





# Monitoring and evaluating the implementation of essential packages of health services

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## ABSTRACT

Essential packages of health services (EPHS) are a critical tool for achieving universal health coverage, especially in low-income and lower middle-income countries. However, there is a lack of guidance and standards for monitoring and evaluation (M&E) of EPHS implementation. This paper is the final in a series of papers reviewing experiences using evidence from the Disease Control Priorities, third edition publications in EPHS reforms in seven countries. We assess current approaches to EPHS M&E, including case studies of M&E approaches in Ethiopia and Pakistan. We propose a step-by-step process for developing a national EPHS M&E framework. Such a framework would start with a theory of change that links to the specific health system reforms the EPHS is trying to accomplish, including explicit statements about the ‘what’ and ‘for whom’ of M&E efforts. Monitoring frameworks need to consider the additional demands that could be placed on weak and already overstretched data systems, and they must ensure that processes are put in place to act quickly on emergent implementation challenges. Evaluation frameworks could learn from the field of implementation science; for example, by adapting the Reach, Effectiveness, Adoption, Implementation and Maintenance framework to policy implementation. While each country will need to develop its own locally relevant M&E indicators, we encourage all countries to include a set of core indicators that are aligned with the Sustainable Development Goal 3 targets and indicators. Our paper concludes with a call to reprioritise M&E more generally and to use the EPHS process as an opportunity for strengthening national health information systems. We call for an international learning network on EPHS M&E to generate new evidence and exchange best practices.

## INTRODUCTION

Essential packages of health services (EPHS) have risen to prominence in low-income and middle-income countries (LMICs) as a means of delivering on Sustainable Development Goal 3.8 and national commitments to achieve universal health coverage (UHC).<sup>1,2</sup> A major threat to their usefulness is that development and implementation processes have

## SUMMARY BOX

- ⇒ Monitoring and evaluation (M&E) plans for essential packages of health services (EPHS) implementation should not be an afterthought—they should be integrated into the universal health coverage (UHC) policy process from the very beginning.
- ⇒ The EPHS M&E process, while focused narrowly on implementation of the EPHS itself, should be aligned with the global monitoring framework for UHC and the overall national health information system structures and processes building from the Sustainable Development Goal (SDG) 3.8.1 and 3.8.2 indicators on service coverage and catastrophic expenditures, respectively.
- ⇒ Because of challenges in identifying the causal effects of complex reforms on distal health outcomes, evaluation activities should be focused on changes in service coverage and financing of high-priority health services that can serve as ‘tracers’.
- ⇒ While there is international consensus on indicators for UHC systems, there is no such consensus on indicators for EPHS implementation.
- ⇒ To address this gap, we propose that countries use a combination of ‘core’ indicators, drawing on SDG 3.8.1 and 3.8.2, and dynamic, country-specific indicators that reflect the current EPHS implementation strategy and local needs.
- ⇒ Measurement should not reduplicate other data collection efforts; it should generally be integrated into routine activities with existing staff, especially during the monitoring phase, and it should be driven and owned by the national ministry of health rather than development partners or consultants.

historically paid little attention to monitoring and evaluation (M&E) efforts.<sup>3</sup> Consequently, there is a lack of empirical, country-derived precedent on how to conceptualise and execute M&E activities specific to EPHS-related reforms. Resource-limited countries face unique challenges in tracking the implementation and impact of their EPHS, while the proliferation of stakeholders with different M&E requirements, for example,



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external donors, national ministries of health, district health administrative offices and international normative bodies, limits the transferability of lessons from high-resource settings.<sup>4</sup>

This paper emerged from a series of meetings on capturing lessons learnt from country-level efforts to translate the model EPHS recommended in Disease Control Priorities, third edition (DCP3). Drawing on the experience of DCP3 projects in Ethiopia and Pakistan, we summarise the state of the evidence on M&E for EPHS. Ethiopia and Pakistan were chosen from among the seven case study countries in attendance (others being Afghanistan, Somalia, Kenya, Zanzibar, and Sudan) because they were the farthest along in development of their EPHS M&E frameworks. We then propose a generic framework for EPHS M&E, including reflections on key indicator features. This framework is intended as a starting point for developing local frameworks, and it will need to be reviewed and updated as experience with EPHS M&E accumulates in the coming years. We also identify high-priority areas for future research and collective action in this area. Our intention is to stimulate new dialogue and lay out a learning agenda for practitioners, project sponsors, researchers and policymakers.

### Why a new approach?

The individual interventions and services within an EPHS exist within the larger health ecosystem, and monitoring and evaluation of these health services comes in many varieties. Interventions addressing high-burden communicable conditions are captured by disease-specific M&E efforts, frequently within the context of donor-funded initiatives. Other basic services, such as obstetric care, are tracked by routine health management information systems (HMIS). Indeed, for a very low-resource country with a limited set of interventions in its EPHS, the combination of these activities may allow for monitoring of all the included services, although in a fragmented, uncoordinated way. At the policy level, national and condition-specific strategy revision processes often include retrospective analyses of health targets, implicitly or explicitly tied to services in an EPHS. These provide countries with opportunities to take stock and inform changes to the next iteration of strategic plans. Separately, there are one-off or periodic evaluations of major system areas such as health sector performance assessments that provide additional insights.

These myriad efforts are invaluable but are insufficient to capture the implementation and impact of EPHS in the context of UHC in LMICs. An EPHS is a specific policy tool intended to motivate the rationalisation of resource allocation and change the composition of services delivered. In the context of UHC, it is also a tool to advance progressive universalism by expanding the types of health conditions for which care is available. A growing number of EPHS in LMICs are including interventions for high-burden non-communicable diseases, like cardiovascular disease and cancer, as well as acute but complex issues

like emergency and surgical care. To understand whether EPHS as currently designed are an effective policy mechanism for service delivery reforms, new approaches for M&E are needed. These approaches will need to draw on existing theory while integrating classical targets of evaluation, such as commodities and measures of health status, along with measures of policy implementation. The latter is especially important in determining whether the EPHS is effectively influencing activities throughout different departments of the ministry of health, rather than simply sitting on a shelf in the planning department. The goal of this new approach is not to duplicate the immense M&E efforts already underway, but to interrogate the data collected within them in a way that allows for determining whether the resource-intensive processes involved in health benefits package revision are producing the desired impact on resource allocation, equity and ultimately the scope care that is available at little to no cost to patients. In the sections that follow, we briefly review relevant literature on EPHS M&E, reflect on EPHS M&E experiences in Ethiopia and Pakistan (two countries that recently underwent EPHS revision processes) and outline how other countries could develop their own frameworks.

### EPHS M&E in the UHC era

To supplement the experiences of the DCP3 country projects and place them in context, we searched PubMed, PAIS and a few grey literature sources known to contain information on EPHS M&E. We conducted the original search in January 2022, updated in January 2023, and focused on studies published after 2002. See online supplemental annex 3 for additional information regarding the methods used.

### Monitoring

High-income country analogues of EPHS are 'benefits packages' and medicines formularies that are primarily tools for determining provider payments and controlling drug costs.<sup>5</sup> In LMICs, however, EPHS have a mandate to rationalise the entire suite of health services that are being (or could be) provided in the country. Often they are linked to national strategic planning exercises and, as such, outline a vision for health reforms that can help progressively realise UHC by expanding the range of publicly financed health services (eg, to address emerging challenges like cancer or cardiovascular disease) as available budgets for health increase.<sup>6</sup> High-quality, timely monitoring is essential for accountability and management of health facilities, and findings from the literature support the need to leverage existing data collection efforts to the greatest extent possible, even if they provide an incomplete picture of EPHS adoption, implementation and impact.<sup>7</sup>

Current monitoring efforts in LMICs emerged from specific programmes or disease areas (eg, HIV/AIDS, family planning, vaccination campaigns) and efforts to strengthen national HMIS generally.<sup>4</sup> In settings where

resource constraints effectively limit EPHS to donor-financed interventions delivered in community and primary care settings, a robust HMIS could capture the alignment of service delivery outputs with EPHS priorities. HMIS alone, however, cannot monitor whether an EPHS as a policy mechanism is being implemented as intended (eg, EPHS dissemination, changes in financial flows following EPHS revisions). There is a gap in monitoring guidance for complex, integrative policy efforts such as those related to UHC, although emerging work from the field of policy implementation science offers promise.<sup>8</sup> Compounding this challenge is the fragmentation of financing and service provision mechanisms. For example, in the most recent resource-mapping exercise in Malawi, 185 sources of funding were identified, which flowed through 226 implementing agents.<sup>9</sup> Existing approaches to routine monitoring that are tied to specific development projects and global health initiatives may not be meaningful for EPHS M&E.

### Evaluation

We found seven publications evaluating EPHS in LMICs.<sup>10–16</sup> Six papers compared the contents of an EPHS with either a normative set of recommended services<sup>12 14 15</sup> or assessed the extent to which the EPHS development process reflected an overarching set of aims (eg, human rights).<sup>11 13 16</sup> One study assessed a set of service delivery indicators to understand the impact of EPHS on clinical or health outcomes.<sup>10</sup> Beyond systematic evaluations, information on EPHS effectiveness surfaced in case studies and programme reports.<sup>17 18</sup> The publications on EPHS implementation discussed post-policy adoption, one-time evaluation activities that use a range of methods. We did not find any instances of formal impact evaluations being integrated into EPHS planning and design, but to the extent that these occur they are likely to be captured within national policy processes and thus would not have been picked up by our search method.

### COUNTRY EXPERIENCES

Boxes 1 and 2 summarise the experiences with EPHS M&E in two DCP3 country projects, illustrating different potential approaches. Ethiopia took a parsimonious approach to M&E that relies heavily on population surveys<sup>19 20</sup> and trends in health outcomes reported by the Global Burden of Disease study. Other countries with resource-limited information systems might choose such an approach, which is feasible in nearly all contexts and requires limited set-up or additional EPHS-specific M&E investment. Still, survey coverage is imperfect, and it is difficult to reliably correlate changes in deaths and disability-adjusted life-years to specific EPHS measures, making this approach suboptimal.

Pakistan is pursuing a more ambitious approach.<sup>14</sup> M&E efforts will use a broader array of domestically generated, service delivery-focused indicator data collected via

### Box 1 Essential packages of health services (EPHS) monitoring and evaluation (M&E) approach in Ethiopia

The Federal Ministry of Health of Ethiopia underwent an EPHS revision process that was completed in 2019. This process involved 35 consultative workshops with numerous stakeholders and resulted in a list of about 1000 interventions to be included in the EPHS, with just over half of these deemed high-priority and thus free of charge. (Unlike in Afghanistan and Pakistan, the Ethiopia process drew on a range of sources for candidate interventions, beyond the Disease Control Priorities, third edition model lists.) Eregata *et al* summarise the deliberative process and outcomes.<sup>19</sup>

M&E plans were developed later in the EPHS reform process, and M&E for the EPHS is nested within a larger M&E framework for all of Ethiopia's Health Sector Strategic Plan goals.<sup>20</sup> Ethiopia's framework relies heavily on population-based surveys supplemented by other data sources like health information systems and National Health Accounts data (online supplemental annex 1).

To track the universal health coverage-related objectives of the essential packages of health services, the Ministry chose 16 tracer service coverage indicators that were aligned with the WHO Service Coverage Index and Sustainable Development Goal 3.8.1. Financial risk protection indicators are also included (see online supplemental annex 1). The overarching M&E framework also includes a proposed list of tracer indicators to explicitly monitor equity of service provision across several dimensions (including sex, wealth, geography) during the EPHS implementation timeframe.<sup>20</sup>

The Ministry intends to evaluate the impact of the EPHS by tracking annual estimates of age-standardised death and disability-adjusted life-year rates using estimates from the Global Burden of Disease study, with 2019 as the baseline year for evaluation (online supplemental annex 1). The framework also includes mechanisms for assessing how the EPHS has been adopted within various strategy and planning activities, such as the national essential drugs list and development/revision of clinical guidelines.

existing, strengthened national and subnational health information systems. These monitoring data will be aggregated up to evaluative metrics. Other countries inclined towards this approach would need to ensure sufficient resources for developing and maintaining such a system. The increased costs are balanced by the potential benefits of (i) leveraging the EPHS process to strengthen much-needed existing health information system infrastructure at the local and national levels and (ii) generating data that provide a compelling case for the benefits of the EPHS on equity, financial risk protection, societal trust and health outcomes.

### KEY ISSUES AND UNKNOWN IN EPHS M&E PROCESSES

Logic models, used in both Pakistan and Ethiopia's EPHS monitoring plans, and theories of change commonly used in programme monitoring more broadly<sup>21–23</sup> provide a starting point for EPHS monitoring but suffer from two limitations. On the one hand, the simplified, linear approaches used to track single disease initiatives are inadequate for effectively monitoring the complex, systems-level objectives of health benefits packages. On the other hand, the existing EPHS-specific guidance



## Box 2 Essential packages of health services (EPHS) monitoring and evaluation (M&E) approach in Pakistan

Over 2017–2018, Pakistan's Ministry of National Health Services, Regulations & Coordination led a 2-year process to develop a national-level EPHS. Because of the federal and decentralised design of the health system, this EPHS is intended as a model for contextualised, provincial-level EPHS. The latter process is currently underway, with early stage implementation in selected districts. As in Ethiopia, the national M&E framework is intended to align with Pakistan's global commitments, principally to Sustainable Development Goal (SDG) 3.8.1 (service coverage index) and SDG 3.8.2 (financial protection).

The EPHS M&E framework development process was a detailed consultative process that included provincial governments, development partners (including UN agencies) and international academic institutes such as London School of Hygiene and Tropical Medicine. The M&E framework is organised around a results chain model that includes the six components of the WHO health systems framework. The cardinal principles used in developing the framework included:

1. The district as the primary 'unit' of implementation and of M&E.
2. Enhanced use of district-level routine data (ie, existing health and management information systems) for monitoring, complemented by provincial-level and national-level data.
3. A careful approach to selection and use of monitoring indicators, ensuring they can all be collected and reviewed regularly (online supplemental annex 2).
4. Monthly, quarterly and yearly benchmarks for EPHS monitoring.
5. Use of rapid and targeted special data collection activities in the yearly monitoring activities; examples include short client exit surveys, community catchment surveys across the served populations of primary healthcare facilities and other data to assess 'effective coverage'.
6. Taking a system-wide approach for monitoring rather than focusing on the EPHS; the rationale for this approach was to integrate universal health coverage-related efforts into the existing health system, including its M&E function.

These principles apply particularly to monitoring. A detailed evaluation is planned after 3 years of implementation and will involve additional survey data collection (eg, facility surveys, client exit surveys and qualitative assessments of process indicators).

from better-resourced countries requires extensive, highly detailed data that are often unavailable in lesser-resourced countries.

When it comes to evaluation, available empirical data are even more scarce. The cross-sectoral, decentralised nature of an EPHS makes an integrated evaluation unlikely since it is not any one department's domain; indeed, the lack of existing literature and empirical examples underscores this point. However, unlike monitoring, existing evaluation and implementation models and tools could be readily adapted to an EPHS.

Application of current M&E frameworks to an EPHS runs the risk of going straight from policy formulation to measuring changes in service coverage and health outcomes, skipping the intermediary processes essential for understanding and improving the implementation of EPHS. We need a better understanding of the

mechanisms of EPHS operation on health systems and the determinants of EPHS implementation, as distinct from broader health system and socioeconomic factors.

### PROPOSED APPROACH TO EPHS M&E

Given the lack of a systematic approach to monitoring and evaluating the implementation of EPHS, we propose the following stepwise approach.

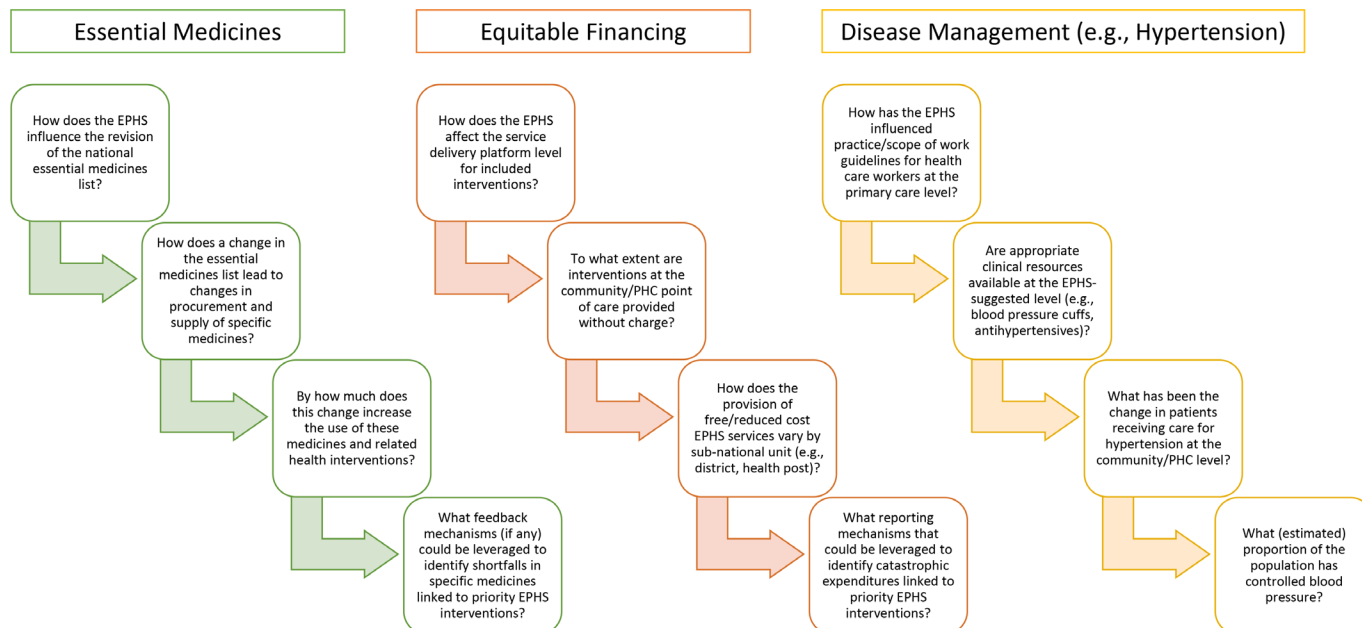
#### Step 1: develop theories of change

Figure 1 presents examples of simple theories of change that illustrate how EPHS-related reforms might influence health and systems processes and outcomes that ought to be captured through M&E activities. It shows the types of questions a detailed theory of change might ask relating to priority areas for UHC and the EPHS, such as essential medicines, equitable financing and management of chronic diseases like hypertension. Local theories of change will need to include the roles and obligations of non-government actors where applicable. For example, external partners may be providing financial support for EPHS interventions, or private-sector physician groups might have a contractual arrangement with the government to provide certain essential services. *Overall, the objective of the theory-of-change exercise is to help the ministry of health determine 'what' is being monitored or evaluated, and for whom (ie, government or otherwise) M&E activities are being undertaken.*

#### Step 2: create an EPHS M&E framework

The most common approach to M&E framework development is a results chain or logic model, which links programme inputs, activities, outputs, outcomes and impact(s) in a linear and causal manner.<sup>21 24</sup> This approach is ideal for standalone health programmes of low-to-moderate complexity.<sup>25 26</sup> However, it is unclear how applicable this linear, unidirectional approach is for whole-system reforms such as those implied in EPHS exercises. A retrospective look at the Pakistan experience in coming years could provide insight into the usefulness of this approach (see box 2).

The framework for EPHS monitoring and the framework for EPHS evaluation should be distinct and separate documents, although they should be aligned with each other as well as with the overall health sector M&E strategy. Monitoring is understood as an ongoing effort that uses routine data and existing staff to ensure the EPHS reforms are being implemented and corrected as needed to achieve the intended objectives. *Hence, the EPHS monitoring framework should place relatively greater emphasis on policy processes and intermediate indicators so that emergent implementation shortfalls can be quickly identified and remediated.* By contrast, evaluation is understood as a periodic effort usually covering a period of at least 12 months that builds onto monitoring activities with specialised and one-off data collection to ensure that the planned reforms are achieving their intended outcomes. *Hence, the EPHS evaluation framework should place relatively greater*



**Figure 1** Sample questions or tracer indicators based on theories of change for essential packages of health services (EPHS) reform. PHC, primary health care.

*emphasis on measures of service coverage, health status, client satisfaction and so on, to build a coherent understanding of the effectiveness of the EPHS reforms and their effect on populations and health system performance.*

### Monitoring

Monitoring frameworks should start from the recognition that much work has been done to strengthen health information systems in LMICs and that many countries are regularly reviewing and revising their national and subnational indicators.<sup>27–29</sup> EPHS monitoring needs to determine how these existing data collection efforts, along with expensive ongoing surveys and health indicator databases, can be combined to understand EPHS implementation, rather than create novel indicators (see below).<sup>7</sup> Developing recommendations on procedures that could be used to identify tracer indicators, for example, would be beneficial.

Monitoring of the EPHS should be done in multiple dimensions (see ‘Step 1: develop theories of change’ section). Ministries need to monitor the content of the package itself and the process used for its development. Relevant characteristics to consider include responsiveness to local needs, inclusiveness, the extent to which the delivery and organisation of services match the implementation arrangements with the health system and feasibility.<sup>30</sup> Without capturing these metrics over time, it is difficult to determine whether implementation failures are due to a lack of acceptability or adoption of the EPHS (eg, among subnational planning teams), limited demand for mismatched services, insufficient resources or other factors.

The EPHS is fundamentally an evidence-informed tool to advance the UHC agenda, primarily via client interactions with the healthcare system. Prior assessments of

EPHS<sup>12 13</sup> have been done retrospectively, focusing on the nationally defined package. These assessments did not consider adaptations made, formally or informally, at subnational levels of service planning, or the EPHS’s impact on utilisation or out-of-pocket (OOP) costs. EPHS development is an ongoing, adaptive process, and national and subnational health contexts are expected to change over the EPHS life course (5–10 years), altering the assessment of feasibility, costs and so on. Ongoing monitoring of policy adaptation is critical.

The Pakistan experience shows the importance of tracking quality of care as an early bellwether for monitoring client experience and health system responsiveness. Traditional quantitative monitoring approaches may not be fit for this purpose, and more theoretical work is needed to understand how to integrate qualitative methods into routine monitoring efforts.

### Evaluation

Insights from the field of implementation science can help fill the gap in linking the EPHS to changes in resource allocation, service delivery and ultimately health outcomes. For example, the Reach, Effectiveness, Adoption, Implementation and Maintenance (RE-AIM) framework has been widely used in many country-specific and disease-specific applications. RE-AIM seeks to identify, and where possible quantify, the ‘active ingredients’ of a programme that translate directly into favourable outcomes of UHC for the populations served.<sup>31</sup> RE-AIM could be applied to the implementation of the EPHS in general (ie, understanding how it is being used by district managers) or to a series of specific tracer interventions (such as safe delivery) that are linked to the selected indicators (table 1).

**Table 1** Use of RE-AIM for EPHS evaluation in general and for evaluation of the intervention ‘safe delivery’ (as a maternal health services tracer) in particular

Construct	Application to EPHS in general	Application to specific service, safe delivery
Reach	% of population covered* by facilities that use EPHS	% of population in need* receiving safe delivery services
Effectiveness	Change in service delivery (qual†)+out-of-pocket costs (quant)	Change in mortality and out-of-pocket costs for facility delivery (quant)
Adoption	% of units‡ adopting EPHS	% of units‡ adopting safe delivery service
Implementation	Level of fidelity to EPHS overall (eg, % of services provided)	Level of fidelity (quality) of core components of safe delivery
Maintenance	Sustainment of adoption/implementation over time	Sustainment of adoption/implementation over time

\*Calculation of coverage would be a population-weighted average based on utilisation data and measures of adoption.

†Since an EPHS reform might continue some interventions from a previous EPHS and add or remove others, ‘effectiveness’ would need to be a holistic, qualitative assessment of how effective the EPHS reform was in *actually* changing clinical practice.

‡‘Units’ can refer to districts, facilities or individual providers depending on the needs of the particular application.

EPHS, essential packages of health services; qual, qualitative; quant, quantitative; RE-AIM, Reach, Effectiveness, Adoption, Implementation and Maintenance.

While RE-AIM does not usually include a specific assessment of equity impact, such an assessment could flow naturally out of the application of RE-AIM across different subnational units. Specifically, population levels of each of the (quantitative) RE-AIM indicators could be disaggregated by province/state or a comparable measure of socioeconomic/demographic status, such as through a geospatial analysis of HMIS or DHS data. In principle, results could also be stratified by gender, income or other dimensions (depending on the service area), although such stratifications would probably require additional client-level data collection via population surveys (eg, benefit incidence analysis),<sup>32</sup> which could prove costly and labour-intensive in some circumstances. Establishing or expanding health records systems that can cover the entire population could also provide additional insights into the equity impact of the EPHS, although at a considerable cost.

**Step 3: select indicators**

The modern concept of an EPHS is that of a policy instrument that helps achieve the SDGs, including the target relating to UHC (3.8). All countries are expected to report on two indicators related to the UHC: SDG 3.8.1 (service coverage index) and SDG 3.8.2 (financial protection) (box 3).<sup>33 34</sup>

**Box 3 Sustainable Development Goal 3 universal health coverage indicators**

**3.8.1** Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population).

**3.8.2** Proportion of population with large household expenditures on health as a share of total household expenditure or income.

Pakistan and Ethiopia have integrated these two measures into their M&E frameworks, but many countries are not currently tracking even these most basic indicators, so efforts to improve national-level EPHS monitoring and reporting must start here.

We propose that M&E of EPHS implementation should use two sets of indicators. The first set, or ‘core’ indicators, would be based on the SDG 3.8 indicators, including the indicators used to compute the WHO’s Service Coverage Index (SCI), and used in nearly all countries unless there are compelling epidemiological reasons otherwise. The second set, or ‘dynamic’ indicators, would be based on the local context and specific to the reforms that the EPHS is trying to achieve. For example, breast cancer is not included in the SCI, but it is increasingly a priority for many countries. A country that introduces or significantly expands a breast cancer programme as part of an EPHS process might then include a dynamic indicator related to breast cancer screening or treatment access. There are several sources of available UHC indicators that have been used in research and implementation in LMICs that could serve as a starting point.<sup>35 36</sup>

Regardless of the sources of core and dynamic indicators, they should leverage ongoing data collection activities whenever possible, and the M&E needs of the EPHS should be seen as an opportunity to improve routine data collection systems. The challenges countries have experienced in reporting on the SDG indicators are a telling indicator of the depth of the need for greater investment in human, technological and financial resources.<sup>37</sup> Furthermore, to minimise the risk of adding to already high data collection burdens, we recommend focusing on a limited number of tracer conditions and non-service-delivery components (eg, supply chain strengthening, financing system, etc) and their associated signal indicators. The choice of dynamic indicators should also be linked to the theory of change created during the



EPHS development process (see ‘Step 1: develop theories of change’ section).

In the context of UHC and the EPHS, M&E of financial protection outcomes is particularly important. Measures of financial protection need to be aligned with the reality of fragmented, non-fungible health resource flows in many countries. For example, most catastrophic health expenditure worldwide is from non-communicable diseases,<sup>38</sup> but many of the most expensive (and highest financial risk) interventions may not be included in the EPHS, especially in low-income countries. Efforts need to be made to estimate OOP spending on interventions included in the EPHS rather than OOP spending in general, since the latter may not capture the intended effect of the EPHS, that is, to reduce OOP spending on interventions in the package.

Finally, we draw a distinction between the set of measures necessary for routine tracking of the provision of comprehensive, high-quality healthcare to all citizens—the M&E function of the health system in general—with the much smaller subset of indicators required to monitor the implementation and effectiveness of an EPHS as a policy tool. As a complement to aggregate, quantitative indicators, countries should also institutionalise data collection activities that capture policy processes and the rollout of new services (ie, early policy implementation). For example, key informant interviews conducted among EPHS implementers to better understand how the EPHS is being used (or not) and what determinants of non-use are amenable to intervention.

The framework described here is intended to be a first, not a final, offering on how to extend M&E theory to understand EPHS impact. Additional theoretical work to integrate equity considerations more fully at each step is needed. The theory and its components will also need to be validated through empirical work in countries revising their EPHS.

## A CALL TO ACTION

Most guidance on M&E in LMICs is either aimed at strengthening national health data collection systems or follows from standalone health programmes that address specific topics like HIV/AIDS<sup>24</sup> or child health.<sup>39</sup> Little has been published to date on M&E specific to understanding the impact of EPHS. Current M&E tools are inadequate for providing practical, actionable direction on how to evaluate the design and implementation of EPHS as policy instruments and monitor their ongoing rollout in an affordable, timely way. The resulting risk is that departments tasked with EPHS M&E will default to broad health data collection efforts with limited adaptation or integration into an EPHS-specific theory of change and M&E framework.

In this paper, we lay out an approach to developing EPHS M&E frameworks intended to keep these needs front and centre. Ideally, political buy-in for EPHS-related reforms could provide an opportunity to mobilise

additional government resources to build out routine information systems, both supporting EPHS implementation and benefiting the M&E function more broadly. Strong HMIS can be leveraged for evaluations, so efforts to build HMIS capacity should be coordinated with EPHS-specific process and implementation data needs.<sup>40</sup> Additionally, considering the paucity of evidence on the relationship between EPHS and improved health outcomes in LMICs, global health research funders should consider supporting a limited number of high-quality external evaluations of EPHS.

Our approach has several practical and theoretical limitations. A full systematic search of the literature on EPHS M&E was beyond our remit and is a weakness of our findings presented here. Considering the scarcity of publications in the peer-reviewed literature, a comprehensive review that focuses particularly on grey literature and policy documentation would be immensely valuable and fill an important gap in understanding the different tools that are being applied to EPHS policy implementation M&E in practice. We are further limited by our focus on seven DCP3 country projects. Future efforts integrating lessons from non-DCP3 countries, particularly those with longer EPHS histories like Malawi and Thailand, would provide valuable insight into effective strategies for EPHS implementation M&E. Our proposed way forward underscores the need for a ‘learning agenda’ built around the experiences of countries undertaking EPHS reforms. International organisations and philanthropies committed to supporting national EPHS development should strongly consider investing in an international learning network that could help to harmonise methods, tools and reporting on country projects and help identify and disseminate best practices.

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## Annex 1. Components of Ethiopia's M&E framework

Table 1a: Improvement/change in quality UHC service coverage

<i>NO</i>	<i>Major group</i>	<i>Tracer indicator</i>	<i>Description</i>	<i>Data source</i>
1	<i>RMNCH</i>	Family planning	Demand satisfied with modern method among women 15- 49 who are married or in a union	EDHS
2	<i>RMNCH</i>	Pregnancy care	Average coverage of 4 or more antenatal visits and skilled birth attendance	EDHS
3	<i>RMNCH</i>	Full child immunization	One-year-old children who have received 3 doses DPT containing vaccine	EDHS
4	<i>RMNCH</i>	Child treatment	Care seeking behavior for children with suspected pneumonia	EDHS
5	<i>Infectious diseases</i>	TB treatment	TB cases detected and cured	WHO
6	<i>Infectious diseases</i>	HIV treatment	People living with HIV receiving ART	HMIS
7	<i>Infectious diseases</i>	Malaria prevention	Population at risk sleeping under insecticide treated bed nets	MIC
8	<i>Infectious diseases</i>	Improved water and sanitation	Average coverage of households with access to improved water and sanitation	EDHS
9	NCDs	Treatment of CVD	Prevalence of raised blood pressure	STEPs
10	NCDs	Management of DM	Prevalence of raised blood glucose	STEPs
11	NCDs	Cervical cancer screening	Cervical cancer screening among women 30-49	STEPs
12	NCDs	Tobacco control	Adults age $\geq$ 15 years not smoking tobacco in last 30 days	STEPs
13	Service capacity and access	Hospital access	In-patient admissions per capita	HMIS
14	Service capacity and access	Health worker density	Health professionals per capita physicians, psychiatrists, and surgeons	HMIS
15	Service capacity and access	Access to essential medicines	Average proportion of WHO-recommended core list of essential medicines present in health facilities	SPA
16	Service capacity and access	Health security	International Health Regulations core capacity index	FMOH

**Table 1b. Financial risk protection core indicators**

NO	Tracer indicator	Description	Data source
1	Proportion catastrophic out-of-pocket expenditure	Proportion of households with catastrophic out-of-pocket health expenditure exceeding 40% of non-food total expenditure	NHA
2	Incidence of medical impoverishment		NHA
3	Proportion of households enrolled in community based health insurance (CBHI)	Number of households in the district enrolled in the CBHI scheme in the year divided by the total number of households in the district	NHA

**Table 1c. Improvement /change in burden of disease as measured by Age-standardized death rate and DALYs**

Rank	Causes of death or injury (GBD Level - 2)	2019		2020		202x	
		Deaths	DALYs	Deaths	DALYs	Deaths	DALYs
1	Maternal and neonatal disorders						
2	Respiratory infections and tuberculosis						
3	Enteric infections						
4	Other infectious diseases						
5	Other non-communicable diseases						
6	Nutritional deficiencies						
7	HIV/AIDS and sexually transmitted infections						
8	Cardiovascular diseases						
9	Neoplasms						
10	Mental disorders						
11	Unintentional injuries						
12	Digestive diseases						
13	Neurological disorders						
14	Self-harm and interpersonal violence						
15	Musculoskeletal disorders						
16	Diabetes and kidney diseases						

## Annex 2. Indicators used in Pakistan's M&E framework

Summary of Key Indicators (monthly and quarterly)					
S. No.	Sub-domain	BHU	RHC	CHC	MCH Centers
1	Filled Post Index				
2	Essential Medicines/vaccine availability Index				
3	Essential Equipment Availability and Functionality Index				
5	HR Availability (% Filled)				
	Management Staff				
	Medical Staff				
	Paramedics				
	Support Staff				
6	Availability of services (hours of provision) for Basic/C- EmONC services Index				
7	Monthly report submission on regular basis (LHWs)				
8	Delivery of supplies regularly and in required quantities (LHWs) through tracer items list				
9	PHC services utilization rate (Maternal Health)				
10	PHC services utilization rate (Child Health)				

**Definitions**

**HR Filled Index:** It is a composite index of sanctioned posts filled against sanctioned posts as per the UHC-BP and according to the type of facility.

**Essential Medicines/vaccine availability Index:** It is a composite index of essential medicines and vaccines availability as per the UHC BP. A set of 10-20 essential medicines (depending upon the type of facility) and mandated EPI vaccines against 10 diseases (from the DoH essential drug and vaccines list) are to be used to assess the availability at PHC facility level.

**Essential Equipment Availability Index:** It is a composite index of essential equipment availability as per the UHC-BP at BHU, CHC, RHC and MCH centers. A total of 10-20 selected equipment items (depending upon the type of facility) are to be used to ascertain the availability of equipment.



		BHU			RHC			CHC			MCH		
STAFF		Sanctioned	Vacant	Filled	Sanction	Vacant	Filled	Sanctioned	Vacant	Filled	Sanctioned	Vacant	Filled
		#	#	%	#	#	%	#	#	%	#	#	%
1	Medical Staff												
2	Paramedics												
3	Support Staff												

Medical staff category is suggested to include the Medical Officer (in-charge), and Women Medical Officer. The para-medical staff category included LHV, Medical Technician, Dispenser, Vaccinator and CDC supervisor. Support staff included sanitary inspector, Naib Qasid, Chowkidar, Sanitary worker and computer operator(s)

**Summary of Human resource that is to be collated on monthly and quarterly basis**

## Detailed Checklists to be filled on a monthly basis from each primary health facility

Type of facility	BHU CHC RHC MCH center	Date: _____ Name of Monitor: _____ Name of facility: _____					
		Monitoring and evaluation Checklist		BHU		CHC	
		Yes	No	Yes	No	Yes	No
<b>HEALTH EDUCATION AND PROMOTION</b>							
<b>a) HYGIENE PROMOTION, WATER AND SANITATION</b>							
1. Proper toilet use and hand washing practices.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Advice on making water safe for drinking and storage.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) MNCH AND FAMILY PLANNING</b>							
1. Skilled birth attendants.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Early initiation of breastfeeding.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Family Planning methods.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) CHILD HEALTH &amp; DEVELOPMENT</b>							
1. Managing diarrhoea at home.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Growth/development monitoring.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) NUTRITION</b>							
1. Iron & folic acid supplementation of pregnant / lactating women.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Weaning after 6 months of age under IYCF guidelines.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>CARE PROVISION</b>							
<b>a) MATERNAL HEALTH</b>							
1. ANC (Screening for high risk).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. NATAL CARE (Normal Delivery with Forceps/MVA).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. NATAL CARE (Ambulance services).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. PNC (Follow-up HH visit within 40 days).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) CHILD HEALTH</b>							
1. Neonatal Examination within 72 hours.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. EPI Vaccination services – as outreach services		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) FAMILY PLANNING</b>							
1. Provision of short-term methods (Condoms, pills).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Provision of short-term methods (IUDs, Injectables).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) COMMUNICABLE DISEASES</b>							
1. TB notification		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Deaths reported due to pneumonia in children under age 5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>e) NON COMMUNICABLE DISEASES</b>							
1. Screening of Diabetes		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Screening of Hypertension		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>f) EMERGENCY SERVICES</b>							
1. First Aid		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Patient Stabilization and referral		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>g) SURGICAL SERVICES</b>							

Type of facility	BHU	Date: _____					
	CHC	Name of Monitor: _____					
	RHC	Name of facility: _____					
	MCH center						
Monitoring and evaluation Checklist		BHU		CHC		RHC	
		Yes	No	Yes	No	Yes	No
1. Stitching for small wounds / injuries.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Abscess drain.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) DIAGNOSTIC/LAB SERVICES							
1. TESTING	I) Hemoglobin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	II) Urine R/E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. X-ray		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) NUTRITION SERVICES							
1. Outpatient Therapeutic Program.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EMoNC SERVICERS							
a) BASIC EmONC SERVICES							
1. Augmentation of labour by oxytocic drugs		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Assisted vaginal delivery (vacuum extraction, forceps)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) WHO CONDUCTS DELIVERY							
1. LHV		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Medical Officer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) NEWBORN CARE SERVICES							
1. Neonatal resuscitation		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Clean cord care		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AVAILABILITY OF EQUIPMENT							
a) GENERAL HEALTH FACILITY							
1. Computer / Printer / UPS.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Electricity backup Generator.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) OPD/WMO's OFFICE							
1. Examination couch.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Weighing machine (Infant).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. B.P Apparatus mercury-desk type.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) DIAGNOSTICS							
1. Glucometer for blood sugar		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Ultrasound		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) LABOUR ROOM							
1. Labour /Delivery Table with washable plastic cover.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Suction and Evacuation set (SNE).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Oxygen source (portable cylinder or central wall supply), with Mask or nasal cannula.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Examination light.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) DELIVERY SET							
1. Alcohol swab.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. High-level disinfected or sterile surgical gloves.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Type of facility	BHU	Date: _____				
	CHC	Name of Monitor: _____				
	RHC	Name of facility: _____				
	MCH center					
Monitoring and evaluation Checklist	BHU		CHC		RHC	
	Yes	No	Yes	No	Yes	No
3. Artery forceps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Episiotomy Scissors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>f) LADY HEALTH VISITOR'S ROOM</b>						
1. P.V. examination light.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Fetoscope.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>g) INFECTION CONTROL</b>						
1. Hand washing stations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Boiler / Autoclave.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>h) VACCINE STORAGE</b>						
1. Vaccine refrigerator (ILR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Temperature log.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>AVAILABILITY OF SUPPLIES AND MEDICINES</b>						
<b>a) SUPPLIES</b>						
1. Disposable/ Auto-disable Syringes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Containers for sharp disposal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) MEDICINES</b>						
1. Inj Medroxyprogesterone acetate (DMPA).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Syp Amoxicillin (trihydrate) 125mg, 250mg/5ml.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Tab Misoprostol 200mcg.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Oral Rehydration Salt – ORS.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) VACCINES</b>						
1. Penta-valent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Measles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>d) FAMILY PLANNING COMMODITIES</b>						
1. Condoms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Combined Oral Contraceptive (COC) Pills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>ACQUISITION OF MEDICINES AND FP SUPPLIES</b>						
<b>a) REASONS FOR STOCK OUTS</b>						
1. Delayed demand submission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Lack of storage capacity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) SOURCES OF FAMILY PLANNING COMMODITIES</b>						
1. Department of Health/DHO office.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. National/ International agencies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) SOURCE OF MEDICINES</b>						
1. Department of Health/EDO office.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Self-procurement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>FACILITY MANAGEMENT, RECORDING AND REPORTING</b>						
<b>a) AVAILABILITY OF DUTY ROSTER AND DISEASE MANAGEMENT POSTERS/PROTOCOLA</b>						

Type of facility BHU CHC RHC MCH center	Date: _____					
	Name of Monitor: _____					
Name of facility: _____						
Monitoring and evaluation Checklist	BHU		CHC		RHC	
	Yes	No	Yes	No	Yes	No
1. Normal Vaginal Delivery care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Staff duty roster.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>b) WORK COORDINATION AND SUPERVISION</b>						
1. DHIS report submission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Availability of supervisory visit record.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>c) RECORDING AND REPORTING TOOLS</b>						
1. OPD register.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Medicine Stock register (medicine store).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Family Planning register.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. EPI register (EPI room).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## ANNUAL MONITORING ACTIVITIES

### 1. PHYSICAL INFRASTRUCTURE AND UTILITIES

S No.	Characteristic	Categories	BHU	CHC	RHC	MCH center
1.	ACCESS / UTILITIES	Metaled access road				
		Facility sign board				
		Electricity				
		Telephone				
		Functional Generator & Fuel				
2.	COMPOUND	Boundary Wall (Structure)				
		Boundary Wall (Paint/whitewash)				
		Compound gate				
3.	WASTE DISPOSAL	Rubbish pit				
		Sewerage pipe from building to external sewer/drain				
		External sewer/drain				
4.	ENTRANCE TO BHU BUILDING	Space for registration				
		Drug dispensing room				
		Waiting area for patients				
		Ramp for disabled				
5.	WAITING AREA	Covered area				
		Separate male waiting area				
		Benches at male waiting area				
		Functional ceiling fans at female waiting area				

S No.	Characteristic	Categories	BHU	CHC	RHC	MCH center
		Separate Female waiting area				
		Benches at female waiting area				
		Functional ceiling fans at male waiting area				
		Complaint/suggestion box				
6.	TOILETS	Toilets for staff (male)				
		Separate female staff toilets				
		Toilets for patients/attendants (male)				
		Separate female patients/attendants' toilets				
7.	WATER SUPPLY	Pipe with running water				
		Storage tank				
		Protected water source				
8.	EXAMINATION ROOM	Examination room for men				
		Examination room for women				
		Curtains/screens to ensure privacy				
9.	LABOUR ROOM	Well-lit				
		Ventilation				
		Attached toilet				
		Drinking water facility				
10.	RESIDENTIAL BLOCK	Designated space for newborn care				
		Doctors				
		Paramedical staff				
11.	GENERAL STORE	Support staff				
		Well-lit				
		Ventilation				
		Area for storage of sterile linen				
12.	OTHER AREAS	Area for storage of common linen				
		Area for storage of other materials/drugs/consumables				
		Dispensing cum store area				
		Vaccine storage and immunization area				
13.	CLEANLINESS OF BUILDING	BCC and family planning counsel area				
		Waiting Area				
		Consultation rooms				
		Treatment/injection rooms				



S No.	Characteristic	Categories	BHU	CHC	RHC	MCH center
		Delivery room				
		Main Pharmacy / Dispensing area				
		Toilets-patients				
		Store room				
		Delivery room				
12.	REPAIR REQUIREMENTS OF BUILDING	Windows and doors				
		Interior paint				
		Facility interior walls				
		Facility exterior walls				
		Floor				
		Roof condition				
		Windows and doors				
		Interior paint				

## 2. RANGE OF SERVICES

### a. HEALTH EDUCATION AND PROMOTION

S No.	Characteristic	Categories	BHU	CHC	RHC
1.	HYGIENE PROMOTION, WATER AND SANITATION	Hand washing with soap			
		Proper toilet use and hand washing practices			
		Problems related to open defecation			
		Advice on making water safe for drinking and storage			
2.	MNCH AND FAMILY PLANNING	Importance of antenatal check-up			
		Tetanus Toxoid (TT) injections during pregnancy			
		Danger signs during pregnancy			
		Skilled birth attendance			
		Danger signs during labour			
		Consulting for post-partum examination			
		Danger signs after delivery			
		Bathing the neonate			
		Early wrapping and keeping baby warm			
		Early initiation of breastfeeding			
		Neonatal danger signs			
		Optimal period of birth spacing			
		Family Planning methods			

S No.	Characteristic	Categories	BHU	CHC	RHC
3.	<b>CHILD HEALTH &amp; DEVELOPMENT</b>	Exclusive Breast Feeding up to 6 months			
		Continuation of Breast Feeding till 2 years of age			
		Child immunization			
		Managing diarrhoea at home			
		Growth/development monitoring			
4.	<b>NUTRITION</b>	Iron / folic acid supplementation of pregnant lactating women			
		Balanced diet for adolescents and adults			
		Weaning after 6 months of age under IYCF guidelines			
		Prevention of parasitic infections and deworming			
		Iron / folic acid supplementation of pregnant lactating women			

#### b. CARE PROVISION

S No.	Characteristic	Categories	BHU	CHC	RHC
1.	<b>MATERNAL HEALTH</b>	ANC (Screening for high risk)			
		ANC (TT Vaccination - Static Centre)			
		ANC (Dietary Counselling)			
		NATAL CARE (Normal Delivery with Forceps/MVA)			
		NATAL CARE (Referral for complicated delivery)			
		NATAL CARE (Ambulance services)			
		PNC (Screening for risk/complications)			
		PNC (Follow-up HH visit within 40 days)			
2.	<b>CHILD HEALTH</b>	Neonatal Examination within 72 hours			
		EPI Vaccination services – at health facility			
		EPI Vaccination services – as outreach services			
		Growth Monitoring			
3.	<b>FAMILY PLANNING</b>	Provision of short-term methods (Condoms, pills)			
		Provision of short-term methods (IUDs, Injectables)			
4.		Injury management			

S No.	Characteristic	Categories	BHU	CHC	RHC
	<b>EMERGENCY SERVICES</b>	Dog / Snake bite			
		First Aid			
		Patient Stabilization			
5.	<b>SURGICAL SERVICES</b>	Stitching for small wounds / injuries			
		Abscess drain			
		Circumcision			
		Back slab plaster			
		Gastric lavage			
		Catheterization			
6.	<b>DIAGNOSTIC/LAB SERVICES</b>	TESTING (Hemoglobin, Urine)			
		Ultrasonography			
		X-Ray			
		Other			
7.	<b>NUTRITION SERVICES</b>	Outpatient Therapeutic Program			
		Referral linkage with a Stabilization center at THQ/DHQ			
		Provision of nutrition supplements			

### 3. EMoNC SERVICES

#### a. BASIC EMoNC SERVICES

S No.	Characteristic	Categories	BHU	CHC	RHC
1.	<b>BASIC EMoNC SERVICES</b>	(Parenteral) antibiotics			
		Augmentation of labour by oxytocic drugs			
		Management of Pre-eclampsia and eclampsia by sedatives			
		Manual removal of placenta			
		Removal of retained products (Manual Vacuum Aspiration (MVA), without general anaesthesia, D&C)			
		Assisted vaginal delivery (vacuum extraction, forceps)			
2.	<b>WHO CONDUCTS DELIVERY</b>	WMO			
		LHV			
		Midwife			
		Dai			
		MO			
		WMO			
3.	<b>NEWBORN CARE SERVICES</b>	Neonatal resuscitation			
		Warmth (drying, wrapping the baby and skin-to-skin contact)			
		Clean cord care			



		Early initiation of breast feeding			
		Eye care			

#### 4. AVAILABILITY OF EQUIPMENT

S No.	Characteristic	Categories	BHU	CHC	RHC
1.	<b>GENERAL HEALTH FACILITY</b>	Ambulance			
		Electric water cooler			
		Computer / Printer / UPS			
		Electricity backup Generator			
		Fuel for running generators			
2.	<b>OPD/WMO's OFFICE</b>	Office chairs			
		Examination couch			
		Patient stool			
		Thermometer			
		Torch with batteries			
		Otoscope			
		Weighing machine (Adult)			
		Weighing machine (Infant)			
		Height measuring board			
		B.P Apparatus mercury-desk type			
		Stethoscope			
		Foetal stethoscope			
		Steam inhaler			
		Nebulizer			
X-ray view box					
3.	<b>DIAGNOSTICS</b>	X-ray unit			
		ECG machine			
		Glucometer for blood sugar			
		Ultrasound			
4.	<b>LABOUR ROOM</b>	Labour /Delivery Table with washable plastic cover			
		Macintosh/plastic apron			
		Delivery Light			
		Normal delivery set			
		Standard surgical set (for minor procedures like episiotomy stitching)			
		Bulb Sucker			
		Fetal heart detector (Fetoscope)			
		Examination light			
		Suction and Evacuation set (SNE)			
		IUD insertion kit			
		Adult stethoscope			
		Bedpans			

S No.	Characteristic	Categories	BHU	CHC	RHC
		Blood pressure apparatus			
		Adult ambu bag and mask			
		Thermometer			
		Oxygen source (portable cylinder or central wall supply), with Mask or nasal cannula;			
		Baby weighing scale			
		Step stool			
		Suture needles			
		Partograph forms			
		Adult weighing scale			
		Manual Vacuum Aspirator (MVA)			
		5.	DELIVERY SET	Alcohol swab	
Blanket for wrapping the newborn					
High-level disinfected or sterile surgical gloves					
Episiotomy Scissors					
Straight Scissors					
Needle Holder					
Artery forceps					
Cord Clamp					
Needle & Sutures					
Alcohol swab					
Blanket for wrapping the newborn					
High-level disinfected or sterile surgical gloves					
Episiotomy Scissors					
Straight Scissors					
Needle Holder					
Artery forceps					
Cord Clamp					
Needle & Sutures					
6.	LADY HEALTH VISITOR'S ROOM	D & C instruments set			
		P.V. examination light			
		Examination couch			
		Patient stool			
		Table			
		Chairs			
		Weighing machine			
		BP apparatus			
		Stethoscope			
		Fetoscope			
		Thermometer			

S No.	Characteristic	Categories	BHU	CHC	RHC
		Torch with batteries			
		D & C instruments set			
		P.V. examination light			
		Examination couch			
		Patient stool			
7.	INFECTION CONTROL	Hand washing stations			
		Disinfectants			
		Boiler / Autoclave			
		Disposable syringe cutter			
		Puncture resistant container for sharps disposal			
8.	VACCINE STORAGE	Bucket for soiled pads and swabs			
		Vaccine refrigerator (ILR)			
		Thermometer for vaccine refrigerator			
		Temperature log			

#### 5. AVAILABILITY OF SUPPLIES AND MEDICINES

S No.	Characteristic	Categories	BHU	CHC	RHC
1.	SUPPLIES	Gloves			
		Clean / Safe delivery kit			
		Disposable/ Auto-disable Syringes			
		Vaccine Syringes			
		Surgical Spirit			
		Surgical cotton			
		Gauze			
		Scalpel blades			
		Containers for sharp disposal			
		Wheel chair			
2.	MEDICINES	Stretcher			
		Tab Paracetamol 500mg			
		Tab Chlorpheniramine (hydrogen maleate) 4mg			
		Syp Amoxicillin (trihydrate) 125mg, 250mg/5ml			
		Syp Mebendazole 100mg/5ml			
		Tab Metformin (hydrochloride) 500mg			
		Tab Methyldopa 250mg			
		Tab Ferrous sulphate + Folic acid (60mg/400mcg)			
		Tab Misoprostol 200mcg			
		Ethynylestradiol + Norethiestradiol CO pills 35mcg +1mg			

S No.	Characteristic	Categories	BHU	CHC	RHC
		Inj Medroxyprogesterone acetate (DMPA)			
		Oral Rehydration Salt – ORS			
		Tab Cotrimoxazole (120mg or 480mg)			
		Tab Zinc 20mg/ PAC-100			
<b>3.</b>	<b>VACCINES</b>	BCG			
		OPV			
		Penta-valent			
		Measles			
		TT (Tetanus Toxoid)			
<b>4.</b>	<b>FAMILY PLANNING COMMODITIES</b>	Condoms			
		Combined Oral Contraceptive (COC) Pills			
		IUCDs			
		Injection DMPA			
		Implants			
		Condoms			
		Combined Oral Contraceptive (COC) Pills			

#### 6. ACQUISITION OF MEDICINES AND FP SUPPLIES

S No.	Characteristic	Categories	BHU	CHC	RHC
<b>1.</b>	<b>REASONS FOR STOCK OUTS</b>	Problems of quantification			
		Delayed demand submission			
		Unavailability of buffer stock			
		Lack of storage capacity			
		Delayed supply			
		Supply less than the amount demanded			
		No procurement powers			
		Insufficient budget			
		Lack of cold-chain			
		Others: _____			
<b>2.</b>	<b>SOURCES OF FAMILY PLANNING COMMODITIES</b>	Department of Health			
		Population Welfare Dept.			
		NP for FP & PHC(LHW Program)			
		National/ International agencies			
		Others: _____			
<b>3.</b>	<b>SOURCE OF MEDICINES</b>	Department of Health/EDO office			
		Self-procurement			
		DSU			
		Others: _____			

**7. FACILITY MANAGEMENT, RECORDING AND REPORTING**

S No.	Characteristic	Categories	BHU	CHC	RHC
1.	<b>AVAILABILITY OF DUTY ROSTER AND DISEASE MANAGEMENT POSTERS/PROTOCOLA</b>	Staff duty roster			
		Antenatal care			
		Normal Vaginal Delivery care			
		Postnatal care			
		Emergency obstetric care			
		Newborn resuscitation			
		Integrated Management of Newborn & Childhood Illnesses (IMNCI)			
		Family planning			
		Infection control			
		Vaccination (EPI)			
		EPI outreach plan			
		Board with list of services, opening time and emergency contacts			
		A list with all fees and possible exemptions			
		Treatment protocols for severe acute malnourished children			
2.	<b>WORK COORDINATION AND SUPERVISION</b>	DHIS report submission			
		Performance Review Meetings			
		Participation in District Meetings			
		District officials visit to health facility			
		Availability of supervisory visit record			
		Feedback of supervisory visits			
		Availability of quality improvement plan			
3.	<b>RECORDING AND REPORTING TOOLS</b>	OPD ticket			
		OPD register			
		Maternal/ Mother health register			
		Obstetric/ Birth register			
		Family Planning register			
		EPI register (EPI room)			
		Meeting register/ Facility Staff Meeting Register (Facility In-charge)			



S No.	Characteristic	Categories	BHU	CHC	RHC
		Medicine Stock register (medicine store)			
		Daily medicine expense register (OPD dispensary)			
		DHIS monthly report (Facility In-charge)			

## Annex 3. Literature Search Process and Results

The findings and proposed approach to monitoring and evaluation (M&E) of essential packages of health services (EPHS) are based on the lessons learnt from the experiences of ministry of health and technical advisors who developed the M&E approaches for EPHS in Disease Control Priorities 3 translation countries, described in the manuscript. To supplement the information from these practice examples we searched the peer reviewed and grey literature for published reports of EPHS-specific evaluations. The search strings and summary of results are listed below. We included results that described assessments of EPHS policy content, implementation, or impact. We excluded articles that merely described the process for designing EPHSs or were solely costing exercises of EPHSs. We conducted the original search in January 2022 and updated the search in January 2023.

### Peer-reviewed literature

Our initial focused on Pubmed, which was selected given its health sciences focus to capture a wide selection of peer reviewed articles on monitoring and evaluating of health programs in LMICs. During the January 2023 update we added PAIS to capture journals oriented toward public policy and political sciences.

- Pubmed search string: ("health benefits package"[All Fields] OR "essential package of health services"[All Fields] OR "essential health package"[All Fields]) AND ("evaluation"[Title/Abstract] OR "monitoring"[Title/Abstract])
- PAIS search string: ("health benefits package" OR "essential package of health services" OR "essential health package") AND (noft(monitoring) OR noft(evaluation))

The Pubmed search yielded 11 results, of which 2 were included. The PAIS search yielded five results of which one was included.

We also searched Google Scholar with similar combinations of search terms adapted for the Google Scholar syntax (e.g., "health benefits package" and evaluation). We reviewed the first 30 results from each search combination and included 4 results.

### Grey literature

We conducted a broad Google search using the term combinations below and looked at the first 20 results.

- Health benefits package + monitoring + LMIC
- Health benefits package + evaluation + LMIC
- Essential package of health services + monitoring + LMIC

- Essential package of health services + evaluation + LMIC
- Essential health package + monitoring + LMIC
- Essential health package + evaluation + LMIC

We complemented the Google search with a targeted search of the databases of three specific organizations, MEASURE Evaluation[1], the World Health Organization[2], and the National Academies of Sciences, Engineering, and Medicine[3], known to be working in the area (based on the professional experience of the author team).

### References

1. MEASURE Evaluation. *Publications -- MEASURE Evaluation*. 2022 [cited 2022 March 18, 2022]; Available from: <https://www.measureevaluation.org/publications.html>.
2. World Health Organization. *Publications*. 2022 [cited 2022 March 18]; Available from: <https://www.who.int/publications>.
3. National Academies of Science, E., and Medicine. *The National Academies Press*. 2022 [cited 2022 March 18]; Available from: <https://nap.nationalacademies.org/>.