose of informing health campaigns, the REAL toolkit offers steps and processes that could be applied more broadly to public health interventions, including decisions of whether to scale a solution or an intervention.

Key questions answered through this toolkit to guide adaptive learning and the performance of adaptive learning interventions include:

- Does the change produce its intended effect?
- Why or how does the change produce its intended effect?
- How can we further improve the process?
- What does the change cost?
- How could the change be scaled up?
- How could the change be transferred to another setting?

FIGURE 7. REAL FRAMEWORK



(Source: PATH, 2020)

Defining Adaptive Learning Capacity and Performance

The key resources reviewed above suggest common themes related to defining essential capacities, processes, and performance in adaptive learning, including structures, team composition and roles, management and MEL procedures, and skillsets. In the absence of any single, standardized framework related to adaptive learning capacity and performance, these resources can help shape the focus of measurement and the selection of metrics to monitoring and evaluation strategies. Learning from the six resources is summarized below and is compared in Table 2.

- The EPIS and CLA frameworks, the MOMENTUM Adaptive Learning guide, and the Abt Associates Implementing Adaptive Management guide place adaptive learning broadly in the context of a comprehensive implementation strategy or program cycle. They consider a range of program capacities and processes that must be introduced or strengthened at different levels when building an adaptive learning approach.
- The MEL4AM and REAL resources focus specifically on processes, standards, and mindsets relevant to data collection and data use (e.g., use of TOCs, experimentation cycles, the choice of metrics, data quality assurance, and data visualization), and the need for strengthening skills in data interpretation and steps to facilitate collective decision-making around program modification.
- A central element of adaptive learning capacity found across all guidance documents is the need for capacity in data generation and data use to inform learning and adaptation.
- All six resources identify an enabling context as important to the success of adaptive learning introduction, institutionalization, and performance.
- None of these resources present an impact pathway or TOC that links adaptive learning actions to program outcomes. However, all resources anticipate that adaptive learning contributes to improved program performance.

TABLE 2: COMPARING SIX RESOURCES THAT INFORM THE MEL OF ADAPTIVE LEARNING

The following table summarizes key areas of adaptive learning capacity and performance that are relevant for informing an adaptive learning MEL framework and metrics.

Resource	Focus	Structures: Internal Capacity, Processes, and Skills	Enabling Context	Adaptive Processes	Outcomes of Integrating Adaptive Learning
EPIS Implementation Science Framework	<p>Frames the entire program implementation processes for delivering evidence-based interventions, with adaptive learning as a core element.</p> <p>Highlights a pathway to impact that is influenced by adaptive learning and capacities and steps that constitute an effective implementation pathway.</p>	<p>The inner context of implementation including:</p> <p>Organizational leadership, structures, resources, culture, and staffing practices</p> <p>Readiness for change.</p> <p>Absorptive capacity</p> <p>Supportive coaching</p> <p>Monitoring to assess quality and fidelity of the intervention.</p> <p>Mindset: attitudes toward the evidence-based intervention</p>	<p>Policies/legislation</p> <p>Funding/contracting</p> <p>Leadership</p> <p>Inter-organizational environment and networks (e.g., collaboration)</p> <p>Client characteristics</p> <p>Advocacy for change and service improvement</p>	<p>MEL for continuous quality improvement that prioritizes an iterative testing and learning process.</p> <p>Monitoring of the implementation process and adjust implementation strategies.</p> <p>Integration of “fit” between the system and the target population and the intervention and the organization/providers.</p> <p>Dynamic approach to adaptation that involves all relevant stakeholders.</p> <p>Determine and maintain core components of the evidence-based intervention while adapting for fit.</p>	<p>Performance in adaptive learning:</p> <p>Internal capacity and external context aligned</p> <p>Adaptive learning processes capitalize on the knowledge and experience of the implementation team and maximizes the ability to find solutions that are acceptable to all stakeholders.</p> <p>High degree of fit between the values and needs of implementers and the characteristics of the innovation to be implemented.</p> <p>Improved health program outputs and outcomes: uptake, coverage, quality, impact.</p>
USAID CLA Framework and Maturity Tool	Introduce and improve adaptive programming	Staff composition and skills	Culture: openness (e.g., willingness to take action on new ideas).	Variety, timeliness and quality of pause and reflect moments.	Performance in adaptive learning:

Resource	Focus	Structures: Internal Capacity, Processes, and Skills	Enabling Context	Adaptive Processes	Outcomes of Integrating Adaptive Learning
	processes in the context of the Program Cycles Modify overall approach to managing the Program Cycle	<p>Internal Collaboration (e.g., prioritized team for strategic collaboration)</p> <p>Culture of continuous learning and improvement (e.g., staff time, motivation and use of iterative approaches)</p> <p>Technical evidence base (e.g., access and apply existing evidence)</p> <p>Scenario planning (e.g., use of “what if” scenarios and monitor potential outcomes)</p> <p>MEL for learning (e.g., align MEL across strategy and activities)</p> <p>Adaptive Management processes (e.g., modifications informed by learning)</p>	<p>Relationships and networks (i.e., trusting relationships and use of networks across the system to expand situational awareness)</p> <p>Knowledge management (e.g., source knowledge from stakeholders and share with stakeholders)</p> <p>Access to institutional memory</p> <p>Resources (e.g., staff, professional development and technical support)</p> <p>CLA implementing mechanisms (e.g., budget staffing, processes)</p> <p>Appropriate stakeholder involvement in decision-making).</p> <p>Autonomy in decision making</p>	<p>Adaptive management by analyzing learning from pause and reflect opportunities to inform decision-making and following through on decisions reached to manage adaptively.</p> <p>Continuous learning and improvement (e.g., use of iterative approaches that enables continuous improvement).</p> <p>TOCs exploration and testing.</p>	<p>The extent to which CLA is incorporated into the planning and implementation processes of the Program Cycle.</p> <p>The extent to which CLA is enabled or disabled by external and internal conditions. Stages include: not yet present, emergent, expanding, advanced and institutionalized.</p> <p>Improved health program outputs and outcomes: uptake, coverage, quality, impact.</p>
MOMENTUM Adaptive Learning Guide	Introduce and strengthen adaptive learning and programming processes.	<p>Organizational culture and leadership that prioritizes learning and enables reflection on success and failure</p> <p>Individual and team skills</p> <p>Receptive and flexible teams</p>	<p>Policy, regulations, and governance structures</p> <p>Funding structures and funder agreements</p> <p>Adaptable organizational environment</p> <p>Leadership support</p> <p>Protected time</p>	<p>Project theory of change is dynamic and flexible to evolve over the course of a project.</p> <p>Use of pause and reflect moments to reassess, adapt or continue interventions.</p> <p>Tailor for the MEL of project’s implementation responsive to new</p>	<p>Performance in adaptive learning:</p> <p>Increased use of evidence</p> <p>Adaptive learning integrated and institutionalized into project design, implementation, and improvement (including MEL plan and systems).</p>

Resource	Focus	Structures: Internal Capacity, Processes, and Skills	Enabling Context	Adaptive Processes	Outcomes of Integrating Adaptive Learning
		<p>Organizational culture (e.g., extent of decentralization)</p> <p>Performance and incentive structures to encourage learning and adaptive processes</p> <p>MEL system that that both informs adaptive learning as well as tracks the performance of adaptive learning practices.</p> <p>Mindset: team members' belief in the relevance of adaptive learning</p> <p>Stakeholder collaboration and engagement</p> <p>Use of causal analysis to understand fundamental challenges and prioritize activities</p>	<p>Flexible budgeting</p> <p>Modeling and supervision for adaptive learning</p> <p>MEL plan for adaptive learning in order to know if strategies are being implemented and proving effective</p>	<p>learning and new ways of measuring progress.</p> <p>Project MEL supports ready access to well-visualized data.</p>	<p>Evidence of program modifications from adaptive learning processes.</p> <p>Improved health program outputs and outcomes: uptake, coverage, quality, impact.</p>
Abt Adaptive Programming Framework and Toolkit	Operationalize adaptive programming at governance, program, and delivery levels in the context of aid investments.	Program level: Priorities set at program and implementation level with stakeholders	Governance level: Processes and systems designed and implemented to enable adaptive management	Iterative reflecting, learning, and adapting. Focus on learning and rapid cycle evaluation to	Performance in adaptive learning: Shift of power and authority to local actors

Resource	Focus	Structures: Internal Capacity, Processes, and Skills	Enabling Context	Adaptive Processes	Outcomes of Integrating Adaptive Learning
		<p>Strategies updated periodically using MEL and contextual analysis</p> <p>Integration of environmental incentives and barriers in program strategies</p> <p>Delivery level: Capacity for accurate and timely data collection and strategic use</p> <p>Timely reporting to senior management on rationale for program modification</p> <p>Regular and inclusive stakeholder consultation</p> <p>Joint interrogation of data and transparent assessment of progress and adaptation</p> <p>Program teams hold responsibility for program change</p>	<p>Agreed devolution of financial and other decision making by donors</p> <p>Accountability mechanisms value and incentivize adaptation and experimentation</p> <p>Partnership approach in lieu of donor/grantee relationship.</p> <p>Funding reserved for innovation and experimentation and learning</p> <p>Contractual and budgetary flexibility</p>	<p>inform programming in real time.</p> <p>Regular strategy testing or evidence-based reflection on program progress.</p>	<p>Adoption of an internal, learning-driven program learning and management process</p> <p>Acceptance and use of a MEL process where outputs, results, and outcomes can occur and be “measured” in emergent ways through implementation, rather than be locked in at design.</p> <p>Improved health program outputs and outcomes: uptake, coverage, quality, impact</p>
Making adaptive rigor work: Principles and practices for strengthening MEL4AM	Guidance on strengthening the quality of monitoring, evaluation and learning data and systems for adaptive	Capacities and incentives that support MEL for AM and improved decision-making including:	Leadership that fosters an environment for how to approach change (e.g., positive error cultures).	MEL system to align with adaptive approaches and ensure rigor.	Performance in adaptive learning: Quality of MEL4AM data and systems including:

Resource	Focus	Structures: Internal Capacity, Processes, and Skills	Enabling Context	Adaptive Processes	Outcomes of Integrating Adaptive Learning
(Ramalingam, et. al 2019a)	management to address the question: How can program be more rigorous in monitoring and learning from their work, while also being adaptive and dynamic?	<p>Systems to ensure the timely flow of data to support decision making</p> <p>Capacity to ensure effective use of evidence and learning</p> <p>Capacity to work with theories of change</p> <p>Time to interrogate and explore data for relevance to program needs and evolution</p> <p>Skills sets and attitudes related to curiosity, creativity, critical thinking, and openness to risk.</p> <p>Incentives to ensure effective use of evidence and learning as part of decision making.</p> <p>Focus on quality and types of data used (e.g., robust data verification, storage and sharing processes)</p>	<p>Appropriate investment in MEL across the program cycle</p> <p>Accountability and reporting processes that reinforce the adaptive MEL design</p> <p>Accountability structures related to implementer learning, testing, and validating approaches</p> <p>Contracts that allow for activities and approaches to change in response to experimentation.</p>	<p>MEL for adaptive management positioned as an internal team function.</p> <p>Ensure use of adaptive learning processes at the design, implement and evaluate phase.</p> <p>Monitoring enables tacit knowledge to emerge alongside objective measures.</p> <p>Mix of short, medium and long-term indicators linked to the change pathway.</p>	<p>-Data usefulness (e.g., alignment between TOC and data collected; data quality assurance; evidence of iterative cycles of learning and decision making)</p> <p>-Transparency around methods and data (e.g., clarity on data sources, gaps, quality; levels of confidence in data; extent of triangulation and integration of data sources and uncertainty)</p> <p>-Data timeliness (e.g., data availability aligned with key programmatic decision points)</p> <p>Evidence of strategic and tactical changes in response to evidence-based needs and opportunities</p> <p>Improved health program outputs and outcomes: uptake, coverage, quality, impact</p>

Resource	Focus	Structures: Internal Capacity, Processes, and Skills	Enabling Context	Adaptive Processes	Outcomes of Integrating Adaptive Learning
REAL Framework and Toolkit	<p>A step-by-step process to improve the timeliness and relevance of information collected through monitoring and evaluation to help inform strategic decisions about whether to scale up, scale down, or transfer a change.</p>	<p>Problem-solving skills: to identify problems, analyze their root causes, design and implement corrective interventions, and assess the impact of the corrective interventions</p> <p>Steps for executing data collection, analysis, interpretation and use for adaptive learning</p> <p>Data collection plan with indicators and data sources</p> <p>Identify appropriate analytic methods for each strategic question</p>	<p>Engaging diverse stakeholders to critique program</p> <p>Participatory approach to adaptive learning</p>	<p>Identifies an actionable and impactful idea for change and testing.</p> <p>Establish underlying theory of how change will contribute towards achieving intended outcomes.</p> <p>Iterative updating of the logic model.</p> <p>Prioritize what changes to measure based on strategic importance and level of rigor needed.</p> <p>Develop operational, actionable testing questions and indicators to clarify which data to collect.</p> <p>Adapt and iterate data collection as needed</p>	<p>Performance in adaptive learning:</p> <p>Iterative adaptation and improvement that integrates measurement and evidence-informed decision-making into daily practice.</p> <p>Information identified and used to make operational, strategic, or policy decisions.</p> <p>Identified information needs for informing adaptation or scale up/scale down.</p> <p>Identified types of interventions to test and the key elements to test.</p> <p>Improved health program outputs and outcomes: uptake, coverage, quality, impact.</p>

WHAT SHOULD BE MEASURED AND MONITORED TO ASSESS ADAPTIVE LEARNING INTERVENTIONS?

Based on the findings of the document review and discussions with health program and MEL practitioners related to the emergent practice of adaptive learning in global health,⁶⁹ this section proposes three levels that can be used to frame MEL strategies for adaptive learning. The three levels represent where most adaptive learning interventions are focused

THREE DOMAINS OF ADAPTIVE LEARNING INTERVENTION AND MEASUREMENT

Current adaptive learning interventions focus on one or more of the following levels, suggesting three possible domains for adaptive learning monitoring and evaluation (Figure 8):

Level 1. Integration and institutionalization of adaptive learning practices in teams, project or organizations

Level 2. Utilization of adaptive learning processes to achieve and accelerate program performance improvement

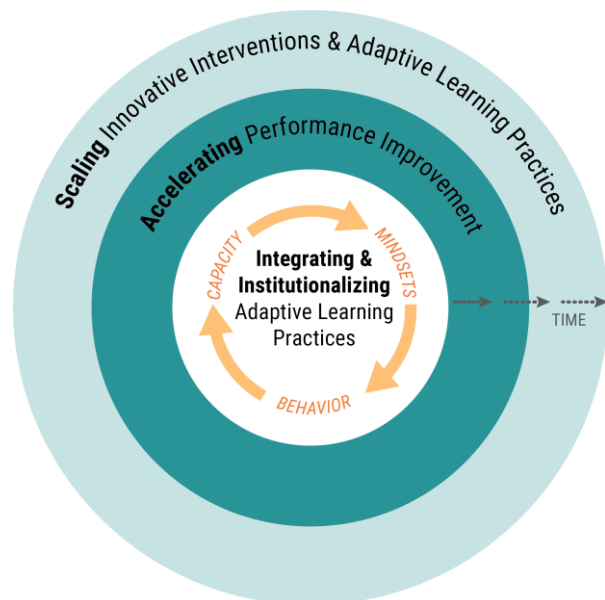
Level 3. Scaling up adaptive learning products, solutions and practices beyond team or project setting

Each level represents a potential domain for focusing monitoring and evaluation of adaptive learning,

LEVEL 1: INTEGRATING AND INSTITUTIONALIZING ADAPTIVE LEARNING PRACTICES

At this emergent stage of practice, most practitioners and organizations implementing adaptive learning are integrating or strengthening adaptive learning approaches in their own teams or working collaboratively to integrate adaptive learning into other entities (e.g., public sector health management units at national, district or facility level or in implementing partners such as nongovernmental organizations (NGOs) and private sector providers). The focus of this work includes: orienting implementation teams to adaptive learning, forming or strengthening existing processes to support adaptive learning aims and processes, augmenting skills and roles, and driving a shift of responsibility for program design and modification to the implementation and delivery levels. Examples of steps include:

FIGURE 8. THREE LEVELS OF ADAPTIVE LEARNING INTERVENTION AND MEASUREMENT



(Source: LaFond A. and Adrian, H., 2021)

- Defining and agreeing on a program theory
- Improving the program’s MEL system with relevant metrics to measure change along the program theory pathways
- Introducing data collection, analysis, visualization, and reporting processes that ensure both real time access to data as well as data that is relevant for making judgements about the relevance and effectiveness of program strategies
- Defining and practicing “pause and reflect” cycles that prioritize analysis and interpretation of data and decision making
- Introducing milestones or standards of adaptive learning performance that can be monitored through the project MEL system to assess adaptive learning quality and inform adaptations of the adaptive learning practice (e.g., adaptive learning of adaptive learning)

Measurement and monitoring at this first level focuses on the **performance of adaptive learning interventions** or the **effectiveness of efforts to introduce and institutionalize adaptive learning in public health programming**. It involves the collection and use of data that track the introduction and uptake of adaptive learning and the quality and performance of adaptive learning practices as they evolve. As defined by the EPIC, CLA, and other frameworks, performance in adaptive learning depends on both internal skills and an enabling context for adaptive learning which form the basis for an adaptive learning MEL framework. The outputs and outcomes of this system strengthening include structures, skills, behaviors or practices, and team mindsets (e.g., perceptions of and motivation for adaptive learning) that are considered relevant to the practice of adaptive learning as an implementation and learning. Documentation, measurement, and monitoring informs understanding of the process of adaptive learning capacity development as well as the effect of these investments.

Illustrative questions to guide monitoring and measurement at this level include:

- Has adaptive learning been integrated into projects and organizations?
- Has capacity for practicing adaptive learning changed or improved?
- Are structures, skills, processes, tools and mindsets present for implementing adaptive learning?
- Is adaptive learning being implemented consistently and effectively?
- Is there an enabling context to support adaptive learning?
- Have adaptive learning improvement interventions led to changes in adaptive learning capacity and performance and strengthened external support for adaptive learning practices?

LEVEL 2: ACCELERATING PERFORMANCE IMPROVEMENT

The **second level** of adaptive learning activity and measurement focuses on addressing the **effectiveness of adaptive learning as a performance improvement strategy**. It aligns with and builds on standard MEL activities designed to assess the effectiveness of a public health solution or program intervention but introduces specific learning questions on the relative value or influence of adaptive learning approaches in improving program outcomes (e.g., access, uptake, quality, impact). The outcomes of global health programs shaped through adaptive learning processes are typically measured using standard public health performance metrics (e.g., access, coverage, quality, uptake). Therefore, the ultimate test of the effectiveness of adaptive learning relates to its contribution to the realization of these outcomes. Measurement and monitoring at this level require mapping and exploring **the impact pathway from adaptive learning to program improvement**. Investment is needed in defining a theory of change that hypothesizes how adaptive learning influences

implementation processes and outcomes in global health programming to guide evaluation of the influence of adaptive learning strategies and practices. At this level, program implementers and evaluators may also consider the influence of adaptive learning on the pace at which program outcomes or improvements emerge (e.g., addressing the question: is adaptive learning an accelerator of positive change?).

Illustrative questions to guide monitoring and measurement include:

- Does adaptive learning contribute to program performance?
- How does adaptive learning influence program implementation processes and outcomes?
- What elements of adaptive learning are critical to program performance improvement?
- How does adaptive learning complement or combine with other implementation strategies to influence health program outcomes?

LEVEL 3: SCALING INNOVATIVE INTERVENTIONS AND ADAPTIVE LEARNING PRACTICES

The **third level** of adaptive learning intervention reflects the intent of organizations and public sector institutions to roll out adaptive learning capacity across country systems or to translate learning on adaptive approaches from one setting to another. The integration and institutionalization of adaptive learning in this sense is not a project-focused intervention, with a defined end-state, but an intervention that could drive health system or organizational change beyond the initial investment in adaptive learning by a project team. The success of such an intervention would be a normative change in how implementation and adaptation continuously take place. The learning questions and measurement focus are therefore related to describing the scale-up and spread of adaptive learning practices and capacities and documenting the extent to which scale-up has advanced over time. Some program practitioners also view scale-up of adaptive learning in terms of the translation or spread of effective tools, solutions or interventions that emerge from adaptive learning implementation strategies and their tailoring to other country-based or global settings (e.g., translation of innovation).

Illustrative questions to guide monitoring and measurement include:

- To what extent have adaptive learning practices been spread and scaled beyond initial intervention? Have adaptive learning practices spread into additional implementation units or team?
- To what extent have interventions and solutions developed through adaptive learning approaches been translated to other settings?

APPROACHES TO MEASURING AND MONITORING ADAPTIVE LEARNING

Based on the programs and experts consulted for this analysis, we observed that experience in monitoring adaptive learning is emerging mostly around Level 1. As programs begin to introduce and institutionalize adaptive learning, they must track changes in structures, skills, and team commitment to the processes of iterative learning cycles. Interview respondents defined a minimum set of capacities for adaptive learning, mainly focused on the use of an agreed program theory, the definition of key questions to test that theory and metrics to assess progress, and specific data collection, interpretation and use practices (e.g., pause and reflect) that they monitor over time. However, most respondents noted that the focus of adaptive learning capacity development can vary considerably across implementation teams and requires flexible MEL framing and approaches. For example, respondents proposed the use of self-directed team planning and monitoring approaches, including routine checklists to assess changes in capacity and performance that are tailored to a

particular capacity building strategy. They also emphasized the importance of documenting the process of evolution in adaptive learning capacity using a combination of quantitative and qualitative analytical tools and story-telling approaches or case studies to improve understanding of the drivers of adaptive learning performance.

At Level 2, we found a limited set of efforts to map and evaluate the contribution of adaptive learning to overall program outcomes. Adaptive learning is expected to help improve implementation strategies and refine interventions in ways that accelerate program performance. Some projects reviewed have defined theories of change for programs that apply adaptive learning and are beginning to articulate assumptions about its role in order to explore how and why adaptive learning processes influence overall program performance. Nevertheless, in this landscape review, we found no examples of evaluations or research designed exclusively to assess the influence of adaptive learning on program outcomes. Similar to measurement approaches being introduced at Level 1, interview respondents and guidelines recommended the use of mixed methods approaches to MEL at Level 2 focusing on the contribution of adaptive learning to realizing health program outcomes (e.g., integrating standard evaluation approaches such as quasi-experimental designs with complexity-aware monitoring methods such as outcome harvesting, process tracing).

Several respondents noted key measurement challenges to evaluating the relationship between adaptive learning and program performance including those identified by the USAID Evidence Base for Collaborating, Learning, and Adapting ([EB4CLA](#)):

- 1. Measurement.** Finding a way to measure the results of interventions—such as those that constitute CLA—that include relatively intangible aspects in a way that is meaningful and convincing
- 2. Attribution.** Making causal attributions between CLA and organizational effectiveness or achievement of development outcomes when a variety of other factors could be at play
- 3. Aggregation.** Because case studies are often the means by which CLA is studied within the international development context, it is difficult to aggregate across diverse case contexts to reach generalizable conclusions

These measurement challenges limit evaluators' ability to generate comprehensive evidence on adaptive learning's link to organizational effectiveness.

This landscape found no examples of resources and experience related to the MEL of scale up of adaptive learning practices and solutions (Level 3).

On a practical note, many of the MEL methods utilized in the course of implementing an adaptive learning performance improvement approach are equally applicable to monitoring and evaluating the capacity and performance of adaptive learning efforts. Resources and guidance are available from the [Asia Foundation](#) as well as the [Better Evaluation](#) website.

WHAT TO MEASURE IN ADAPTIVE LEARNING?

Below we have collated a variety of approaches and tools to support the measurement and monitoring of adaptive learning. Many of the approaches and tools identified and described below are well-known and in use among global health MEL practitioners and can be tailored to an adaptive learning context. In the following two tables, we have synthesized materials from the literature related to approaches and tools for measuring and monitoring adaptive learning using the first two levels of intervention and measurement. Table 3 maps different focal areas for measurement, questions, and illustrative methods or metrics related to each of those areas, and MEL system requirements to execute measurement. It notes overlaps or synergies between Levels 1 and 2 and offers potential economies of scale when building robust MEL systems.

TABLE 3. FOCUS OF MEASUREMENT, ILLUSTRATIVE METRICS AND MEL REQUIREMENTS FOR ADAPTIVE LEARNING

Focus	Guiding questions	Illustrative metrics	MEL requirements	Potential methods and tools
Level 1: Introduction and institutionalization of adaptive learning Uptake of adaptive learning practices	<p>Is the implementing unit prepared to introduce adaptive learning?</p> <p>Are adaptive learning strategies or practices taking hold in the implementing unit?</p> <p>Are adaptive learning strategies and practices understood and accepted by senior level managers and high-level decision makers?</p>	<p># of district/regional units meeting readiness requirements for adaptive learning</p> <p># of district/regional units integrating and practicing adaptive learning over time</p> <p>Extent to which actors that authorize and support adaptive learning understand and accept it</p>	<p>Organizational readiness assessment</p> <p>Routine monitoring system</p> <p>Standard definitions of adaptive learning practice and components of adaptive learning systems</p>	<p>ADAPT: Adaptive Management Self-Assessment Tool⁷⁰</p> <p>The Adaptive Rigor Inventory⁷¹ (Appendix 3)</p>
<p>Level 1: Introduction and institutionalization of adaptive learning</p> <p>Capacity and performance related to adaptive learning practices</p>	<p>Are the ingredients of an effective adaptive learning team being built, present, and sustained?</p> <p>Do team members have the required skills to conduct adaptive learning?</p> <p>Is adaptive learning practice being conducted according to defined standards?</p>	<p>Availability of skills and competencies required for adaptive learning practice, for example:</p> <p>Availability and use of rigorous MEL systems that support adaptive learning</p>	<p>Agreed standards and competencies related to adaptive learning capacity and performance</p> <p>MEL system that tracks adaptive learning practice</p>	<p>ADAPT: Adaptive Management Self-Assessment Tool⁷²</p> <p>The Adaptive Rigor Inventory⁷³ (Appendix 3)</p> <p>Competencies and Key Performance Indicators</p>

Focus	Guiding questions	Illustrative metrics	MEL requirements	Potential methods and tools
	<p>Is adaptive learning practice resulting in the programmatic analyses and adjustments required by the program?</p> <p>Are teams at governance, program, and delivery level executing adaptive learning processes effectively?</p>	<p>Evidence of the use of adaptive learning to assess and review solutions or interventions for the purpose of program adjustment or improvement. For example:</p> <p>Documented use of data, including pause and reflect meetings to assess program performance, program theory, and determine the need for adaptation</p>	<p>MEL system that is flexible and time-sensitive to enable adaptive learning</p> <p>Clear roles within the team related adaptive learning practice</p>	<p>for Adaptive Management in Implementing adaptive management: A front-line effort⁷⁴</p> <p>Strategy Testing⁷⁵</p> <p>Pause and Reflect Moments⁷⁶</p>
Use of data for adaptive learning	<p>Is the MEL system able to generate data to answer questions about the relevance or effectiveness of program strategies/theories?</p> <p>Is the rationale (decision threshold) for making programmatic adjustments transparent and supported by available data and knowledge?</p> <p>Were program solutions introduced or interventions changed as a result of adaptive learning?</p>	<p>Extent to which data are available on time for supporting adaptive analysis and decision-making</p> <p>Quality of data (e.g., timeliness, accuracy, consistency)</p> <p>Evidence of strategic and tactical changes in response to evidence-based needs and opportunities</p>	<p>Capacity to work with TOCs</p> <p>Responsive MEL system that produces appropriate data in timely way</p> <p>Skillsets and attitudes related to curiosity, creativity, critical thinking, and openness to risk</p> <p>Incentives to ensure effective use of evidence and learning as part of decision-making</p>	<p>The Adaptive Rigor Inventory⁷⁷ (Appendix 3)</p> <p>Assessing Barriers to Data Demand and Use in the Health Sector: A Toolkit⁷⁸</p> <p>The Rapid Evaluation Action and Learning (REAL) Toolkit⁷⁹</p> <p>Pause and Reflect Moments⁸⁰</p>

Focus	Guiding questions	Illustrative metrics	MEL requirements	Potential methods and tools
<p>Levels 1 and 2: Developing and testing a theory of change / program theory for adaptive learning</p>	<p>What is the theoretical pathway from adaptive learning to program outcomes/improvement?</p> <p>What kinds of program outcomes/improvements are expected from an adaptive learning approach?</p> <p>Have anticipated program intermediate outcomes and outcomes been realized?</p> <p>*Program outcomes can include: access, quality, coverage, efficiency, pace of change/improvement; scale and system change.</p> <p>How do adaptive learning practices influence implementation practices, teams, and organizations?</p> <p>How does adaptive learning influence program outcomes/program improvement?</p>	<p>Theory of change mapping the influence pathways: Iterative cycles of learning and program outcomes</p> <p>Routine use of data for analysis, pause and reflect sessions and program outcomes</p> <p>Collaborative decision making and learning and program outcomes</p> <p>Standard coverage, quality, performance metrics</p> <p>Case studies of adaptive learning integration and practice</p> <p>Planning scenarios: Potential processes and scenarios for planning and being able to adapt should context change</p>	<p>Clear and measurable programmatic outcomes</p> <p>Programmatic change pathways defined with clarity related to pathways where evidence is lacking or uncertainty is high</p> <p>Range of data sources</p> <p>Program or impact evaluation strategy that incorporates complexity-aware monitoring and rigorous mixed methods evaluation approaches</p>	<p>The Rapid Evaluation Action and Learning (REAL) Toolkit,⁸¹ Strategy Testing,⁸² Process documentation⁸³ Knowledge, attitude, and practice studies, Health Facility Assessment, Quasi-experimental design, Process documentation,⁸⁴ Developmental Evaluation,⁸⁵ Strategy Testing,⁸⁶ Contribution analysis,⁸⁷ Outcome Mapping,⁸⁸ REAL Toolkit,⁸⁹ Process tracing⁹⁰</p>

HOW TO MEASURE ADAPTIVE LEARNING

TABLE 4. SELECTED TOOLS AND METHODS USED TO MONITOR AND EVALUATE ADAPTIVE LEARNING

In Table 4, we present a range of methods and tools that were recommended in documents or by interview respondents that were designed to be relevant for measuring adaptive learning. A complete list of methods, tools and other resources for measuring and monitoring adaptive learning can be found in the resource [repository](#) for MOMENTUM teams and partners.

Tool/method	Description	Illustrative MEL questions	When to measure?	Level of intervention and measurement focus
ADAPT: Adaptive Management Self-Assessment Tool⁹¹	This is a high-value tool for gauging the extent to which an implementing unit or organization’s culture, structure, processes, and systems are ready to support adaptive learning practices.	<p>Are changes in the project context analyzed and adjusted on a regular basis?</p> <p>Is informal and qualitative information (e.g., staff observations or client feedback) valued as useful evidence for decision-making by your team?</p> <p>Are analytical tools and approaches such as after action reviews, project logs, program review meetings used to promote team analysis?</p>	This tool can be utilized during project start up as a baseline tool, and iteratively throughout the project life cycle as a monitoring tool in order to identify those areas that may need most attention and improvement for effective and sustainable adaptive learning to take place.	Level 1
Making adaptive rigor work. The adaptive rigor inventory⁹² (Appendix 3)	An inventory or checklist of the key features of programs that exhibit adaptive rigor in three areas: MEL quality in adaptive management data and systems, designing and implementing relevant MEL processes and tools, strengthening capacities. and incentives to facilitate effective use of MEL	<p>Are MEL system structures and team skillsets facilitating adaptive management?</p> <p>Are data of sufficient quality?</p> <p>Are data available for informing adaptive management?</p> <p>Are incentives in place promote data quality and iterative learning from data?</p>	<p>At baseline and for monitoring throughout.</p> <p>Use alongside “Making adaptive rigor work” when designing, developing, implementing, and improving MEL systems for adaptive programs.</p>	Level 1

Tool/method	Description	Illustrative MEL questions	When to measure?	Level of intervention and measurement focus
Competencies and Key Performance Indicators for Adaptive Management in Implementing adaptive management: A front-line effort ⁹³	One example from a total of 15 tools to guide donors, implementers, and front-line staff to apply adaptive management in practice.	Are program and delivery team members performing their roles effectively? Are data and reporting being shared with stakeholders? Are governance structures supporting adaptive management?	In preparation for and during adaptive programming.	Level 1
Pause and Reflect Moments ⁹⁴ using pivot logs ⁹⁵ and other documentation tools	Lead teams to identify what is and isn't working, and then make evidence-based decisions and project adaptations based on such discussions. Routine opportunities for reflection that allow teams to consider and hypothesize the impact of their changes/pivots in their unique operating environments and track them over time. Document and assess the process of adaptive learning.	Are interventions performing as anticipated? Is it necessary to modify the program strategy or intervention? How well is the adaptive learning process of data collection, interpretation and use working to information decision-making? What led to the success or failures for a particular program intervention/strategy/task? What can be learned from this reflection that can be replicated/scaled up moving forward? Are program interventions contributing to intended program performance?	Throughout program implementation at all levels of program teams. An iterative process that is embedded into all project teams.	Levels 1 and 2
REAL Toolkit ⁹⁶	Step-by-step process to improve the timeliness and relevance of information collected through monitoring and evaluation to help inform strategic decisions about	What elements of the program are working/not working? What changes are necessary to improve program performance?	In preparation for and during program implementation to guide data collection and decision-making related to	Level 2

Tool/method	Description	Illustrative MEL questions	When to measure?	Level of intervention and measurement focus
	whether to scale up, scale down, or transfer a change.	<p>Has the program modification produced its intended effect?</p> <p>How can we further improve the process?</p>	program strategy and modification.	
Process documentation ⁹⁷	Process documentation is a method of collection, collation, analysis, and communication of experiences in contextually appropriate ways. A flexible data collection process to track meaningful events in projects and programs as implementation progresses. It references the TOC during implementation and feeds that learning back into the project. It is both useful for shaping the health intervention and learning how well adaptive processes are working.	<p>How well is adaptive learning being implemented?</p> <p>What have we learned from implementing adaptive learning and how can we address performance problems and gaps?</p>	<p>Throughout program implementation at all levels of program teams.</p> <p>A process that allows periodic reflection of program learning and performance.</p>	Levels 1 and 2
Strategy Testing (Asia Foundation) ⁹⁸	A monitoring approach that requires program teams to take periodic, structured breaks from day-to-day program implementation to collectively reflect on what they have learned and to ask whether the assumptions underpinning their program strategies are still valid in light of new information, insights, and shifts in local context. Based on such reflection and reassessment, program teams adjust their programs as needed	<p>Are project assumptions still valid in light of new contextual information?</p> <p>Based on new evidence, are program adjustments likely to lead to improved program performance/outcomes?</p> <p>What day-to-day implementation strategies are being overlooked?</p> <p>Are structured pause and reflect moments/meetings being integrated into the program’s culture and best practices?</p>	Throughout program implementation to support and guide evidence-based/informed decision making related to program strategy and modification.	Level 2

Tool/method	Description	Illustrative MEL questions	When to measure?	Level of intervention and measurement focus
	with the aim of increasing the likelihood of achieving results.			
Scenario planning ⁹⁹	Tool to map and plan different scenarios on how change may happen (depending on influential actors and factors) and to examine the program's role in making future events happen.	<p>What is likely to happen given current trends?</p> <p>What are different pathways to the outcomes we want to see?</p> <p>What alternatives exist at each step to prevent, divert or facilitate the process to the outcomes we want to see?</p> <p>How might influential events or other similar factors affect the program success?</p>	Not yet widely applied in development but could be useful either in the early phases of a program or when a program has a pause and reflect phase, to orientate and prepare for future events.	Level 2
Process tracing ¹⁰⁰	Theory-based "confirmatory" evaluation approach to assess causal change by developing alternative hypotheses and using formal probability tests to assess the strength of evidence.	<p>How and why did the intervention make a difference, if any?</p> <p>What were the processes/mechanisms by which the intervention led to or contributed to outcomes?</p>	<p>Primarily: at the end of the program.</p> <p>Potential wider use: at the mid-term, especially in long-term programs.</p>	Level 2
Contribution analysis for adaptive management (CA4AM) ^{101 102}	Theory-based "confirmatory" evaluation approach to understand a program's contribution to observed changes by building and verifying the program's "contribution story."	<p>Has the program made (an important) contribution to the observed result? Why has the result occurred?</p> <p>How and why did the program make a difference, if any?</p> <p>What was the process/mechanisms by which the program contributed to observed outcomes?</p>	<p>Primarily: at the end of the program.</p> <p>Potential wider use: at the mid-term, especially in long-term programs.</p>	Level 2

Tool/method	Description	Illustrative MEL questions	When to measure?	Level of intervention and measurement focus
Outcome Mapping ¹⁰³	Planning and monitoring approach to capture progress towards outcomes; often applied in a participatory manner.	<p>What types of outcomes are we observing over time across different stakeholder groups?</p> <p>How are our key partners and/ or stakeholders responding to our program and changing their behavior, activities or relationships?</p> <p>Who are the people or organizations on which the success of the program depends?</p>	<p>Primarily: throughout the program, starting from the design phase.</p> <p>Potential wider use: to support evaluation (usually combined with other approaches or methods).</p>	Level 2
Developmental Evaluation ¹⁰⁴	Evaluation approach and orientation geared towards programmatic learning and co-creation with an embedded evaluator; tends to utilize several methods.	<p>How is the program performing against its TOC?</p> <p>What elements of the implementation strategy are working successfully and what elements are not?</p> <p>What modifications can be made to improve performance?</p>	Throughout project implementation.	Levels 1 and 2

RECOMMENDATIONS FOR MOMENTUM

WHAT ADAPTIVE LEARNING MEASUREMENT STRATEGIES ARE RELEVANT TO MOMENTUM?

By the end of the MOMENTUM's first five years of implementation, it is anticipated that all award teams will have conducted adaptive learning activities at all three levels to varied degrees of reach and intensity. However, in the early stages of implementation of the MOMENTUM awards, the main focus of adaptive learning activities, and adaptive learning measurement, is expected to be on integration and institutionalization of adaptive learning (Level 1), mainly related to external partners and collaborators, and to a lesser extent for internal (MOMENTUM award) teams. Thus, as MOMENTUM teams build their MEL strategies, they will be required to prioritize measurement at Level 1—the effectiveness of adaptive learning interventions—and Level 2—the evaluation of the influence of adaptive learning on program processes and outcomes—and look for opportunities to blend the MEL approaches that drive adaptive learning processes with MEL of adaptive learning to optimize investment and efforts. Resources available to guide this process and ensure utility and rigor in measurement are found in the resource repository presented in the previous section.

During our consultations with MOMENTUM teams, the importance of documenting the process of introducing and strengthening adaptive learning interventions was considered more valuable than widespread use of standard metrics to assess uptake, quality, and performance related to adaptive learning integration. The use of standard checklists of core competencies and performance outputs and outcomes for tracking adaptive learning was described as counter-intuitive to an adaptive learning approach, where operational units in the health system are

not only expected to use data to adapt and tailor public health solutions but also to test different approaches to adaptive learning and determine key drivers of performance of adaptive learning systems. As such, MOMENTUM awards should place emphasis on documentation, experimentation, and learning about adaptive learning rather than accountability for adaptive learning strengthening and adaptive learning performance. Scaling up adaptive learning practices may come with time, as country level interventions take hold and interest in replication grows.

A MEL strategy that addresses adaptive learning is likely to rely on mixed methods approaches, prioritizing qualitative and descriptive data collection and learning strategies such as case studies focused on specific learning questions, reflection diaries where teams document internal changes and learning over time as they integrate new approaches, and qualitative impact assessment data collected through key informant interviews and focus group discussions. MOMENTUM staff who were consulted for this review also advocated transparent and open sharing of adaptive learning tools and methods across MOMENTUM teams, and comparison of experiences implementing adaptive learning in different settings to build a cross-MOMENTUM body of learning on what to measure and how to measure when implementing adaptive learning.

Currently, MOMENTUM MEL teams are testing key metrics to monitor adaptive learning activities and integrating adaptive learning measurement and monitoring in MEL plans. Table 5 contains some proposed MOMENTUM metrics and measurement strategies that will provide an aggregated picture of adaptive

learning activities and learning. Beyond these metrics, broad questions around adaptive learning and measurement in the context of adaptive learning need to be addressed such as:

- What is the ideal set of team competencies at the delivery level to enable effective adaptive learning?
- What kind of data collection and data use tools and approaches are useful for adaptive learning?
- What contextual elements are needed to support and incentivize adaptive learning? What is the role of different actors at funder, national, implementer and delivery level to facilitate adaptive learning?

To address the need for research evidence on the pathway from adaptive learning to program improvement, further exploration of the hypothetical pathway from adaptive learning to program outcomes may be needed. This exploration would incorporate accumulated learning on key elements of adaptive learning capacity and performance to examine the relationship between adaptive learning, solution or implementation tailoring and public health system and program outcomes. This effort may be integrated into a wider program or impact evaluation strategy for MOMENTUM investments that includes adaptive learning as an implementation strategy, where there is adequate time to document the process of adaptive learning, the evolution of a solution or intervention, and the outcomes. These opportunities may be limited under MOMENTUM but are worth defining and supporting to gain a full picture of the change pathway.

MOMENTUM awards may also collaborate, adapt, and innovate related to new adaptive learning frameworks, tools, and metrics over the course of the program. Through more sophisticated research designs conducted at larger scales, MOMENTUM teams could serve as important contributors and innovators in the effort to fill the gap in research evidence on the value and effectiveness of adaptive learning.

SHORT-LIST OF INDICATORS FOR MOMENTUM'S MEL OF ADAPTIVE LEARNING

Based on our technical consultation with the MOMENTUM Knowledge Accelerator JSI team, MOMENTUM MEL leaders, and USAID stakeholders, we compiled the following adaptive learning indicators for MOMENTUM monitoring and reporting (Table 5). These are recommended indicators based on the landscape review and potential MOMENTUM needs and focus mainly on level one outputs and outcomes and need to be tested to ensure suitability and appropriateness.

TABLE 5. RECOMMENDED INDICATORS FOR MONITORING ADAPTIVE LEARNING IN MOMENTUM

Result 3: Adaptive learning and use of evidence in MNCHN/FP/RH programming through sustained USAID and host country technical leadership increased					
Adaptive Learning and Use of Evidence					
Adaptive Learning Narrative A single narrative covering indicators AL.2, AL.3 and, AL.4 should be included. The narrative should describe the type of adaptive learning support or interventions (e.g. capacity building, technical assistance, tools); changes in AL skills and behaviors (e.g., successful utilization of pause and reflect decisions, strategy testing or outcome mapping through project activities and work plan); descriptive examples of tools/job aids, improved data generation and visualization approaches, policy, leadership supporting an enabling context for AL that support AL; as well as any evidence of modifications made to interventions or programs as a result of adaptive learning activities. In addition, any positive changes in intermediate outcomes and outcomes occurring in the reporting period should be noted.					
Indicator Number	Indicator	Source	Definition and Disaggregations	Collection Frequency	Rationale
AL.1	Percent of entities receiving MOMENTUM support that introduce, strengthen, or contribute to institutionalizing adaptive learning	Program records	MOMENTUM AL engagement/support includes capacity building, technical assistance, tools. Entities could include local organizations, institutions, groups, centers, associations, teams. Disaggregated by country, type of entity (local organization, institution, group, center, association, team, other); description of adaptive learning (as narrative text)	Annual	Output-focused indicator capturing investment in Adaptive learning approaches and capacity. It tracks the extent to which MOMENTUM awards are advancing practice in Adaptive learning through engagement/support. Since adaptive learning is a result level focus of MOMENTUM and a new area of programming, it is beneficial to understand overall MOMENTUM activity in this area.

AL.2	Percent of targeted actors using data generated through their monitoring systems to modify program activities or strategies	<p>Program records</p> <p>Data collection through an AL capacity checklist to demonstrate a minimum set of AL capacity, program activity reports, case studies of changes in use of AL methods</p>	<p>Targeted actors: Teams within organizations, private, public, NGO, community groups, civil society organizations (CSOs), facility, district.</p> <p>Modify: Make at least one adjustment to activities being conducted or strategies being utilized based on data from monitoring system.</p> <p>Disaggregated by country, description of targeted actor, data used and program modifications (as narrative text)</p>	Annual	<p>Outcome-focused indicator that connects MOMENTUM awards' investment in AL with the behaviors and practices that are central to AL It describes the AL capacity strengthening interventions and the types of change demonstrated among organizations receiving MOMENTUM support.</p> <p>Aligned with 3 indicators that contribute data for this indicator</p> <p>Capacity Indicator CAP.1: Percent of targeted actors (organization level) that routinely modify programs to better reflect locally prevailing social norms, values, beliefs, and practices.</p> <p>Capacity Indicator CAP.2: Percent of targeted actors (system level) that routinely modify programs to better reflect locally prevailing social norms, values, beliefs, and practices that influence health outcomes.</p> <p>Commitment indicator COM.2 Number and percent of districts (or equivalent) holding a data review meeting that included MNCHN/FP/RH data with a high-level official present held in the last 6 months.</p>
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AL.3	Percent of targeted actors that routinely assess contexts (social norms, values, beliefs, and practices) and program performance, and make programmatic adjustments to improve its relevance to intended outcomes	Program records with descriptions of changes made. Case studies of changes in use of AL methods.	Targeted actors: Teams within organizations private, public, NGO, community groups, CSO), facility, district. Programmatic adjustments: Make at least one adjustment to the products or services being offered. Locally prevailing social norms, values, beliefs, and practices: Preferences that influence demand for and use of products or services being offered. Program performance assessment includes tracking of outputs, intermediate outcomes, and outcomes. Disaggregated by country; description of targeted actor, contextual information, and program adjustments (as narrative text)	Annual	Measures capacity to make changes to programs. Linked to program quality, coverage (demand), and effectiveness.
AL.4	Percent of MOMENTUM-supported entities that demonstrate positive changes in expected program outcomes at least in part from use of adaptive learning approaches	Program records, use of Complexity aware monitoring methods: (outcome mapping, etc.), program or impact evaluations. Case studies of AL.	Examples of AL approaches include adaptive management, complexity-aware monitoring, quality improvement, implementation research, applied research, and development research. Examples of positive change could include improvements in MNCHN/FP/RH outcomes or other intermediate outcomes Disaggregated by level of measurement: (intermediate outcome, outcome, impact), description of intermediate outcome, outcome or impact (as narrative text)	Biennial (every two years)	Outcome-focused indicator that connects AL strengthening interventions with improved MNCHN/FP/RH outcomes and MOMENTUM's overall Theory of Change. This indicator captures the potential contribution of AL to outcomes and informs practice related to the types of program interventions where AL is appropriate. It also builds an evidence base for the relevance and effectiveness of AL approaches.

APPENDIX 1: INDICATIVE STANDARDS AND ASSESSMENT MATRIX FOR ADAPTIVE MANAGEMENT BY ROLE

Standard		What this entails?
Adaptive Governance Relates to roles of donor agency and host government	Delegations are set and followed	<ul style="list-style-type: none"> Financial and decision-making delegations as agreed at mobilization are followed by all parties Requests for new activities align well with program principles, and where they do not, the reason is explained and documented
	Results and partner performance assessments value and incentivize adaptation and experimentation	<ul style="list-style-type: none"> Performance assessment frameworks utilize a mix of bedrock indicators (indicators that remain fixed throughout the program), open-ended or basket indicators (at higher levels of the log frame, not all of which are to be achieved – they are indicative), and sentinel indicators (indicators that are symptomatic of system-wide change) Some funding reserved for innovations, pilots, and experimentation, where “performance assessment” is subjugated to learning
	Ways of working follow a partnership, not a principal-agent approach	<ul style="list-style-type: none"> A partnership approach replaces the traditional principle-agent relationship, characterized by: <ul style="list-style-type: none"> Regular and honest feedback between all parties (including acknowledging when things are working and accepting blame) Inviting each other to decision-making processes and respecting views each party brings Agreeing mutual obligations for who is responsible for doing what to make the program succeed, and following these obligations
	Contractual and budgetary flexibility are afforded at appropriate times	<ul style="list-style-type: none"> Financial flexibility is provided to allow for the evidence-based: <ul style="list-style-type: none"> Adjustment of spend between work streams Adjustment of spend within a work stream Dropping or adding new activities Sound justifications for revising intermediate outcomes, end-of-investment outcomes, indicators, program approaches, risk assessments or the dropping or adding of new activities agreed
Adaptive Programming Relates to the role of the implementing	Strategies set and adapted	<ul style="list-style-type: none"> Strategies set at a program, intermediate, and reform or location level based on meaningful consultation with a range of stakeholders Strategies updated at six-monthly or annual intervals based on learning; monitoring, evaluation, research and learning (MERL) data; and political and contextual insight/analysis

agent (NGOs, [CSOs], contractor)		<ul style="list-style-type: none"> Strategies are used by the executive team to communicate shared priorities to team and to encourage cross-work stream collaboration
	Decisions are contested and draw on evidence	<ul style="list-style-type: none"> Decisions made by the program management to establish new activities or adjust existing ones are: <ul style="list-style-type: none"> Contested by a diversity of views in the program Made based on appropriate evidence and contextual and political insight Made in line with program principles and investment criteria Reflective of genuine commitment by partners to work towards the change identified
	Authorizing space maintained	<ul style="list-style-type: none"> Understanding of the incentives, institutions, and interests which influence the program environment or context at national or sub-national level, including drivers of exclusion (especially gendered drivers) An understanding of the role of leadership, women’s leadership, and agency in change Tools of analysis, including political economy analysis
Adaptive Delivery Relates to the role of local officials, non-state service providers, communities, religious groups, private sector companies and health officials	Accurate and timely data collection	<ul style="list-style-type: none"> Collection of data on physical and financial expenditure Collation into agreed reporting format
	Timely reporting on progress and issues arising to senior program management	<ul style="list-style-type: none"> Reports to senior management on progress and explanation of variation Immediate suggestions/proposals for revisions or amendments, new activities and dropping existing ones Early thoughts on relevance of underpinning theories of change
	Regular and inclusive consultations held with all stakeholders	<ul style="list-style-type: none"> Who has been engaged and on what issues? Diversity of stakeholders What has changed (or may change) as a result of these consultations?
	Data interrogated in real time jointly by implementation and performance teams	<ul style="list-style-type: none"> Assessment of progress against budget and plan Recommendations made regarding pace of implementation and funding requirements

(SOURCE: TESKEY, G. AND TYRREL, L. 2021)

APPENDIX 2: KEY PERFORMANCE INDICATORS TO ASSESS ADAPTIVE MANAGEMENT COMPETENCIES

Competency Area	Example deliverables in Terms of Reference	Example performance indicators	Means of Verification
A Team Leader	Create and maintain an enabling environment for adaptive and politically informed program delivery. This will be measured by the breadth and quality of adaptation towards outcomes across the program—as captured in the MERL	(i) at least one whole-of-program strategy testing (Strategy Testing)/reflection session facilitated annually (ii) level of staff satisfaction with leadership in terms of enabling adaptive management (iii) regular, strategic senior management/ executive meetings held that make decisions about where and how to add/drop/adjust focus across the program between front-line and upstream areas	(i) frequency of whole-of-program Strategy Testing sessions as reported in the Monitoring and Evaluation Learning Framework (MELF) (ii) staff survey run annually by people and culture team (iii) as before (specific question in staff survey regarding the structure and functioning of executive meetings)
MERL Teams	Establish, put in place systems, and support program and operational staff to apply the adaptive management approach (approach to be developed in partnership with the program adaptive management advisers)	(i) quarterly or six-monthly Strategy Testing facilitated for all major work areas (ii) staff competency and understanding of adaptive management improves year on year	(i) frequency of Strategy Testing sessions as reported in the MELF (ii) aggregate the ratings provided by managers in annual performance reviews regarding adaptive management soft skills
Program Teams	Support counterparts to understand and apply adaptive management approaches to policy-making and program delivery	(i) quarterly or six-monthly strategy testing facilitated with partners (ii) partner counterpart competency and understanding of adaptive management improves year on year	(i) frequency of Strategy Testing sessions as reported in the MELF (ii) partner counterpart self-assessment
Gender Equality and Social Inclusion (GESI) Teams	Ensure GESI is considered at each stage of the adaptive management approach	(i) participate in quarterly or six-monthly strategy testing to ensure GESI is considered during reflection meetings (ii) review and align adaptive management approach with GESI strategy	(i) GESI participation in Strategy Testing sessions as reported in the MELF (ii) adaptive management approach is aligned with GESI strategy

Communications Teams	Use communications opportunities to apply adaptive management good practice and to build acceptance of approach with donor and counterparts	(i) annual communications survey facilitated to determine effectiveness of adaptive management in practice	(i) results of the annual communications survey
Finance Teams	Support the program executive to implement a whole-of-program approach to budget management	(i) executive provided with timely and accurate forecasting data to inform program review meetings (ii) financial systems enable executive decisions regarding budget allocation (at least quarterly) to be quickly translated into programming	(ii) data reports and ad hoc reports provided as required
Human Resource Teams	Recruit, develop, and retain staff skills in adaptive management across the program—appropriate to level	(i) process skills rubric used to recruit staff (ii) process skills rubric and grades applied by managers at performance review (iii) learning and development plans developed and rolled out to build core competencies in adaptive management (iv) regular updates to strategy	(i) annual staff survey (ii) reviews as per program or corporate requirements (iii) staff recruited in line with strategy (iv) strong staff retention rates (v) development plans include adaptive management competencies (vi) six-monthly/annual updates to strategy as agreed
Operations and Security Teams	Deliver operations (risk, etc.) in line with the adaptive management approach outlined in the relevant sections of the program’s Operations Manual and look for new opportunities to improve policies and procedures to enable adaptive management during delivery	(i) relevant adaptive management components in Operations Manual followed (ii) operations staff identify areas for improvement in operations to enable adaptive management during implementation	(i) tasks and reporting in line with Operations Manual (ii) improvements raised with management

(Source: Teskey, G. and Tyrrel, L., 2021)

APPENDIX 3: MAKING ADAPTIVE RIGOR WORK: THE ADAPTIVE RIGOR INVENTORY – VERSION 1.0

HOW TO ENSURE MEL4AM DATA AND SYSTEM QUALITY?

MEL4AM data and system quality	Key considerations
<p>Usefulness</p> <p>Usefulness: How to ensure appropriate quality of data and that any data and evidence generated is actually acted upon</p>	<p>Purpose and utility:</p> <ul style="list-style-type: none"> • Is there question- and problem-driven method and indicator selection? • Is there effort to match existing data and information to the theory of change, and attention paid to areas where there are gaps? • Is there effort to reflect on the potential plausible changes that might be observed at different points, and links created to analytical and decision-making processes? • Is there investment in human capacity to assess, verify, and synthesize data across a range of sources? <p>Interpretation:</p> <ul style="list-style-type: none"> • Is there evidence of periodic review of progress and scope to change future—plans (e.g., strategy testing or similar)? • Is the profile of people involved in interpretation diverse and inclusive? • Are collective reviews appropriately timed, involve enough time, and in relevant formats? • Is the interpretation process documented, including specific decisions and the rationale (e.g., we observe x which means y and we will respond by z)?
<p>Practicality</p> <p>How to ensure diverse MEL approaches, which are transparent about biases and gaps</p>	<p>Transparency about methods and data:</p> <ul style="list-style-type: none"> • Is there ongoing identification of sources of information, gaps, and data quality, including the level of confidence/uncertainty, direction, and magnitude of potential biases? • Are interventions, and portfolios of interventions, explicit about which aspects are most uncertain, where there is least evidence, and which may be higher risk as a result? <p>Triangulation and integration:</p> <ul style="list-style-type: none"> • Is there a range of data types and sources? • To the extent possible, are objective indicators used to assess effects, perceptions used more for interpretation? • Is there identification of potential biases and gaps in data sources?

<p>Timeliness How to manage trade-offs and balance between different timeframes, ensuring right time data to inform decision-making</p>	<p>Responsiveness of MEL approach:</p> <ul style="list-style-type: none"> • Do reporting frameworks take into account different timeframes and related decision-making processes? • Are there indicators of different kinds of adaptation scenarios and situations? • Are there appropriate MEL reflection mechanisms, enabling MEL systems to be adjusted and refined as part of implementation? • Are clear reasons provided for iteration cycles? • Is there a mix of appropriate short-, medium- and longer-term indicators, with clear reasons for their use and links to the envisaged change pathways or outcomes to be achieved?
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(Source Ramalingam B., Wild, L., and Buffardi, A.L., 2019B)

HOW TO ESTABLISH MEL PROCESSES ACROSS AN ADAPTIVE PROGRAM CYCLE?

MEL stages of the program cycle	Key considerations
Assess and design	<p>To understand the core problem:</p> <ul style="list-style-type: none"> • Does problem analysis take account of and analyze the pace and nature of change? • Does problem analysis recognize what is known/unknown about how the problem and the wider system operates, and the key relationships, behaviors, and incentives within it? <p>To understand the programmatic context:</p> <ul style="list-style-type: none"> • What kinds of theories of change have been employed in the past, and with what implications for current program? Is the necessary contextual information available in a timely fashion? • How can this be incorporated into ongoing monitoring and learning efforts? <p>To design appropriate portfolio of interventions:</p> <ul style="list-style-type: none"> • Are different interventions based on available evidence, lessons, and understanding of risks? • Does the reporting and monitoring plan focus on testing assumptions? • Are there mechanisms and triggers for regularly revisiting design principles and approaches? • Have different adaptation scenarios been considered around core assumptions? • Does the chosen combination of MEL methods and tools support all of the above?
Implement	<p>To ensure targeted collection of data and evidence on outputs and outcomes:</p> <ul style="list-style-type: none"> • Is data collection grounded in testing assumptions? • Is there use of data/perspectives from end-users/target beneficiaries?

	<ul style="list-style-type: none"> • Is the data verified and triangulated, and if so, how? <p>To support ongoing operational decision-making:</p> <ul style="list-style-type: none"> • Are the processes by which data and evidence are expected to be used in decision-making transparent and accessible? • Does decision-making involve collective processes of synthesis, interpretation and sensemaking? • Are decision-makers able to establish a regular and overall picture of the benefits, costs, strengths and weakness of the intervention? <p>To enable assessment of scope for novel or innovative approaches:</p> <ul style="list-style-type: none"> • Does the system involve real-time methods, including new technologies if appropriate? • Do decision-makers have scope to adapt the MEL approach based on its utility and value?
Adapt	<p>To support timely and appropriate tactical and strategic changes:</p> <ul style="list-style-type: none"> • Are there explicit considerations of strategic and tactical changes in response to evidence-based needs and opportunities? • Is there information on the process by which program plans, theories and designs can be reformed?

(Source Ramalingam B., Wild, L., and Buffardi, A.L. (2019b))

HOW TO ENSURE APPROPRIATE MEL4AM CAPACITIES AND INCENTIVES?

MEL4AM capacities and incentives	Key considerations
Capacities	<ul style="list-style-type: none"> • Do senior leaders and managers foster an enabling working environment and shared mindsets around adaptive change? • Are there safe spaces to recognize uncertainty, identify early failures/what is not working, and to ensure that action is taken to address it? • Is MEL4AM clearly positioned as an internal team function? • Is value placed on, and investments made in, staff capacities of curiosity and creativity, critical thinking, openness to risk, comfort with uncertainty? Does recruitment, reward, training promotion systems enable these attributes and behaviors?
Incentives	<ul style="list-style-type: none"> • Are reporting and accountability mechanisms aligned with MEL4AM processes? Do they incentivize learning and adaptations? • Are contracts and financial and human resource arrangements supportive of the need for adaptations through the implementation process?

(Source Ramalingam B., Wild, L., and Buffardi, A.L. (2019b))

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