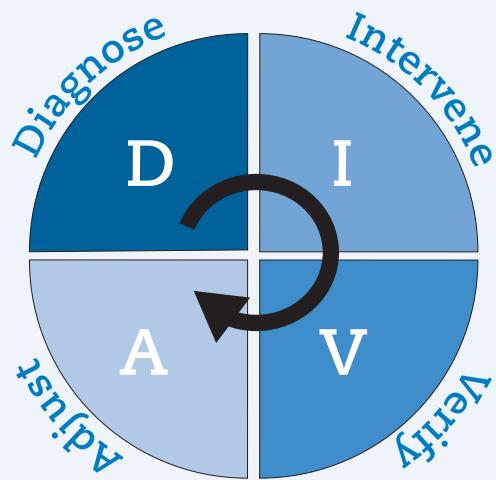


THE GUIDEBOOK

Strengthening district management capacity for planning, implementation and monitoring for results with equity



FINAL DRAFT

This guidebook is UNICEF's approach to strengthening district health systems, designed to involve all levels of the health system.

This ready reference explains how UNICEF's approach, D-I-V-A, aims to achieve better maternal and child health outcomes at the district level through an analytical process that improves district level management skills for human resources, finances, information, supply, and service organization.

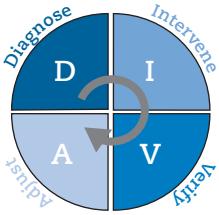
The impetus for this approach is UNICEF's equity-focused programming and monitoring work, which calls for national vulnerability assessments, adjustments of plans and programmes, and enhanced monitoring within the most vulnerable settings and among the most vulnerable groups in order to accelerate progress towards the achievement of the Millennium Development Goals.

THE GUIDEBOOK

Strengthening district management capacity for
planning, implementation and monitoring for
results with equity

Acronyms

ACT	artemisinin-based combination therapy
AIDS	acquired immune deficiency syndrome
ART	antiretroviral therapy
ARV	antiretroviral
CHW	community health worker
CSO	civil society organisation
D-I-V-A	Diagnose, Intervene, Verify, Adjust
DHMT	District Health Management Teams
DHS	Demographic Health Survey
EBF	exclusive breastfeeding
EID	early infant diagnosis
eMTCT	elimination of mother-to-child transmission of HIV
EPI	expanded programme on immunisation
FGD	focus group discussions
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
H4	UN Health 4
HIV	human immunodeficiency virus
HMIS	health management information system
iCCM	integrated community case management
IHP+	Joint International Health
IMCI	Integrated Management of Childhood Illnesses
IPT	intermittent preventive treatment
IPTi	Intermittent Preventive Therapy in infants
ITN	insecticide-treated net
LiST	Lives Saved Tool
LQAS	Lot Quality Assurance Sampling
M&E	monitoring and evaluation
MBB	Marginal Budgeting for Bottlenecks
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey
MICS	Multiple Indicator Survey
MoH	Ministry of Health
PBC	performance-based contracting
PHC	primary health care
PMTCT	prevention of mother-to-child transmission of HIV
RED	Reaching Every District
SAM	severe and acute malnutrition
SMART	specific, measurable, actionable, realistic, time bound [goals]
TOT	training of trainers
U5MR	under-five mortality rate
WASH	water and sanitation
WHO	World Health Organization
YCS	young child survival and development



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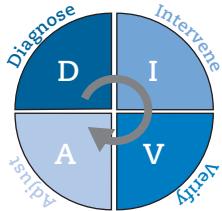
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Introducing D-I-V-A

UNICEF's equity-focused programming and monitoring approach enhances district performance for better maternal and child health outcomes. It is a flexible outcome-based four-step approach with user-friendly tools to identify and respond to health system and demand-side bottlenecks that arise at the district level. Its four steps—Diagnose, Intervene, Verify and Adjust (D-I-V-A)—can be used to strengthen the district health system, build managerial capacity and empower communities. This is achieved by integrating and building on ongoing processes within the district planning cycle. With sufficient leadership and support from national and regional or provincial levels, and by leveraging key partners and local resources, D-I-V-A can become a routine and integrated approach for enhancing decentralised health systems performance. It can fast track achievement of improved young child survival and development (YCSD) outcomes by being more responsive to the specific needs of marginalized groups.

D-I-V-A can also support capacity development in three ways:

1. Adaptation and use of the methodology and tools support a systematic examination of supply-side, demand-side and managerial performance bottlenecks, and provides district teams with better data for assessing the effectiveness and quality of the services they provide.
2. The supporting components, including external mentoring and peer-to-peer learning, develop the capabilities and skills of District Health Management Teams (DHMTs) so they can design context-specific interventions to reduce supply- and demand-side bottlenecks and improve overall district performance on YCSD.
3. The D-I-V-A approach can support national and regional capacity-building on district oversight and can enhance the capacity to correct systemic issues that hinder district performance. For example, based on data collected and

reviewed, and feedback provided, district, national and regional managers can assess the need to modify or establish policies that increase district-level decision space, i.e. the set of functions or degree of choice possible. It can also improve accountability for results at all levels of health systems by identifying what managers will be held accountable for, thereby ensuring that each managerial layer acts coherently and proactively to eliminate barriers to performance.

This guidebook aids the district health manager through a systematic, strategic, progressive and easily scalable approach to improve implementation of highly effective interventions in the most deprived districts and to fast track the achievement of the health Millennium Development Goals (MDGs) with equity. The D-I-V-A approach can facilitate these improvements through systematic and comprehensive analysis, monitoring of bottleneck reductions and timely adjustments of solutions and strategies.

D-I-V-A's focus on the health district

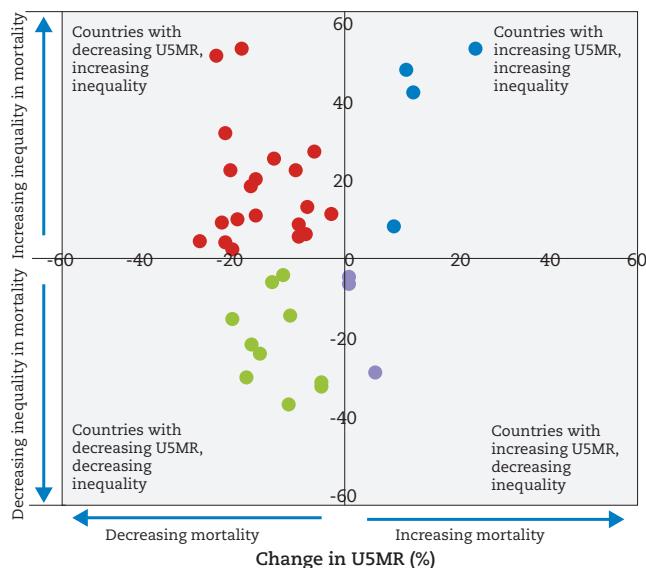
The levels of the health system can differ greatly across countries. In this guidebook, we use “health district” to identify the level of the health system providing services to a population, through a network of health facilities (generally a district hospital and some smaller clinics), and with a directorate or other local authority that plans and supervises its activities. In some countries this level is called a district while in others, another sub-national level of the health system provides these services. This approach is adaptable to the country’s context and meant for use at the most local level of the health system.

Background

In many settings, the delivery, financing, and use of essential health services for children favour the better off, and health systems are failing to meet the needs of the most deprived populations (Figure 1). UNICEF has demonstrated that an equity-focused approach is the most practical and cost-effective way to accelerate progress towards meeting the health Millennium Development Goals 4 and 5—reduce child mortality and improve maternal health.¹ An important and consistent UNICEF finding is that various equity-focused strategies are already part of many national policies, but that district-level implementation lags behind. This is critical because the district—where effective management of service delivery requires local government, community and stakeholder engagement—has a key role in effecting positive change. UNICEF has therefore embarked on this work to strengthen health systems in the most deprived districts as a key effort to operationalise its equity focus in programming and monitoring.

The D-I-V-A approach responds to the significant gap between national policies and effective and equitable implementation at the district level. The district is a critical level from which to effect change, as more effective management of service delivery requires local leadership, community engagement, and active participation of key stakeholders. The D-I-V-A approach aims to build the capacity of district-level health managers to assess, analyse, act and be accountable for equitable service delivery and to strengthen decentralised health systems.

FIGURE I-1 Changes in under-five mortality by wealth quintiles, 1990-2009



Source: You D, Jones G, Hill K, Wardlaw T, Chopra M. Levels and trends in child mortality, 1990-2009 Lancet 2010; 376: 931-3. From a subset of 38 countries with available data. 18 countries among 26 countries with 10% or more decrease in under-5 mortality had increasing or stagnant inequality in under-5 mortality between poorest 20% and richest 20%. Of these 18 countries, ten increased inequality in under-5 mortality by 10% or more.

1. UNICEF, Narrowing the gaps to meet the goals, New York, Sep 2010. Available at: http://www.unicef.pt/docs/Narrowing_the_Gaps_to_Meet_the_Goals_090310_2a.pdf

This approach is intended to complement current district planning and build in efficiencies so that it is well known what needs to be addressed and how.

Principles for implementation of D-I-V-A

Secure
stakeholder
commitment
from the
beginning

Implementation of D-I-V-A is guided by the following four core principles:

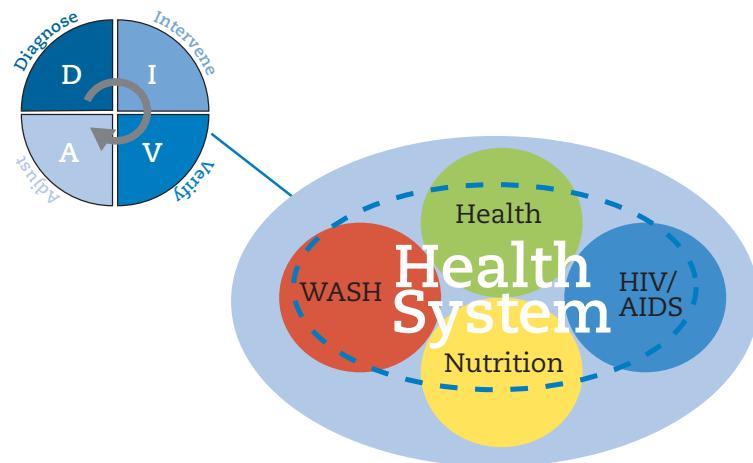
- 1. Strong government leadership and ownership.** For successful implementation, ownership at national, regional, and district levels is critical. It is also encouraged to mainstream D-I-V-A into long-term national processes and strategies as well as to integrate it into local planning and review cycles.
- 2. Flexible and adaptable to local programmes, building on what exists.** The approach is intended to meet the needs of local programmes and contexts, building on existing processes and tools already in use. It can be shaped according to local capacity and available resources: the principles and the management cycle will be the same, but the tools used for analysis, planning and monitoring can range from very basic to exhaustive. The process of sequencing (how and when to introduce different elements) will be defined in general terms and adapted in each country. D-I-V-A can progress and expand as local capacity grows. DHMTs have differing levels of the skills needed to perform data collection, situation analysis, implementation and monitoring. Similarly, the availability of quality relevant data will vary among districts.
- 3. Community involvement and engagement.** The community is a critical player in the district health system and important to involve and engage at each step of D-I-V-A. Community stakeholders play an important role in selecting and implementing solutions to address supply and demand bottlenecks as well as monitoring progress at the community level.
- 4. Supportive process.** Civil society, private sector and development partners should be actively involved, which includes providing technical and financial support throughout the D-I-V-A approach.

Scope

The D-I-V-A approach focuses on YCSD high-impact interventions that span health, nutrition, water and sanitation (WASH) and HIV/AIDS (see figure below). Each of the interventions included has proven efficacy in reducing morbidity and mortality among women and children.

- **Promotional interventions:** Promotion of the following: early initiation of breastfeeding within one hour of birth, exclusive breastfeeding for the first six months of life, improved complementary feeding and continued breastfeeding, hand-washing with soap, improved sanitation facilities and excreta disposal, and use of improved water sources
- **Preventive interventions:** Preventive neonatal care, insecticide treated bednets or indoor residual spraying, intermittent preventive treatment (IPT) in pregnancy, immunizations, IPT in infants and young children, antiretrovirals (ARVs) for prevention of mother-to-child transmission of HIV, cotrimoxazole prophylaxis, and multi-nutrient supplementation (vitamin A, iron, folic acid)
- **Curative interventions:** Skilled attendance at birth, kangaroo mother care, neonatal resuscitation, treatment of neonatal infections, case management of malaria, diarrhea case management, pneumonia case management, paediatric antiretroviral therapy (ART), and management of severe acute malnutrition

FIGURE I-2 Scope of interventions examined through D-I-V-A



Although this guide focuses on YCSD, the approach can be applied to other interventions and to other sectors as well.

D-I-V-A's main objectives

The D-I-V-A approach has three main objectives:

1. To increase coverage of YCSD high impact interventions, particularly for disadvantaged populations.
2. To strengthen local health systems and programs by:
 - increasing the capacity of district management teams
 - monitoring in real-time and local data use timely course correction
 - engaging communities and stakeholders as key partners in improving the health of children and women
3. To track progress towards equity of access for the most deprived populations.

The approach supports DHMTs and their partners

As described in the chapters that follow, the approach systematically supports DHMTs and their partners in:

- identifying the most critical interventions to accelerate implementation (and determining related objectives)
- identifying supply- and demand-side bottlenecks that compromise universal coverage of the interventions (and defining related outputs)
- identifying and prioritising solutions and strategies to reduce the bottlenecks (and determining necessary related activities)

Prior to implementation of the approach within districts, a few key steps are necessary to ensure appropriate adaptation of the D-I-V-A approach within countries, as well as the active engagement of, and support by, national and regional health sector leaders.

Adapt the D-I-V-A approach to national context

1. DEFINE NATIONAL PRIORITY YCSD INTERVENTIONS LINKED TO COUNTRY EPIDEMIOLOGICAL PROFILE

A variety of tools can be applied to identify priority interventions

This first activity to adapt the approach within countries involves defining priority interventions to be assessed based on previously identified national programmatic priorities, political commitments, resource availability, and the main causes of morbidity and mortality for children and women. A variety of tools can be applied to assist with the identification of key interventions using available data from Multiple Indicator Cluster Surveys (MICS) and Demographic Health Surveys (DHS), the routine health management information system (HMIS), and other country studies. Two tools that can be used to identify priority interventions are the Lives Saved Tool (LiST) and Marginal Budgeting for Bottlenecks (MBB).

Overview of the LiST and MBB Tools

The Lives Saved Tool (LiST) is a computer-based tool that allows users to set up and run multiple scenarios to look at the estimated impact of different intervention packages and coverage levels for their countries, states or districts. Specifically, LiST assists with planning and prioritizing investments by reviewing the current demographic projection, country-specific cause of death information for children under five and maternal mortality, and current levels of coverage of key health interventions that affect child and maternal mortality. LiST can then estimate the effectiveness of interventions on cause-specific neonatal, child and maternal mortality.

The LiST tool and user guide can be downloaded for free at <http://www.jhsph.edu/dept/ih/IIP/list/>.

Marginal Budgeting for Bottlenecks (MBB) is a results-based planning and budgeting tool that uses knowledge about the impact of interventions on child and maternal mortality in a country, facilitates identification of implementation constraints and estimates the marginal costs of overcoming these constraints. This tool has been used in multiple countries to assist in setting targets for proven high-impact interventions, and estimating their expected impact, cost per life saved and additional funding requirements, as well as projecting the required fiscal space to finance these extra costs.

Marginal Budgeting for Bottlenecks consists of five key steps:

1. Assessment of the key indicators, trends in and causes of maternal, newborn and child mortality and morbidity and access to essential services, and the selection and packaging of evidence-based, high-impact interventions to address the proximate causes by service delivery mode, i.e., family/community-based care, schedulable population-oriented services and mobile strategies, or individually oriented clinical care at primary- and referral-level facilities.
2. Identification of system-wide supply and demand bottlenecks to adequate and effective coverage of essential primary-health-care services, and obstacles to the application of high-impact intervention packages in each of the main service delivery modes.
3. Estimation of the expected impact on survival rates for each of the interventions. These estimations are based on recent, in-depth analysis of the evidence on the efficacy of high-impact interventions and packages in determining maternal and child survival and health outcomes.
4. Selection of the types, quantities and costs of additional inputs, such as salaries, drugs and training, which are needed to implement the actions to overcome bottlenecks and to lift the effective coverage of intervention packages to their frontiers.
5. Analysis of budgetary implications, the identification of likely sources of funding and the comparison of the marginal costs and additional funding needs to the fiscal space for health spending.

For support using the MBB, please go to: <http://www.devinfoalive.info/mbb/mbbsupport/>. More information and assistance with using the MBB is available from your country UNICEF office.

2. IDENTIFY THE MOST DEPRIVED DISTRICTS

It is critical to conduct an equity assessment to identify districts that should be prioritised for implementation. The box that follows provides an example of how Zambia has identified their most deprived districts.

Zambia's Index of Vulnerability

In June 2011, UNICEF Zambia released a draft working paper presenting an analysis of deprivation and exclusion in Zambia entitled *Reaching the MDGs with Equity: Identifying Zambia's most excluded people*. In order to identify the extent and nature of Zambia's disparities, an Index of Vulnerability was developed that used available district-level data on 14 indicators (including poverty headcount, under-five mortality, access to safe water, distance from transport links, etc.). Each district was then assigned a numeric ranking for each indicator based on available data. In each case, the worst 10 districts were given two points, and the next worst 10 performing districts were given one point. The cumulative score of "vulnerability points" determined the vulnerability of each district, and the highest scoring districts were prioritised as the most vulnerable.

An important learning from this exercise was that using an index helped to blunt the effect of outliers or inaccurate values. That is, by using relative position or ranking rather than absolute values, Zambia found the index to be robust. Furthermore, using relative measures allowed greater flexibility in updating the index when better or more recent data became available; changes in values were related to the actual situation rather than the method. Countries with poor or older data may wish to apply a similar method.

UNICEF Zambia found involving partners in the development of the index was critical for success. Following its initial use, they worked to incorporate additional suggestions from partners for modifications and to consider the index to be a working tool rather than a finished product. They are planning to use the index as a resource in sector policy development and review as well as in national development planning and review.

**Conduct
an equity
assessment
to identify
districts to be
prioritised for
implementation**

3. ADAPT TO THE EXISTING HEALTH SYSTEM AND ONGOING PROCESSES

Four activities can help adapt the D-I-V-A approach to the existing health system and ongoing processes.

Four activities to help adapt the D-I-V-A approach to existing health systems

1. Take stock of the existing decentralization policy and review what districts do, and do not, have authority over. Consider how this might relate to (and, particularly, facilitate or hinder) implementation of the D-I-V-A approach and overall district health system strengthening efforts.
2. Review the overall structure of the health system within the country and the different levels of responsibility within it.
3. Consider the timing of the planning cycle—particularly when it starts, when it ends, and what the specific processes are within the cycle. If implementation of D-I-V-A starts at the beginning of the planning cycle, it will be possible to implement the full approach as suggested in this guidebook. If implementation of D-I-V-A starts when the district plans have already been developed, it will still be possible to do the Diagnosis step (to make sure that a baseline of the relevant coverage determinants is assessed), followed by the Verify step (perhaps supplementing existing microplans, if possible) and the Adjust step. It will be possible to implement the full D-I-V-A cycle from start to finish in the next planning cycle.
4. Ensure proper mapping and documentation has been done (using available information and reports) to describe the current health system structure (including all levels of care), as well as ongoing processes and initiatives, monitoring indicators and mechanisms, and data collection methods that might be relevant to the enhanced district health system strengthening efforts. This is critical in order to ensure that implementation of the approach is in line with and builds on what already exists and is working well. This information can be shared with all participants at a national consultation (described below in the Zambia example).

4. LEVERAGE OPPORTUNITIES TO INCORPORATE D-I-V-A INTO EXISTING INITIATIVES

In order to ensure that all opportunities to strengthen the health system are realised, advocacy efforts can be made at the national level to secure buy-in and commitment within all levels of the health system and among global strategic partners (for example, the World Health Organisation, the US government and the World Bank). Therefore ongoing government- and donor-driven processes such as Joint IHP+ assessments, mid-term reviews, development of national expenditure frameworks and strategic plans, and results-based financing initiatives, can be mapped and reviewed for synergies. These other processes can then be used to build capacity and provide resources to facilitate district health system strengthening efforts. For example, in cases where three-to-five year national health plans are already underway, mid-term reviews provide an opportunity to incorporate the D-I-V-A approach. In the interim, the approach can be pretested in a few areas.

Initiatives can
be mapped
and reviewed
for synergies

Conversely, the outcomes of monitoring activities undertaken through D-I-V-A can be used to inform some of these other activities, such as joint International Health Partnership (IHP+) assessments, mid-term reviews and development of national expenditure frameworks and strategic plans. The D-I-V-A approach can also help generate the needed data to track performance against (and to facilitate achievement of) the goals and targets of these other initiatives. For long-term sustainability and to motivate managers, capacity will need to be developed at all levels. In particular, initiatives such as UN Health 4 (H4), IHP+, health systems strengthening under GAVI Alliance and the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), prevention of mother-to-child transmission of HIV (PMTCT) and measles elimination and polio eradication can be targeted to mobilize additional resources for scaled up implementation.

Secure national leadership and ownership

As indicated above, successful adaptation and implementation of the D-I-V-A approach requires the involvement of and collaboration among different partners from the national to the community level. UNICEF and other international partners can provide technical support; however, it is critical that the Ministry of Health (MoH) leads the process and mainstreams it into long-term national strategies and plans. The following box describes the steps that Zambia identified to facilitate this process.

Zambia's approach to securing national leadership and ownership

Hold a national consultation. To ensure that MoH leadership and ownership guides activities from the start, a national consultation will be held during which the government and key partners endorse the D-I-V-A approach as a way to bridge equity gaps in the delivery of services and to strengthen the health system at the district level.

Establish a National Steering Committee and decide on its roles and responsibilities, as well as a national focal point. A National Steering Committee will be established to oversee application of the D-I-V-A approach. If it is found that a relevant committee already exists that can take on the responsibility of overseeing implementation of the approach, it may be preferable to utilise that committee rather than establishing a new committee.

The National Steering Committee will be made up of between 5 and 10 people selected on the basis of their technical expertise and expected contributions to the work to be undertaken. The composition of this committee will also include good representation of key partners who can hold quarterly meetings to assess the status of implementing the D-I-V-A approach and resulting impacts and to provide advice on future activities (including scale-up) at the national level. However, as the D-I-V-A approach is implemented at local levels, the MoH is encouraged to maintain ongoing involvement and support for the process and technical inputs, as needed, regarding results and feedback from the districts and regions or provinces. In particular, the national MoH will lead implementation of necessary changes to the organization of the health system and to the allocation of resources according to the new evidence available. To facilitate this, it will be important to identify an individual to act as the national focal point for the district health system strengthening process.

National Steering Committee members will work together to set up mechanisms for obtaining feedback from the district level regarding learnings and additional support needs. In addition, at this point it may be advantageous for the committee to identify potential and appropriate incentive systems to support implementation of the approach at local levels.

Identify institutional support to provide assistance (to help build capacity locally). Additional institutional support (technical and logistical) may greatly facilitate district health system strengthening efforts across districts. This support may come in the form of one or more external institutions (for example, universities with expertise in Lot Quality Assurance Sampling (LQAS) survey methods or qualitative data collection). In order to promote long-term sustainability of district health system strengthening efforts, a key role of these institutions will be to develop capacity within districts to carry out each of the various activities needed during the D-I-V-A steps.

Review roles and responsibilities of regional/provincial leaders as well as other key partners

In addition to the roles and responsibilities outlined above for national leaders, **regional/provincial leaders** (where these are in place) and other **key partners** have relevant roles and responsibilities to support strengthening and management of districts. Among these are to:

1. Participate in the national-level analysis and priority-setting activities that define priority interventions and underserved districts.
2. Mobilise human and financial resources at regional/provincial and district levels.
3. Provide support by facilitating and supervising district health efforts to implement the D-I-V-A approach. Regional/provincial staff can build capacity and provide mentoring and supportive supervision to the district health management teams. They can also work with DHMTs to determine how to incorporate the approach into the district planning process—regardless of what stage is currently underway.
4. Ensure that local- and regional-level learnings and feedback are incorporated into national policies, as warranted. Regional/provincial staff can facilitate communication between districts and the national level.

Next steps

The following chapters focus on the key actions that can take place at the district level to strengthen the local health system. These chapters describe in detail actions led by the DHMT and a Core Team of partners to **diagnose** the current situation, plan and **intervene** with identified solutions and strategies, **verify** the resulting changes in bottlenecks over time, and **adjust** programmatic solutions and strategies as needed.



Chapter 1: Diagnose (D in D-I-V-A)

Dhe first step of D-I-V-A, **Diagnose**, is the foundation on which strong evidence-based and needs-built plans are based. Specifically, the data collection and analysis in this step inform (1) priority setting and (2) realistic target setting. Identifying priorities and selecting accurate targets are critically important to reaching the populations most in need with the right high-impact interventions at the right time and place.

This step begins with a situational analysis informed by data and then suggests a number of analyses that can be used to diagnose the health situation in the health district. The methodology and tools used for this process are described step by step in the following pages. An assessment and analysis of the epidemiology, supply and demand side bottlenecks and managerial shortcomings will provide the platform on which to build an accelerated response that targets the excluded and most deprived populations, which have the greatest burden of disease and death. The first step in D-I-V-A provides the analysis and rationale to inform the next step—to plan and implement an annual operational plan. This second step (Intervene) is explained in detail in Chapter 2.

Diagnose is to be led by the district health management team (DHMT) with support from national and provincial health offices. Most important is the participation of community representatives and key stakeholders supporting the delivery of health services, including the private sector and civil society organisations. These partners will form a “Core Group” that can provide oversight and ongoing support throughout the entire D-I-V-A approach.

4 primary objectives

OBJECTIVES OF DIAGNOSE

The four primary objectives of this step are to:

1. Prioritise effective interventions to improve YCSD in the district
2. Identify deprived populations and under-performing sub-districts within the district
3. Identify the obstacles (bottlenecks) for a high level of good quality coverage and analyse their root causes
4. Identify, prioritise and validate solutions and strategies to overcome bottlenecks

PART I:

Map and mobilise partners, resources and information

The first part of Diagnose is to identify, map and mobilise existing partners and resources, and to collate existing information in order to inform the initial stakeholder consultation.

1. MAP EXISTING RESOURCES (HUMAN, TECHNICAL, INFORMATION AND FINANCIAL) IN THE DISTRICT

Map human, technical, informational and financial resources

To coordinate, sufficiently leverage and adequately align technical and financial resources to the district's priorities and targets, the DHMT is encouraged to take stock of stakeholders—those working on YCSD, on other health issues, or on other related activities (e.g., businesses). Understanding what they bring to the district will help to guide decisions on who should be invited to the stakeholder consultation. It is important to have the right stakeholders present because the consultation will begin to guide and support every stage of the district programming cycle: diagnose, planning and implementation, and monitoring processes. Stakeholders may include those in the public sector and private sector (e.g., allopathic and informal service provider groups), community service organisations, nongovernmental organisations and academic institutions, among others.

TABLE 1-1 Existing stakeholders in the district and their related programmes

Stakeholder	Supported programmes	Target geographical areas/ sub-populations	Financial contribution in the district (indicate financial year)	Available skills/ expertise

The table above provides a simplified outline of the basic information needed about each stakeholder.

During the mapping stage, it will also be helpful to identify any additional technical expertise available in the district (e.g., individual consultants who are not affiliated with one of the identified stakeholder organisations but who have skills that can support efforts to improve health district performance). If helpful, these persons can be identified in this format as well, although they do not necessarily need to be included in the initial stakeholder consultation described below.

Others can contribute to the process, in addition to stakeholders. Document technical individuals and existing health programmes, public and private facilities, and community-based providers of services relevant to women and children in the district (Tables 1-2, 1-3 and 1-4, next page). These resources may include health facilities as well as facilities providing other, related social services. An actual map showing the exact physical location of these facilities and providers within the district can be very helpful.

Visual representation can be helpful during causal analysis

If feasible, explore the possibility of developing actual maps of these facilities and providers (for example, by using Geographic Information System (GIS) software or by hand-drawing maps). Visual representation can be very helpful to review, particularly during the causal analysis of bottlenecks (described below).

To help decide whether the available data are sufficient to go on to the next step, collect existing YCSD data from all possible sources, including routine (administrative) information, surveys and activity reports, policy/strategy documents, and other independent evaluations, giving consideration to both the quantity and quality of data. As possible, include equity-oriented breakdowns of the data by locally relevant geographic and population characteristics (for example, coverage by sub-district area or ethic group).

TABLE 1-2 Existing facilities (YCSD and other facilities serving women and children)

Name of facility	Care/services provided	Target geographical areas/sub-populations
Public facilities		
Private for-profit facilities		
Private not-for-profit facilities		

TABLE 1-3 Community-based providers serving women and children

Type of community-based provider	Care/services provided	Number serving the district	Sub-districts/facility catchment areas served

Health Information Systems

In all countries, health management information systems (HMIS) have been the mainstay of programme monitoring. This includes health facility HMIS, CHW HMIS and vertical programme HMIS (EPI, HIV, FP, campaigns, etc). However, challenges remain in the quality of data collected, the timeliness of reporting and completeness of data. An important issue in particular is the lack of data from the private (non-state) sector, which is a source of care for a significant part of the population in some settings. An equally important problem is a lack of data on certain indicators vital to performance improvement, either because it is not feasible to collect the data regularly through HMIS or because it will take too long to incorporate the data into HMIS to be useful for the immediate needs of the equity and bottleneck analyses. Data from HMIS will be used during monthly monitoring meetings and supportive supervision visits at district, PHC catchment area and village levels to monitor implementation of action plans, reduction of bottlenecks and coverage gaps, and quality of services.

HMIS will be the predominant source of data in countries with well-functioning HMIS (as assessed using data quality assessment tools as described later in this chapter) with regular inputs from the private sector. However, in settings without reliable HMIS, efforts will be made to ensure that data on all the indicators needed for equity programming analysis are integrated into the routine HMIS as a first step in strengthening the routine system.

Where additional data are required, the DHMT should take into consideration the specific circumstances of the district, which can fall in one of three scenarios:

**Three scenarios
to measure
sufficiency
of data**

- 1. The data available are sufficient:** The DHMT will recommend that the collection and analysis go ahead as planned.
- 2. The data are not sufficient but capacity and/or resources exist:** The DHMT will recommend that additional data are collected using other approved methods to supplement what exists. In some cases, the group may have to determine which among the missing data should be prioritised for collection. The group may also decide that it is more efficient to use alternative indicators that can serve as proxies to inform the bottleneck identification.
- 3. The data are not sufficient, and there is neither capacity nor resources to collect additional data:** This might be the case in fragile states and extremely weak districts. In this context, the analysis suggested in this chapter is not feasible. The priority should remain delivering services and then using what limited methods of monitoring exist to track progress.

2. HOLD AN INITIAL STAKEHOLDER CONSULTATION

The main objectives of holding a consultation are to:

1. Build the **stakeholders' understanding** of the approach
2. Discuss the **scope and objectives** of the approach
3. Agree on the **process, activities, timeline and responsibilities**
4. **Establish a Core Group** and define its role and responsibilities

The extent to which key stakeholders are actively involved and provide the necessary resources and expertise to fill the data gaps will determine whether the diagnose and planning process is effective and efficient. All efforts should be made to ensure good representation of the relevant stakeholders in the district (particularly those supporting delivery of health services), including community representatives, the private sector, development partners and civil society organisations.

Secure
stakeholder
commitment
from the
beginning

This interaction with stakeholders is aimed at securing their commitment right from the beginning to foster their active involvement in the district planning, implementation and monitoring processes and to share the district goals and targets.

Objective 1: Build the stakeholders' understanding of the approach

The initial stakeholder consultation provides an excellent opportunity to introduce stakeholders to the D-I-V-A approach and to obtain their input on ways to facilitate various steps of the approach within the district. The length of this orientation may vary but should be enough to ensure that all participants understand and provide inputs on the planned approach.

Objective 2: Discuss the scope and objectives of diagnose

During the consultation, the DHMT should present the methodology and tools to be used for the analyses. The full analysis is completed in Part III of this chapter (summarised in Figure 1-4) and answers the following questions:

- What high impact interventions are the most under-performing?
- What population groups and catchment areas need them most?
- Why aren't they getting them (or what supply and demand bottlenecks)?
- What are the root causes of identified supply and demand bottlenecks?
- What are the solutions and strategies to overcome the bottlenecks and their root causes?

Depending on the district needs and the purpose of the analysis (e.g., planning, mid-term review), the stakeholders can decide whether to conduct a comprehensive, programme specific or intervention specific analysis. In the latter case, a decision should be made on the most relevant steps and the needed adjustments to the steps and objectives.

- **A comprehensive analysis** is where the full package of interventions in the YCSD life cycle continuum of care is reviewed to identify the weakest links to be the focus of the data collection and analysis as well as the development or review of district plans.
- **A programme specific analysis** is limited to one single programme with its package of related interventions during the district planning or review of individual programme. In this case, the analysis should go beyond the scope of the programme itself to include interventions in which they are integrated. One example of this type of analysis is the elimination of mother-to-child transmission of HIV (eMTCT) whose interventions are delivered through antenatal care, skilled birth attendant deliveries and immunizations.
- **An intervention specific analysis** is limited to one intervention within a programme (e.g., ITN within malaria programme) during the district planning or review of the individual intervention. In this case, the “tracer” intervention – the intervention to be the focus of data collection and analysis (in some cases representing a number of interventions that are delivered to women and children in the same way)- is already preselected.

Objective 3: Agree on the process, activities, time lines and responsibilities

It is important right from the beginning to agree among key stakeholders on the full Diagnose and Intervene steps, define the activities and timelines and assign responsibilities to those who can contribute. The success of the process relies on the quality of planning and the commitment and engagement of key actors. Given the diversity of the people involved, advanced planning and clear communication of roles and responsibilities is essential.

During this consultation, the stakeholders should discuss and agree on a plan of action with an agreed upon timeline. At the end of this chapter there is a timetable of the key activities in the Diagnose and Intervene steps, who is responsible for each, and a timeline.

Objective 4: Establish a representative Core Group and define its roles and responsibilities

The consultation provides an opportunity to establish a Core Group to spearhead the district diagnose process. Their mandate under the DHMT guidance is to collect data, analyse it and make recommendations on specific solutions to improve programme implementation through developing an annual operational plan. The Core Group can be made up of between 5 and 10 people selected on the basis of their expected contributions to the work to be undertaken. The composition of the Core Group should also ensure a good representation of non-government stakeholders.

Members are selected on the basis of the programmatic areas of support, geographical coverage and technical expertise in YCSD programming. Preference should be given to those members involved in programme implementation in the district who have good knowledge of the realities on the ground and those with technical expertise in monitoring, evaluation and research, demand creation, quality of care, procurement and supply management and human resource management. The Core Group will benefit from collaborating with others who have the required technical expertise to support the process.

Core Group members' expertise is invaluable to inform often difficult decisions on data

3. IDENTIFY HIGH-IMPACT INTERVENTIONS TO BE ANALYSED

In order to ensure that the data collected is limited to that which is most essential for the analysis, the Core Group should first decide what priority intervention packages they would like to analyse. Over 30 high impact interventions have been proven to reduce morbidity and mortality among women, newborn and children. These interventions can be delivered individually, but quite often they are delivered as a package via three different service delivery modes: family-oriented and community-based services, outreach and schedulable services, and individual-oriented clinical services.

Focus your work group on serving clients

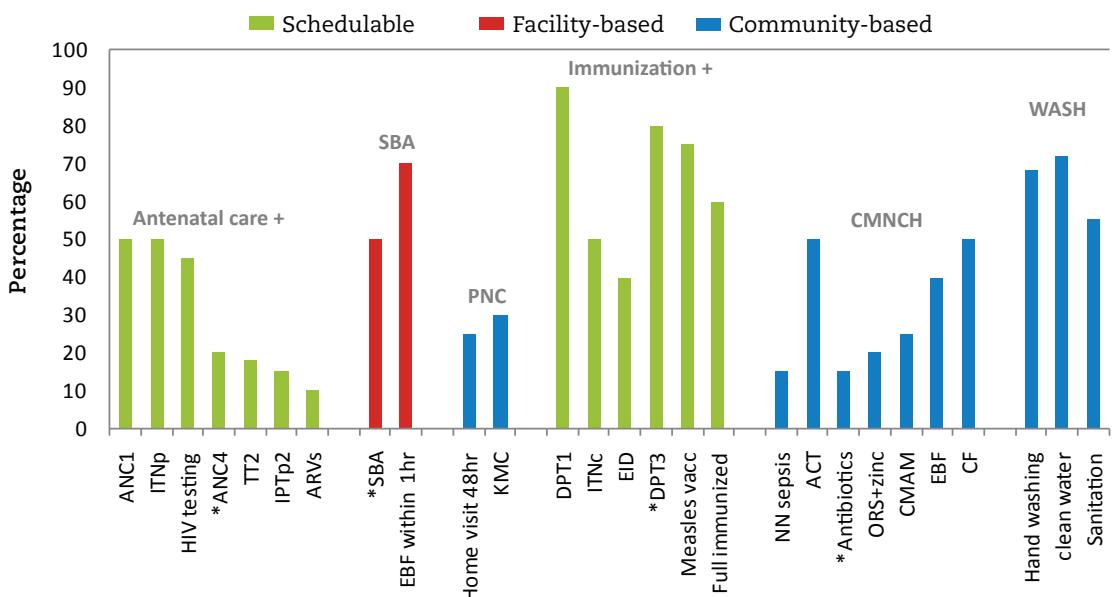
The most common packages relating to YCSD include:

- **Antenatal care plus:** WHO's focused antenatal care strategy recommends at least four visits through which other interventions could be integrated, including malaria prevention through ITN and IPTp, elimination of mother to child transmission (HIV testing and antiretrovirals), tetanus toxoid vaccination and micronutrient supplementation.
- **Skilled birth delivery and postnatal care:** The WHO recommends skilled care at every birth by qualified personnel to ensure optimal pregnancy outcomes and reduce the risk of maternal and neonatal deaths. Interventions such as detection of complication and referrals for emergency obstetric care, neonatal resuscitation, care of the low birth weight baby and initiation of infant ARV prophylaxis can be provided during or immediately after child-birth. Postnatal care of the mother and the newborn: WHO recommends that mother-baby pairs be seen by qualified personnel within 48 hours after childbirth and thereafter on days 3, 7 and 14 to assess for their wellness and identify any illness to be managed and danger signs for referral. It is at this time that other interventions such as infant feeding counselling to ensure early and exclusive breast-feeding, cord care, infant antiretrovirals, temperature management and kangaroo mother care can be provided.
- **Immunization:** As one of the most successful public health interventions of recent decades, the lessons learnt have allowed for the integration of other high impact interventions such as ITN distribution, early infant diagnosis (EID) of HIV, infant feeding counselling for exclusive breast-feeding and complementary feeding, vitamin A supplementation, de-worming and Intermittent Preventive Therapy (IPTi) in infants (where indicated) to be administered together with infant vaccines.

- **Key family practices:** Although often delivered through different platforms in many developing countries, interventions such as access to clean water and sanitation, hand washing with soap, and promotion of early and exclusive breast-feeding are very effective in reducing disease and death related to diarrhoea and pneumonia. The promotion of hand-washing with soap and early and exclusive breast-feeding, along with other key family practices such as sleeping under ITNs and should be fully integrated in the package of CHWs and linkages should be established with other departments and stakeholders on supply of clean water and improved sanitation facilities.
- **Integrated case management of diarrhoea, malaria, pneumonia:** After starting as a strategy to deliver diarrhoea, malaria and pneumonia treatment, this strategy has expanded in many countries to include neonatal sepsis and management of severe acute malnutrition. The final package is often informed by the country epidemiological, policy and health systems context.

For an example of how the coverage key interventions of the service packages can be presented across a continuum of care, see the figure below.

FIGURE 1-1 Example of current coverage of YCSD interventions organised by service delivery platform across the continuum of care



In some countries, it may be important to analyse Elimination of Mother-to-Child Transmission (eMTCT) interventions separately rather than as components within antenatal care. In those settings, an eMTCT sub-package could be analysed which includes antenatal care visits (1 and 4), HIV testing, CD4 testing, antiretrovirals for maternal health, skilled birth attendance, antiretrovirals for infant health, DPT1, and EID. Similarly, in some settings it may be important to analyse community case management interventions separately from facility-based case management interventions. In those settings, a Community Case Management sub-package can be analysed. This might include interventions such as community case management of malaria, diarrhoea, and pneumonia (often referred to as Integrated Community Case Management, iCCM), as well as community case management of newborn illnesses and severe and acute malnutrition (SAM). Campaigns (e.g., immunisation, ITN distribution, deworming, vitamin A and indoor residual spraying (IRS)) represent another potential group of interventions that may be relevant to analyse in some settings.

Analyse interventions as packages

During the analysis, it is recommended that these interventions be analysed in packages to assess the health system bottlenecks, including the challenges related to their full integration within the YCSD continuum of care, although they can also be analysed individually if deemed relevant locally. It is worth noting that certain interventions within the same package might be delivered via different service delivery modes (i.e., family-oriented and community-based services, outreach and schedulable services, and individual-oriented clinical services). For example, all three service delivery modes are covered within the skilled birth attendance and postnatal care package. As a result, reviewing the full package of skilled birth attendance and postnatal care interventions can yield information about bottlenecks that occur within all three delivery modes – something that would not be possible if only one intervention is analysed.

The packages of interventions (or individual interventions) to be selected will depend on the agreed scope of the analysis (comprehensive, programme specific or intervention specific) as decided by the DHMT with key stakeholders during their initial consultation. Once a scenario is decided, the data collection and analysis will be confined to the subset of selected packages or interventions.

When intervention packages are used, default tracer interventions and sets of indicators are provided. However, districts have the flexibility to adapt them to the local context or choose other tracer interventions if they are more relevant. For more guidance, refer to the Diagnose and Verify Manual.

Keep it simple

Remember that this process is just one of many important processes taking place in the district and demanding the participation of the same players. Special attention should therefore be paid to ensure that the number of interventions to be analysed does not exceed six. However, the Core Group should make its own judgment of what is best for the district to ensure an effective and efficient process which contributes to improving the health district performance for better maternal and child outcomes. Its final decision should take into consideration, the district priorities at the time of the analysis as well as available capacity and resources.

Regardless of the analysis chosen, the selection of tracer interventions (including the number chosen) should take the following into consideration:

- Epidemiological context: Tracer interventions should be directly correlated to the leading causes of child death so that interventions with the highest impact on reducing child morbidity and mortality are prioritised.
- Tracers should be considered representative of the delivery modes and the package of interventions they belong to.
- The final selection of tracers should be informed by the ability to obtain data and preference must be given to interventions for which data for all or most of the six coverage determinants is already being collected in the existing monitoring systems or could be added with minimum efforts.

PART II: Preparing for and collecting data

The second part of Diagnose is to collect the data to inform the analysis.

1. DETERMINE THE DATA TO BE COLLECTED

The decision on the data to be collected should take into consideration the strength of the health information systems and the availability and/or feasibility of using other reliable sources of data such as existing surveys, activity reports or the feasibility of utilising data collection methods such as new surveys and focus group discussions.

Data collection and analysis is a laborious undertaking which requires sufficient preparation, particularly when this approach is applied for the first time. Gathering accurate and complete data remains a huge challenge in the vast majority of developing countries.

The outcome-based and equity-focused approach to the district requires data beyond what is often collected through the routine health information systems of many developing countries. Some of the data (e.g., human resources training and deployment, supervision and commodity management) might be routinely collected but not reported.

More efforts will be needed in the vast majority of districts, to go back to the registers and activity reports (e.g., supervision) to gather additional data. In almost all instances, surveys, key informant interviews and focus group discussions will be helpful to fill the remaining data gaps. Preparing for data collection is of great importance as it builds the foundation for an efficient data collection process.

The basic data needed for the analysis are as follows:

- Demographics: population, birth, mortality, nutritional status
- Epidemiology: disease burden (incidence and prevalence) particularly diarrhoea, malaria, pneumonia and HIV
- Health systems: coverage determinants (described in detail below)
- Outcomes: knowledge of caregivers on YCSD, key family practices, and intervention coverage

**Indicators
should follow
adapted
Tanahashi
model**

The specific indicators for the analysis of high impact interventions should be defined following the adapted Tanahashi coverage determinants (explained below) and adjusted to fit the country and district context. This adaptation is better achieved through a consultative process led by the Core Group and involving key players such as district managers, facility managers, private sector stakeholders and civil society organisations.

The adapted Tanahashi¹ model describes four key categories and 10 indicators of effective coverage, which can be used to structure analysis of bottlenecks at district, facility and village levels (see table below). Depending on the intervention and the district context, the Core Group will choose the most relevant coverage determinants relating to the enabling environment, supply, demand and quality, and develop appropriate indicators. The number of indicators will differ from one context to the other.

The enabling environment is considered important because the implementation at scale of child survival interventions can be facilitated if minimum programming conditions are met. These include a supportive policy framework, which clearly defines the scope and regulates the implementation of different interventions at different levels of the health system. It also includes effective management and coordination among partners to improve capacity and resources. In addition, it includes adequate funding allocation and timely disbursement as well as supportive sociocultural norms which facilitate the acceptability and use of the intervention by members of the community.

While critical to the effective implementation of high impact interventions, some aspects of the enabling environment will be assessed separately to the supply, demand and quality-of-care bottlenecks analysed during Diagnose. This is because these are not always under the jurisdiction of the district health management team and/or possible to address at the district level alone. For example, issues relating to the policy/legislative and budgetary context may be determined at national and or regional levels. In such instances, discussions regarding how the enabling environment can support effective district health systems can be initiated during the stakeholder consultation

Tanahashi
model can
be used to
structure
analysis of
bottlenecks

TABLE 1-4 Adapted Tanahashi model

Category	Indicators
Enabling environment	Availability of written and approved policy Budget allocation and budget execution Effective management and coordination Social norms: Existence of socio-cultural expectations which could negatively affect services
Supply of services	Availability of skilled and motivated staff Availability of essential commodities Accessibility to services through facilities, outreach and community based activities
Demand for services	Initial utilization Continued utilization
Quality/Effective coverage	Appropriateness, timeliness and completeness of interventions

1. Tanahashi T. Health services coverage and its evaluation. Bulletin of the World Health Organisation 1978; 56:295–303.

or subsequently by the Core Group, but ultimately need to include national and regional actors beyond the district level. Alternatively, in some districts, issues relating to policy implementation, budget allocation and budget execution and management and coordination activities (for example, bringing stakeholders together) may be applicable and should therefore be assessed. Social norms are also relevant but are analysed within the demand side causal analysis (described below).

FIGURE 1-2: Example of indicators for community based treatment of malaria with ACT

Intervention: Community-based treatment of malaria with ACT	
Enabling environment	Existence of written policy allowing CHW to prescribe ACT
Supply	Existence of budget allocation at district level with timely Percent of CHWs trained in iCCM and providing care compare to norms (e.g., 1 CHW per 1,000 population)
Demand	Percent of CHWs with no stock out of RDT and ACT lasting for a week over the last 3 months Percent of villages with access to CHWs Percent of children ages 0–59 months with fever tested for malaria
Quality	Percent of children ages 0–59 months with confirmation of malaria diagnosis treated with any anti-malarials Percent of children ages 0–59 months with confirmation of malaria diagnosis treated with ACT within 24 hours

FIGURE 1-3: Example of indicators for eMTCT

Intervention: Elimination of mother to child transmission of HIV	
Enabling environment	Existence of written policy allowing administration of combination ARV regimen for PMTCT by midwives in PHC facilities Existence of budget allocation at district level with timely disbursement
Supply	Percent of ANC facilities adequately staffed with nurses/midwives trained in PMTCT as per national guidelines compared to norms Percent of ANC facilities not reaching the buffer stock of HIV tests and ARVs over the last 3 months Percent of all ANC facilities providing HIV testing and ARVs for PMTCT
Demand	Percent of HIV infected pregnant women identified as positive during ANC Percent of pregnant women identified HIV positive during ANC who received ARVs for PMTCT
Quality	Percent of infants born to HIV positive mothers who receive ARVs at birth for PMTCT

Although the six remaining coverage determinants cover key aspects of supply, demand and quality bottlenecks, additional indicators may be recommended for the analysis of supervision, knowledge of caregivers, and demand side factors of low coverage and unmet need, when such problems are anticipated or identified.

The figures on the previous page illustrate example indicators for selected interventions using the adapted Tanahashi model.

The full list of suggested indicators for use at community, facility and district levels can be found in D-I-V-A's Diagnose and Verify Manual. A focal point in the district management team has to be identified, preferably the district monitoring officer to maintain and regularly update a database with the latest information relevant to this, in close collaboration with members of the Core Group to ensure a much lighter data collection process during subsequent analyses.

Conduct data quality assurance

2. ASSESS THE QUALITY OF EXISTING DATA AND AGREE ON THE SCOPE OF THE DATA COLLECTION

HMIS Data Quality Assessment: HMIS are generally weak in developing countries, and particularly in the most under-performing settings this will be the focus of the equity programming agenda. Therefore, an assessment of the quality and completeness of data in HMIS can help to inform decisions about whether HMIS can be the predominant source of data for monitoring or if it should be combined with surveys. In addition, this assessment will provide valuable information on the components and programme areas of the HMIS needing further strengthening. The table below includes some example data quality frameworks and tools.

At the end of the quantitative and qualitative data assessments, the Core Group should be in a much better position to define the main data gaps and make informed decisions on what needs to be done to fill the missing data.

TABLE 1-5 Example data quality assessment frameworks and tools

Tools/frameworks and sources	Summary
Data Quality Assessment Framework, IMF, 2010 http://unstats.un.org/unsd/accsu/2010docs-CDQIO/Ses1-DQAF-IMF.pdf	The DQAF aims to promote a better understanding of data quality amongst data users and compilers, in addition to providing structure and a common language for data quality. Examines indicators that represent quality, as well coverage of the varying dimensions of quality.
Data Quality Audit Tool, GFATM, 2008 http://www.theglobalfund.org/documents/me/DQA_Tool.pdf	The objectives of this tool are to verify the quality of reported data and to assess data management and reporting systems for standard-level programme indicators.
Immunization data quality self-assessment tool, WHO, 2005 http://www.who.int/vaccines-documents/DocsPDF05/798_finalscreen.pdf	The data quality self-assessment tool was designed to assess the quality of the immunization monitoring system as well as the accuracy of reported numbers of immunisations.

3. DECIDE ON DATA TO BE COLLECTED AND APPROPRIATE COLLECTION METHODS

Once the missing data have been identified and the Core Group has decided to go ahead with additional data collection, the first option will be to look for other, untapped sources of the missing data, such as data collected by vertical programmes and other non-health departments, which are often not captured in the HMIS. The second option is to consider other methods of data collection, such as focus group discussions and household and facility-based surveys. The decision of what method to prioritise will depend on the type of data needed, the capacity and resources available and the level of precision expected.

TABLE 1-6 Sources of data for common YCSD monitoring indicators

Periodic surveys (e.g., LQAS, Cluster Surveys, SMART, PMTCT): In settings where routine monitoring systems such as HMIS are either weak or do not have inputs from the private sector, and therefore do not have reliable data that is representative of the target population, periodic surveys will be implemented every 6–12 months to supplement and validate HMIS data. These surveys will also help identify areas needing further strengthening. Data from these surveys can be used during periodic performance reviews at district and sub-district area levels to monitor community behaviours, reductions in bottleneck and coverage gaps, and quality of services. Depending on national, regional or district interests and circumstances, they can have either a broad scope or target specific programmes (i.e., eMTCT).

Periodic surveys can supplement and validate HMIS data

One such survey is Lot Quality Assurance (LQAS). LQAS is a well-established and robust probability sampling methodology (described in detail elsewhere^{2, 3)} for classifying sub-district areas (supervision areas) based on whether they have achieved a performance target. LQAS can be used to monitor programme performance across a variety of supply and demand side indicators of interest to programme managers.

Other validated sources: Beyond these common sources of data listed above, other useful sources exist and include implementation reports, supervision reports, and specific programme reviews, for example, which can provide useful information on action plan implementation, implementation strengths and bottleneck reductions. Due to the inter-sectoral nature of WASH and nutrition interventions, it will be necessary to identify sources of additional information outside the health sector, such as departments of water and sanitation, department of agriculture, local government, etc. In addition, there are systems that can be strengthened in order to provide the necessary monitoring data, such as open defecation-free communities and nutrition surveillance.

2. Dodge HF and Romig HG. Sampling Inspection Tables: Single and Double Sampling. Second ed 1944, New York: John Wiley and Sons. 224.

3. Robertson SE and Valadez JJ. Global review of healthcare surveys using lot quality assurance sampling (LQAS). Social Science and Medicine, 2006. 63:1648-60.

4. PREPARE DATA COLLECTION TOOLS AND TRAIN THE DATA COLLECTORS

To ensure an efficient and systematic data collection process, it is essential that districts develop and use tested tools that capture the essence of the missing data. Where these tools have not yet been developed, a number of generic manual and electronic tools exist, which are extracted from some of the gold standard methodologies such the Demographic Health Surveys (DHS) and the UNICEF Multiple Indicator Surveys (MICS). The following are some of the most useful:

- Household survey YCSD questionnaires for households, women and children
- Health facility survey questionnaires
- LQAS YCSD questionnaires
- CHILD Malariometric Measurements form
- Focus group discussion guide

Decide on most appropriate tools and adapt for local use

The Core Group should decide on the most appropriate tools to be used and undertake any local adaptation where this is indicated. The technological advances in today's programming environment have seen the development of numerous innovative data collection tools, including those using the mobile phone technology. Where resources permit, these tools should be used to ensure a fast process, minimise the human error and facilitate data capturing, cleaning and analysis. It requires that a district system be developed for this purpose and the capacity and equipment secured before the beginning of the exercise.

Depending on the type and amount of data to be collected and the data collection method chosen, the Core Group should carefully decide on the minimum qualifications and the number of data collectors that will be needed to complete the work. The first option will always be to use internal capacity through existing DHMT and partner staff before thinking of outsiders who could considerably add to the costs. In any case, the aim should be to keep the process as light and cost-effective as possible.

Once the data collectors have been selected, a formal training could be provided before the beginning of data collection to familiarise them with the methodology and to understand the tools.

Guiding principals

Data collection and analysis as an integral part of district planning and monitoring: The collection of data for the bottleneck analysis should be considered an integral part of the district programming cycle and should regularly take place at least at the beginning of each fiscal year to inform the priorities and targets of the district plans and budgets and throughout out the year to monitor progress. Therefore, data collection and analysis is such an important activity that it cannot be left to the good will of partners, but one that is well planned and budgeted for in the district plans.

Using mixed methods of data collection: A combination of qualitative and quantitative methods is needed to fill the HMIS data gaps, validate the accuracy of available data and help look at the supply and demand dimensions for a comprehensive analysis of bottlenecks and their root causes.

Using local capacity for ownership and sustainability: The sustainability of this activity over time will undoubtedly require that local capacity is developed and the first contact should be with members of the DHMT and health professionals in the public health facilities. However, the participation of other stakeholders in the health district management and coordination should allow DHMTs to leverage additional capacity from the private sector, civil society organisations and non-health public sector such as education, police and the army. The dependency on institutions outside the districts should be minimised to the greatest extent possible.

Data collection and analysis as a management tool to improve performance: All efforts should be made to ensure that data collection and analysis contribute to improving programme performance and does not stand in the way of the core mandate of districts which is to deliver preventive, promotive and curative health services. For example, nurses and particularly those from understaffed health facilities should not be taken away for long periods, thus reducing capacity to deliver essential life-saving health services.

5. DATA COLLECTION

As stated above, there are several potential methods and sources that can be used to collect data during the Diagnose step. These include:

- HMIS (feasible for some indicators if the data are considered to be comprehensive and meeting a minimum standard of quality)
- LQAS (a rapid sampling technique that can facilitate primary data collection of households)
- Health facility surveys (using checklist tools for observation and quality-of-care assessment)
- Any other sources (e.g., supervision reports)

6. ENSURE QUALITY ASSURANCE DURING DATA COLLECTION

Data quality can be compromised at many steps of the data collection journey. One important, often neglected activity to undertake during data collection is data quality assurance. Its goal is to reach high levels of data accuracy, completeness, reliability and timeliness. The following quality assurance activities can help minimise the risks of data errors:

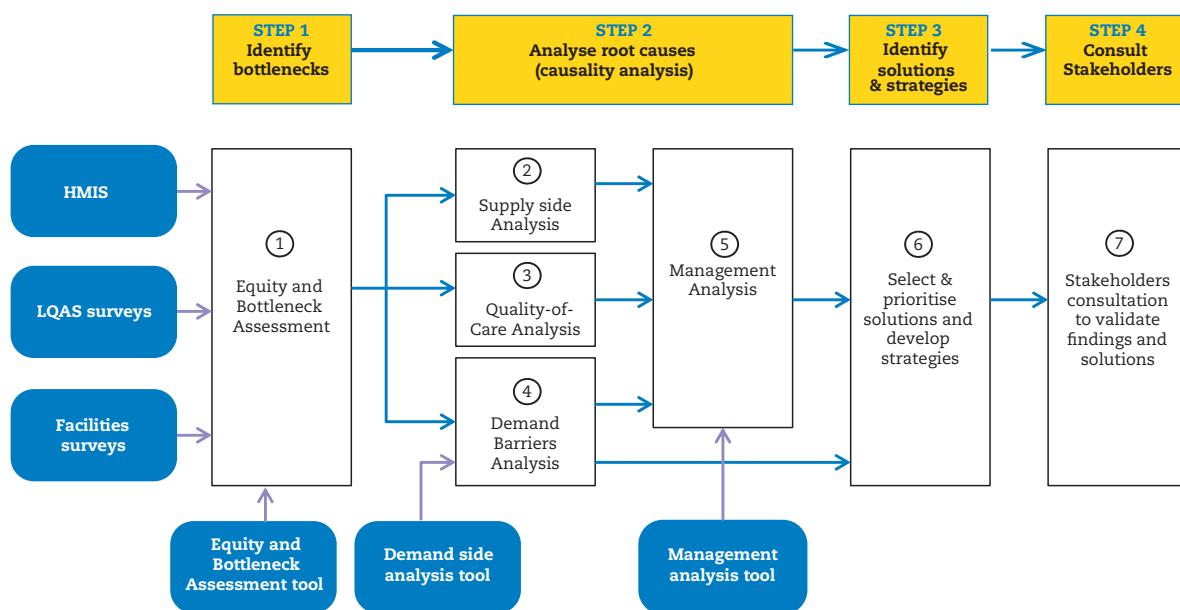
Ensure quality standards are available and used

- Orientation of the Core Group, supervisors and data collectors: Before the start of the data collection, all those involved should be given an orientation to ensure a better understanding of the data elements to be collected.
- Supervision and spot checks during data collection: It is of great importance that data collectors are supervised and supported during data collection to ensure that the difficulties they experience during the exercise are addressed in a timely manner.
- Better data capture processes with data checkers: Electronic tools are becoming more and more commonly used for data collection. These tools should have data checkers to prevent data quality problems from being introduced in the information system or in the databases.
- Data cleaning and checking before analysis: The Core Group should review and clean the data to remove outliers before beginning the analysis.

PART III: Data analysis

This third and final part of the Diagnose step uses the data that has been collected to conduct analyses of the supply and demand bottlenecks (and their causes) and to identify solutions and strategies to address the bottlenecks. Figure 1-4 illustrates this process and includes four main steps which draw on tools to assist with the analysis in a systematic and rigorous way.

FIGURE 1-4: Key activities during the Diagnose step and related data sources and tools



Depending on the district context, there are two options:

- **Option 1:** Depending on the types of bottlenecks identified, districts can undertake all the causality analyses (supply, demand and quality) or limit the analysis to a subset. The causality analyses of the supply, demand and/or quality of care find the root causes of bottlenecks and take place before the management performance analysis. Findings from the analyses feed into the management performance analysis to assess if there were management weaknesses that contributed to the bottlenecks.
- **Option 2:** The sequencing is almost the same as for option 1, except that the findings of the demand analysis feed directly into the stakeholders' consultation without going through management analysis. This is recommended in situations where time is a major constraint.

The choice of the option will be the sole responsibility of the Core Group, taking into consideration the district programming context as well as the available time and resources.

STEP 1: IDENTIFY THE MAIN ACCESS DISPARITIES AND SYSTEMS BOTTLENECKS

First, using the adapted Tanahashi model of coverage determinants identify the main enabling environment, supply, demand and quality bottlenecks contributing to low coverage and limited effectiveness of high impact YCSD interventions. Using an equity lens, this assessment will also aim to identify health access disparities to ensure that the district response includes strategies to reach the excluded and most deprived populations.

Two main questions can be answered:

1. What sub-districts are most underperforming? Within these sub-districts, what population groups and catchment areas have the greatest unmet needs for high impact YCSD interventions?
2. What are the supply and demand barriers blocking these population groups from accessing services?

These questions are addressed in the sections that follow.

1.1 ASSESS INTERVENTION COVERAGE BY SUB-DISTRICT

It is helpful to narrow down the rest of the analysis to the prioritised packages of interventions (identified in the initial stakeholder consultation), comparing performance across sub-districts. The dashboard system uses predefined coverage thresholds, instead of point estimates. Thresholds are developed with what is realistic within the district – guided by international norms and national standards. The dashboard assigns a colour to each sub-district based on whether they are above or below threshold – with red as below, yellow as close to the threshold and green as above. This serves as the baseline. The upper limit should reflect the district coverage target in the plan and the lower limit is the agreed upon level of unacceptable performance.

FIGURE 1-5 Intervention coverage by sub-district

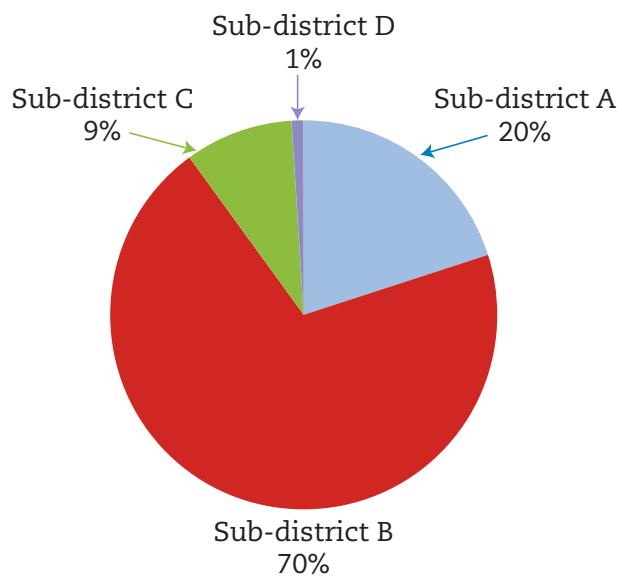
Interventions	Threshold		National Target	District	Sub-district A	Sub-district B	Sub-district C
	Lower	Upper			Base	Base	Base
ANC 4	50%	80%		Base	Base	Base	Base
IPTp2	50%	80%		Yellow	Red	Green	Yellow
ARVs	50%	80%		Yellow	Yellow	Yellow	Green
SBA	30%	60%		Red	Red	Red	Green
Measles immunization	60%	90%		Red	Red	Yellow	Green
Antibiotics for pneumonia	30%	60%		Red	Red	Yellow	Yellow

Assessing the performance of interventions across sub-districts makes it possible to identify the weakest sub-districts for an intensified and more targeted support. It also allows for the identification of well performing sub-districts to use as best practices for peer-to-peer learning.

1.2 IDENTIFY AREAS OF GREATEST UNMET NEEDS

In order to ensure equity of access, it is important to track areas of greatest unmet needs and strategically target efforts to those areas. It is possible to identify unmet needs by considering the burden of disease and the coverage of interventions, as shown in the figure below. The unmet need for antenatal care services, for example, can be calculated across sub-districts by considering population and coverage levels. This practice takes into consideration population density rather than relying solely on coverage estimates. Through this additional analysis, the areas of greatest unmet needs can be identified and are not necessarily those with the lowest coverage or with the highest prevalence or incidence of disease.

FIGURE 1-6: Unmet needs for ANC+



1.3 ASSESS RELEVANT ASPECTS OF THE ENABLING ENVIRONMENT FOR THE DISTRICT

In most cases, aspects of the enabling environment should be assessed at the district level but this is not necessary at sub-district level (due to the fact that there is unlikely to be variation among sub-districts). The table below provides an example.

The knowledge and expertise of the Core Group will be essential to scan the environment in order to identify gaps and propose remedial solutions. Collecting data on the enabling environment can be completed through a desktop review of national policies, budgets and plans as well as through key informant interviews with policy makers, senior managers and community representatives.

TABLE 1-7 Assessment of district enabling environment

Determinants	District	Comments on classification
Policy*		Green: policy adopted and implemented, yellow: policy adopted but not implemented, red: policy not developed*
Budget**		Green: >80% of budgetary needs are covered, yellow: 50%-79% of budgetary needs are covered, red: >50% of budgetary needs are covered
Coordination***		Green: Mechanism for having partners meet regularly and follow up on resolutions is in place, yellow: meetings among partners are either happening irregularly or the partners are not following up on agreed resolutions, red: mechanism for having partners meet regularly and follow up on resolutions does not exist or is not functional
Social norms		Analysed as part of the demand side analysis described below

*If a relevant policy is not developed yet but deemed important, this becomes a national level action to consider. Therefore this information should be fed back to the national level so that a discussion can be held regarding whether or not to develop the policy.

**Budget: Green: >80% if needs covered, yellow: 50%-79% of needs covered, red: >50% of needs covered

***Coordination: Green: Mechanism meeting regularly and following up on resolutions, yellow: either meeting irregularly or not following up on resolutions, red: does not exist or is not functional

1.4 IDENTIFY THE MAIN SUPPLY, DEMAND AND QUALITY BOTTLENECKS

After identifying the sub-districts with the lowest coverage and with the greatest unmet needs, this step of the analysis will identify the main bottlenecks related to the health system. This understanding can guide the district strategies aimed at increasing coverage of lifesaving interventions for the most deprived populations.

The dashboard for bottlenecks by sub-districts, as shown in the table below, uses coverage thresholds to compare the performance of the six supply, demand and quality of care determinants across sub-districts. It allows district health managers to get a good picture of the common bottlenecks across sub-districts and identify under-performing sub-districts across all determinants. Such information is extremely useful for better targeting the district response to focus on specific bottlenecks and/or specific catchment areas.

TABLE 1-8 Bottlenecks for antenatal care at district and sub-district levels

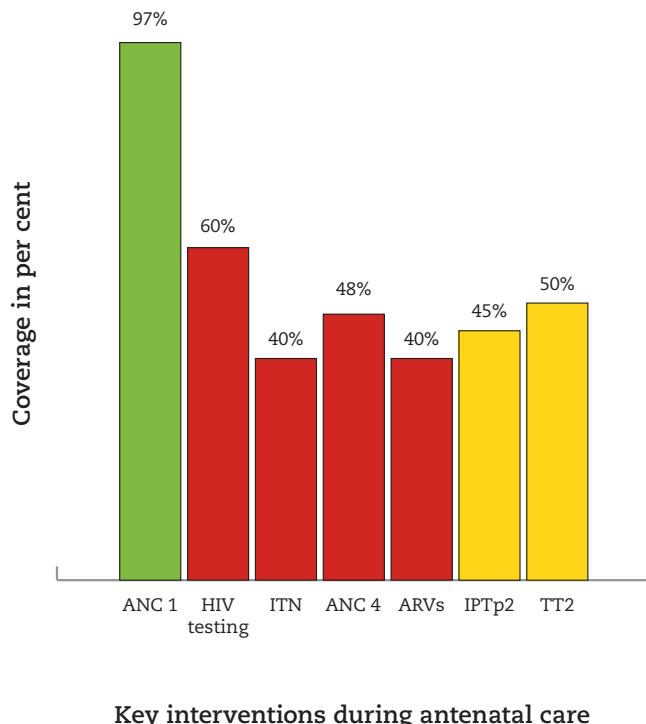
Determinants	Threshold		District	Sub-district A	Sub-district B	Sub-district C
	Lower	Upper				
HR Availability of trained nurses, midwives compared to norm	70%	100%	Base	Base	Base	Base
Commodities Stock out of IF, SP, ITN, HIV tests, ARV over last 3 months	60%	90%	Base	Base	Base	Base
Access Pregnant women residing <5km of ANC site	50%	80%	Base	Base	Base	Base
Utilisation Pregnant women attending 1 ANC visit	50%	80%	Base	Red	Base	Base
Continuity Pregnant women attending 4 ANC visits	50%	80%	Red	Red	Red	Base
Quality Women with urine + HIV tests + BP check up during ANC	50%	80%	Red	Red	Red	Red

1.5 ASSESS GAPS IN CONTINUUM OF CARE

Within each package of interventions, it is also useful to examine where gaps in coverage lie along the continuum of care (see figure below). This is one way to represent the data on the interventions that belong to a given package. For some interventions where it is difficult to get point estimates, this may not be applicable.

The figure below does not contain interventions for which coverage can be measured with point estimates (e.g. using data collected through LQAS). Without point estimates, the quality of the coverage can be assessed and classified with the “traffic light” code system, e.g. ITN coverage.

FIGURE 1-7 Continuum of care and integration within ANC+



STEP 2: ANALYSE THE ROOT CAUSES OF IDENTIFIED BOTTLENECKS (CAUSALITY ANALYSIS)

Conduct causality analyses to identify causes of bottlenecks

Through identifying bottlenecks, a number of barriers—single or multiple—become clear. It is at this step that the Core Group should undertake the causality analysis to dig further for the root causes which will then help to base the solutions to overcome bottlenecks and improve the overall YCSD. As a standard process, the causality analysis on each of the bottlenecks discussed below should follow these steps:

1. Summarise the main bottlenecks from previous assessments
2. Examine the causality analysis benchmarks summarised in the tables that follow in search for the root causes of the bottlenecks
3. Discuss and summarise possible solutions

The following sections on causality analysis (supply, demand, quality and management) explain in detail the specific causes to be explored for each of the bottlenecks to help guide the discussion on possible solutions. Note that the causes provided in the tables are not exhaustive. The knowledge and expertise of the DHMT, Core Group and additional stakeholders will inform the possible causes as well as the identification of solutions that are relevant to the local context.

3 actions comprise the supply causality analysis

2.1 SUPPLY CAUSALITY ANALYSIS

The very first effort of any programme is to ensure that services are sufficiently supplied or made available and accessible both geographically and financially to the people who need them most. In the Tanahashi model, supply of services is measured by three main indicators: (1) the availability of skilled and motivated staff, (2) the uninterrupted availability of essential commodities and (3) geographical access to the health facility, generally defined as within 5 kilometres or a 30-minute walk.

Three actions comprise this analysis:

1. Summarise in very clear and concise language the weaknesses or bottlenecks identified regarding availability of human resources, availability of essential commodities, geographical access or any combination of these bottlenecks;

2. Examine the root causes to identify why the bottleneck is a barrier. The table below provides some indicative common causes, specific to human resources, essential commodities and geographical access.
3. Propose solutions to address the causes of the common bottlenecks.

TABLE 1-9 Example of a supply-side causality analysis

Type of bottleneck	Common bottlenecks	Causes of common bottlenecks	Proposed solutions
Availability of human resources	Lack of OR insufficient availability	<ul style="list-style-type: none"> ■ Lack of established positions ■ Ineffective recruitment ■ Ineffective deployment ■ High vacancy rates and turn over ■ High absenteeism 	
	Lack of OR insufficient skills	<ul style="list-style-type: none"> ■ Lack of staff training opportunities ■ Lack of mentoring and supervision 	
	Lack of OR insufficient motivation	<ul style="list-style-type: none"> ■ Insufficient, inequitable, untimely salaries ■ Lack of performance-based incentives ■ Disruptive working environment ■ Lack of physical facilities and/or equipment 	
Availability of commodities	Lack of OR insufficient availability	<ul style="list-style-type: none"> ■ Inadequate product selection ■ Inadequate forecasting of needs ■ Inadequate and/or inappropriate allocation of available funds ■ Inadequate procurement/purchasing practices ■ Inadequate storage facilities ■ Inadequate inventory management practices ■ Inadequate distribution systems ■ Inadequate prescription practices 	
Geographic accessibility	Lack of OR insufficient health facilities	<ul style="list-style-type: none"> ■ Facilities are not functional 	
	Lack of OR insufficient outreach sessions (not done, not of sufficient scope and/or quality)	<ul style="list-style-type: none"> ■ Ineffective planning ■ Infective implementation 	
	Lack of OR insufficient community coverage (CHWs)	<ul style="list-style-type: none"> ■ Community health workers are not carrying out designated activities ■ Financial barriers (direct costs, indirect costs and insufficient social protection mechanisms) 	

At the end of the supply causality analysis, the key causes should be summarised in clear and concise language. These causes can be reviewed again during the management performance analysis to look for management weaknesses that could have led to and could not prevent the bottlenecks. These causes will help inform a set of recommendations of possible solutions to resolving identified root causes of supply side bottlenecks.

Data on supply-related indicators will be collected through health facility surveys, activity reports and key informant interviews with policy makers, health managers and health care providers.

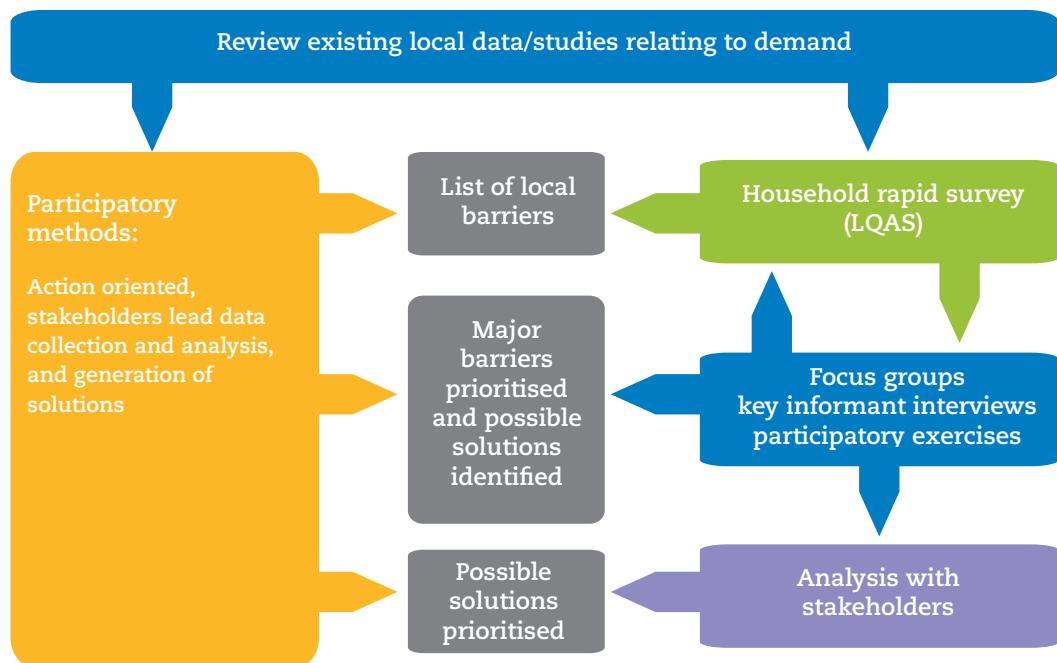
2.2 DEMAND CAUSALITY ANALYSIS

The primary objectives of the demand side assessment are to: 1) ask beneficiaries to identify locally relevant demand side barriers to uptake of key interventions that we know make a difference in YCSD; 2) elicit possible solutions to identified barriers from the perspective of beneficiaries (particularly pregnant women and families with young children); and 3) promote a process that enables stakeholders to use this information to design an equitable intervention in collaboration with community representatives.

Because the resources available to support a comprehensive assessment of demand-related factors may vary considerably across settings, UNICEF recommends selecting one of two possible approaches:

1. The first is a participatory approach that involves beneficiaries as key partners in leading data collection and analysis, as well as in generating solutions to identified barriers. Aside from empowering communities and families as key partners in improving YCSD, a participatory approach can promote greater demand for key interventions as well as greater transparency of local decision-making processes.
2. The second is a modified approach that uses formative qualitative techniques (i.e., a limited number of focus group discussions, group participatory activities (such as card sorting), and key informant interviews) to inform the design of semi-structured household survey questions that do not require qualitative techniques for analysis. Alternatively, these qualitative techniques can be used following a household survey to explore some of the reasons for what was found through the survey.

Refer to
Demand side
analysis tool
manual

FIGURE 1-8 Options to assess demand side barriers

After bottlenecks to utilisation and continued utilisation of interventions have been identified, efforts should be made to collate and review any existing and relevant local, regional and national data, studies and reports on demand side barriers. In addition, efforts should be made to identify and engage resource people or organisations with the relevant technical skills required to support or facilitate design, implementation and analysis of this assessment.

For more information on this analysis, refer to the Demand Barriers Analysis Manual to learn more about the participatory and formative approaches that facilitate collecting critical information about key barriers as identified by beneficiaries.

Demand side barriers

There are multiple barriers that can impact the utilisation and continued use of high-impact interventions. Some of the main types of demand side barriers are:

- **Financial barriers:** poor households are not able to afford the direct, indirect and opportunity costs of health treatments and related services (e.g., because of user fees, transportation costs to health centres, cost of medicine and other treatments).
- **Education and information:** access to health care is largely based on the knowledge individuals have on the particular disease characteristics, preventive and treatment options. This includes a lack of knowledge of the existence of a given intervention ('don't know'), and/or a lack of perception that a given intervention is acceptable and desirable ('don't want'). Closely related to this is the level of schooling an individual has, which influences safe practices. Education of parents, particularly of the mother has been shown to be a major determinant of child health status.
- **Distance and location of health facilities:** Populations in remote and rural areas often suffer from chronic underinvestment, resulting in gaps in the skills mix and expertise of health staff, gaps in types of services provided, as well as low quality of those services that are provided. This reduces demand for services, as low quality services have at best inadequate outcomes, and at worse, can lead to negative outcomes (such as adverse events following unsafe immunizations).
- **Socio-cultural barriers and gender dynamics:** cultural, religious or social factors may become a barrier for health care demand. For instance, gender of medical professionals may influence women's decision to go to pre-natal check-ups; traditional beliefs in reproductive health may influence women's ability to demand contraceptive care; control over household income and intra-household dynamics may impact investments in health for girls and boys, children and women; infrastructure and delivery mechanisms of sites and facilities are not always sensitive to the socio-cultural characteristics of the local population (e.g., language, privacy, gender of provider).

Demand-related barriers are as complex and challenging as supply side barriers, yet too often they are given insufficient attention.

We consider assessment of demand side barriers critical to ensure that YCSD interventions and approaches undertaken within districts and sub-districts are equitable, relevant and acceptable to the local community.

TABLE 1-10 Summary of demand barriers and proposed solutions

Type of bottleneck	Common bottlenecks	Causes of common bottlenecks	Proposed solutions
Initial utilisation	Financial barriers	<ul style="list-style-type: none"> ■ Family cannot afford to pay user fees or pay for travel to facilities 	
	Socio-cultural barriers and gender dynamics	<ul style="list-style-type: none"> ■ Mother must obtain permission from others in household prior to seeking care ■ Social norms are not supportive of specific interventions 	
	Belief that illness is caused by factors that cannot be addressed at health facility (e.g., witchcraft)	<ul style="list-style-type: none"> ■ Limited information (for example, on childhood illness danger signs) available to families in deprived settings 	
Timely, continued utilisation	Loss to follow up/drop outs	<ul style="list-style-type: none"> ■ Lack of active follow up systems ■ Negative experience with provider/facility 	

2.3 QUALITY OF CARE ANALYSIS

To achieve high quality of care, district health managers are encouraged to ensure that quality standards are available and used at the points of care and the services are organised in ways that facilitate the achievements of highest standards of care. In addition, quality assurance mechanisms such as supervision, spot checks, mortality audits and others should be put in place to support capacity building and monitor the quality of provided care.

Three steps make up this analysis:

1. Summarise in very clear and concise language the gaps in recorded in the timeliness (e.g., newborns receiving a postnatal check within 48 hours of birth), completeness (e.g., children with diarrhoea receiving ORS and zinc and continued feeding and fluids) and appropriateness (e.g., use of *modern contraceptives* among women of reproductive age who wish to delay or cease childbearing) of high impact interventions; and

2. Examine the root causes in the areas of regulations (norms and standards), service organisation and availability of skilled and motivated staff.
3. Propose solutions to address the causes of the common bottlenecks.

Providing quality care

Providing quality care remains a major challenge everywhere. It is a great challenge for most developing countries, particularly in settings with high disease burden and poor health outcomes.

The U.S. Institute of Medicine of the national academies defines quality care as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.” This implies that the quality of health care provided to individuals and populations meet the minimum established norms and standards in terms of timeliness, completeness and appropriateness.

The table below provides an indicative list of possible causes of poor quality to be assessed during the analysis. This list is not exhaustive. The expertise of the DHMT, Core Group and some of the stakeholders should help identify other possible causes in the local context.

TABLE 1-11 Quality of care causality analysis

Type of bottleneck	Common bottlenecks	Causes of common bottlenecks	Proposed solutions
Effective quality coverage	<ul style="list-style-type: none"> ■ Low quality ■ Timeliness ■ Completeness ■ Appropriateness 	<ul style="list-style-type: none"> ■ Regulation: Norms and standards not developed, not approved, not used ■ Staff skills and motivation: Inadequate staffing and skills in quality of care ■ Service organisation: overload, inadequate equipment and supplies 	

Data on quality of care can be collected through health facility surveys, key informant interviews as well as focus group discussions with health care providers.

2.4 MANAGEMENT PERFORMANCE AND CAUSALITY ANALYSIS

The management performance and causality analysis aims to identify the main shortcomings in the management of the district that contribute to poor provision of high impact interventions by causing, sustaining or allowing bottlenecks in the delivery of and demand for high impact interventions for children and mothers. This assessment complements the supply, demand, and quality of care analyses by examining key aspects to the effective management of high impact interventions that may otherwise be overlooked. The results of the four analyses combined can provide an in depth understanding of the situation at district level that can guide prioritisation of strategies aiming to bridge existing equity and coverage gaps.

Refer to
Management
Analysis
manual

The management analysis will be carried out by the DHMT, regional/provincial/national supervisors, and management staff from other sectors and/or integrated programmes, as relevant (e.g., WASH authorities). If needed, an experienced facilitator can lead the group through the analysis.

The analysis is structured in five main steps, each building on the previous one:

- 1. Clear statement of the main supply, demand and quality-of-care bottlenecks** identified through the previous causality analyses: a list of well-defined bottlenecks from the supply side (including quality of care) that affect the delivery of multiple interventions will be combined with the demand side barriers that can be addressed by the managers of the district;
- 2. Identification of managerial shortcomings** behind the bottlenecks in the delivery of health services. For each bottleneck there is a short list of common managerial shortcomings to choose from, grouped according to the following support functions: local governance, human resources management, service organisation, procurement and supply management, information management, financial management;
- 3. Identification of the determinants of managerial shortcomings** in terms of lack of decision autonomy (decision space delegated from higher authorities), resources (financial means to provide services and interventions), capacity (managerial skills to organise, coordinate, supervise, deliver) and motivation (presence of incentive systems based on performance and achievement);
- 4. Description of the root causes of the determinants identified,** through an in-depth analysis: this step requires knowledge of the local situation and an active contribution from all participants. The

‘5 WHYS’ technique⁴ can be used by the facilitator to elicit and collect the answers from the participants in a systematic way;

5. Identification of possible evidence based solutions for the managerial shortcomings. Whenever possible, conduct a peer-to-peer process.

Although this is an in-depth analysis, the first 3 steps should not be time consuming and the whole process should be carried out in a couple of days. The figure on the following page shows the main steps of the management analysis at a glance.

The results of this analysis will feed into the subsequent planning phase, aiming to adopt, implement and further monitor effective strategies to address managerial shortcomings and service delivery bottlenecks. The involvement of relevant stakeholders with an active role in the implementation of the identified solutions is critical in the discussion following the management analysis and in the planning phase.

These factors will positively contribute to the assessment of the feasibility of the strategies identified through the management analysis and to the identification of additional strategies to solve some of the bottlenecks in the delivery of services and in their demand. And, above all, their involvement in the planning phase will ensure their participation in implementing such strategies effectively.

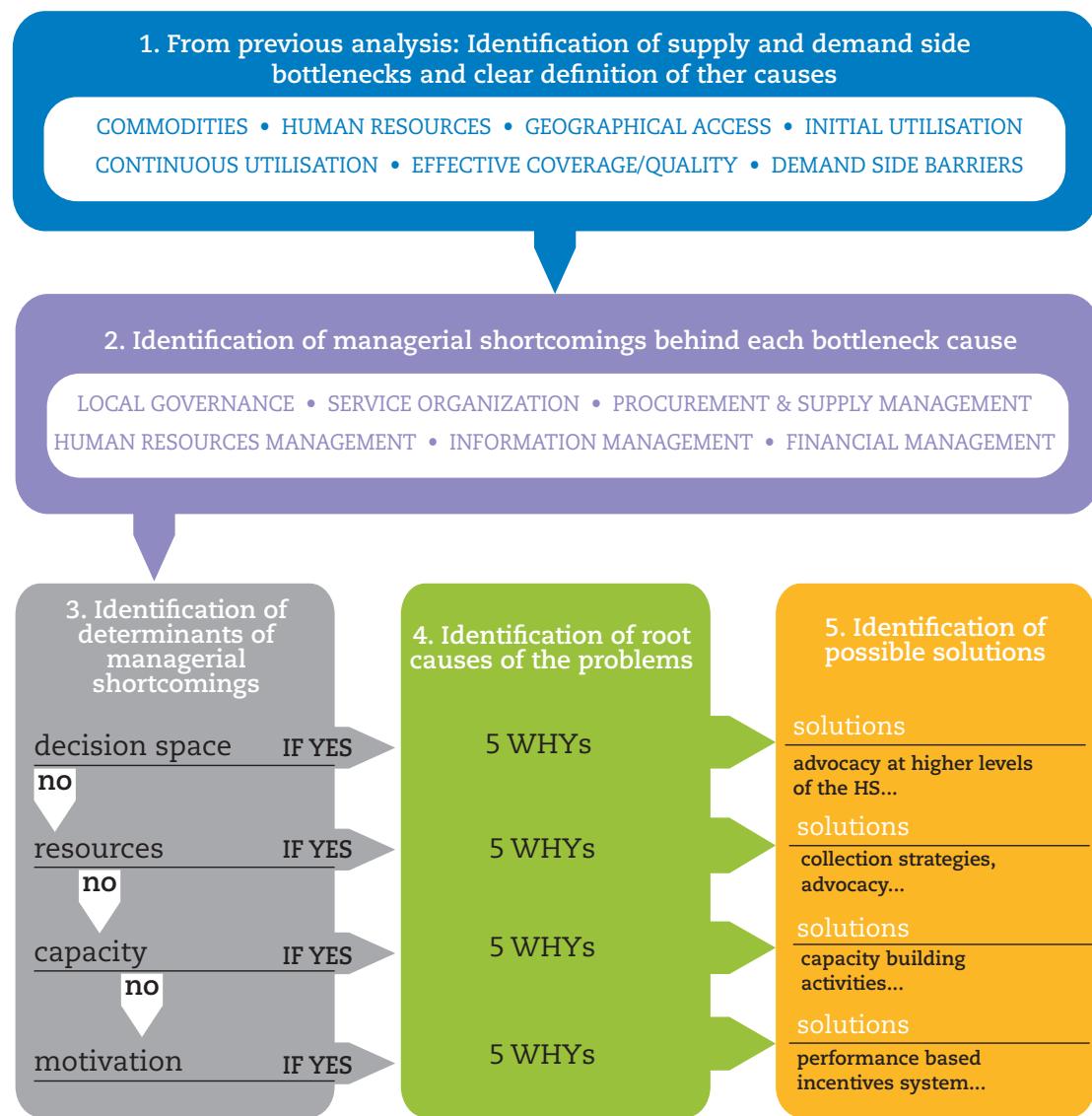
The table below provides a summary template of managerial shortcomings and proposed solutions.

TABLE 1-12 Summary of managerial shortcomings and proposed solutions

Managerial shortcomings	Root causes of shortcomings				Proposed solutions
	Decision space	Resources	Capacity	Motivation	

4. The ‘5 Whys’ is a simple technique that consists of asking what is the cause of a problem; when the cause is stated, ask what is the cause of the identified cause and so on. The process is repeated usually 5 times in order to identify the deeper, systemic causes of the problem analysed. It is a diagnostic tool to better understand the root causes of managerial shortcomings.

FIGURE 1-9 Steps of the Management Analysis



STEP 3: PRIORITISE CONTEXT-SPECIFIC AND EQUITY FOCUSED SOLUTIONS

Accelerating child survival with an equity focus in the most deprived districts in developing countries poses serious funding challenges as a significant portion of these districts' health budgets is provided through foreign aid. Evidence-based priority setting is therefore essential in times of economic hardship affecting most of the donor countries.

At the end of the causality analyses, recommendations will be made on possible solutions to overcome identified supply, quality, demand and management bottlenecks. These solutions do not have the same weight and limitations in resource and time availability require that these solutions be prioritised with the greatest attention given to those most likely to be implemented and to have the greatest impact on YCSD. A number of rational and transparent approaches have been developed to guide priority setting:

- **Evidence-based:** In the selection of key solutions, priority should be given to those that have been applied and proven to be effective in addressing identified bottlenecks. Where proven solutions either do not exist or are not applicable to the district context, the knowledge and experience of the local stakeholders will be used to test and validate new ideas to foster innovations in programming.
- **Feasibility:** Ease of implementation is a very important element in the selection of solutions to overcome identified bottlenecks. The policy environment and the capacity of the health system should be assessed if they allow the implementation of the suggested solutions. For example, decentralizing ARV treatment for eligible HIV-infected mothers would not be feasible if most PHC facilities are managed by assistant nurses and national regulations do not have them to prescribe ARVs.
- **Affordability:** Two important factors in the selection and implementation of any solution to overcome bottlenecks are value for money (cost-effectiveness) and the availability of funding. These two criteria should be assessed to determine the ability of the district to implement and sustain the recommended solutions. For example, hiring and training more midwives to increase skilled attendance at birth is a costly solution which might not be possible in the absence of additional donor funding commitment in countries where government's contribution to health is limited.
- **Equity-focused:** Reaching the poor, excluded and deprived populations is the underlying aim of this systems-based approach to improve health district performance and scale up child survival. The solutions selected have to be those that primarily contribute

to reducing disparities in health. For example, training nurses in PHC facilities on management of pneumonia to increase district capacity might not address adequately the needs of populations residing more than 5 kilometres from PHC facilities.

- **Acceptability:** The perception and acceptability of key stakeholders and beneficiaries vis-à-vis the suggested solutions should be taken into consideration to ensure that whatever is done is accepted and supported by the key actors. For example, introducing point-of-care technology for HIV and hemoglobin testing in antenatal care settings might not succeed if laboratory technicians are not supportive of the idea and do not provide supervision and quality assurance.

TABLE 1-13 Summary and prioritization of solutions and recommendations

Identified solutions	Feasibility (Policy, capacity)		Affordability (Cost-effectiveness and availability of funding)		Acceptability		Equity focused: Does it benefit the poor?	Score	Recommendations
	Approved Supportive policy	Do the HS have capacity to implement?	Is the solution cost-effective?	Is funding available?	Is it acceptable to the partners?	Is it acceptable communities?			
Solution 1	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	
Solution 2	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	
Solution 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	

The recommendations by the Core Group should capture the most effective and cross-cutting solutions which act on more than one bottleneck. The final decision on selected solutions should be informed not only by the selection criteria in the table, but also by the knowledge and expertise of the Core Group and the stakeholders to put these criteria in the district context (as described in Step 5 below). Through regular monitoring described in Chapter 3 of this guidebook, quarterly performance reviews will provide necessary information to determine whether or not some the solutions selected and prioritised at this step need to be adjusted, modified or replaced.

STEP 4: DEVELOP STRATEGIES AND IDENTIFY ACTIVITIES TO IMPLEMENT PRIORITISED SOLUTIONS

Once solutions have been prioritised, the Core Group should use their knowledge and expertise to develop strategies and identify activities to address each solution. For example, if training is a prioritised solution, the strategy to deliver this training might be in-service, pre-service or delivered virtually.

STEP 5: STAKEHOLDER CONSULTATION TO VALIDATE FINDINGS, RECOMMENDED SOLUTIONS AND STRATEGIES

The last step in the analysis process is to reconvene the stakeholder consultation to bring together all members of the DHMT, the Core Group, key stakeholders involved in the delivery of health services in the districts including civil society organisations and private sector as well as community representatives.

Convene stakeholders to guide and provide input before operational planning begins

The aim of the stakeholder consultation is to guide the DHMT on the selection and prioritisation of key solutions, strategies and activities to reduce identified supply and demand bottlenecks. It is also an important opportunity to discuss funding availability from all funding streams (Government, donors, development partners, civil society, and private sector) and to mobilise resources to guide the district target setting and to support the overall implementation of solutions and strategies.

The stakeholder consultation should systematically review the following:

- The list of packages of (or specific) interventions and the selected interventions for the analysis
- The performance of selected interventions by sub-district
- The summary of key bottlenecks by district
- The summary of the root causes and possible solutions from the supply, quality, demand and managerial analyses
- The summary of selected key solutions with next steps leading to planning

At the end, the participants at the meeting should discuss how to improve the engagement of key stakeholders in planning, implementation and monitoring of the district plan. The stakeholder consultation should be chaired by a non-government representative who is not already a member of the Core

Group. The DHMT is encouraged to be the secretariat and rapporteur of assignments to ensure adequate logistical support.

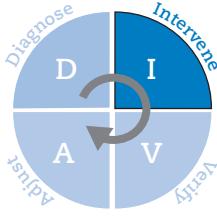
The DHMT is also encouraged to prepare a summary of the bottlenecks, root causes, priority solutions and opportunities to be used by the Core Group for the development of the district operational plan. Working in collaboration with the Core Group and other key stakeholders, the DHMT can use the priority solutions, threats and opportunities summarised in the table to develop the district operational plans. This last step in the district diagnose step builds a bridge to the next step on district planning.

The D-I-V-A approach is designed to work as a district performance improvement approach, which requires short-term actions, close monitoring and timely adjustments of solutions, strategies and activities. The next chapter focuses on the development and implementation of a district annual operational microplan to prepare to **Intervene**.

TABLE 1-14 Summary of key bottlenecks, priority solutions, strategies and activities for each intervention

INTERVENTION					
Identified supply and demand bottlenecks	Causes (Immediate and underlying)	Priority solutions	Strategies	Activities	Institution and responsible persons
HR					
Commodities					
Geographical access					
Utilization					
Continuity					
Quality					

ANNEX 1 D-I-V-A analysis and microplanning proposed timetable



Chapter 2: Intervene (I in D-I-V-A)

Ince the Core Group identified in the Diagnose step has conducted their analysis, identified solutions, formulated strategies, and developed activities to address bottlenecks and held the stakeholder consultation, the group can then move onto the second step: **Intervene**.¹ This step includes the planning and implementation of each solution; determination of the resources needed, what actions will be undertaken and when, and who will implement such actions followed by the achievement of concrete results. This chapter provides suggestions on how to plan, design and implement targeted solutions in order to increase coverage of YCSD interventions through an annual operational microplan.

WHAT IS PLANNING?

Planning is a cornerstone of managing and leading the health district to successful implementation and achievement of results. Plans can be used as guidelines, rather than as rigid, unchangeable prescriptions. They are flexible and can change according to changing circumstances and the results of monitoring. Planning is a critical step because the supply of material, financial and human resources is limited; a carefully developed plan is the best way to guarantee that these limited resources are properly allocated, used and accounted for during implementation. Finally, plans should be used as a way to formalise the involvement of all relevant stakeholders including private providers, the civil society, community representatives and NGOs.

1. Material for this step draws on WHO's Integrated Management of Childhood Illnesses (IMCI) guide, WHO's Reaching Every District (RED) Approach and MSH's Health Systems in Action eHandbook.

WHAT IS MICROPLANNING?

The DIVA approach uses microplans which are defined as:

- having a one-year timeframe
- covering only a subset of interventions aiming to improve YCSD
- targeting only the main supply, demand and managerial bottlenecks derived from the analysis of the determinants of coverage of selected interventions (based on low coverage or performance)
- involving stakeholders (including the community) in both identifying needs and providing solutions
- aligning with and integrating into broader plans and budgets at the district, provincial/regional and national health sector levels (including defined short-term activities and objectives that contribute to longer term objectives and strategies)
- forming a key part of an overall quality improvement approach undertaken for all priority interventions in the district plan

**Microplans
integrate into
broader district
plan/budget**

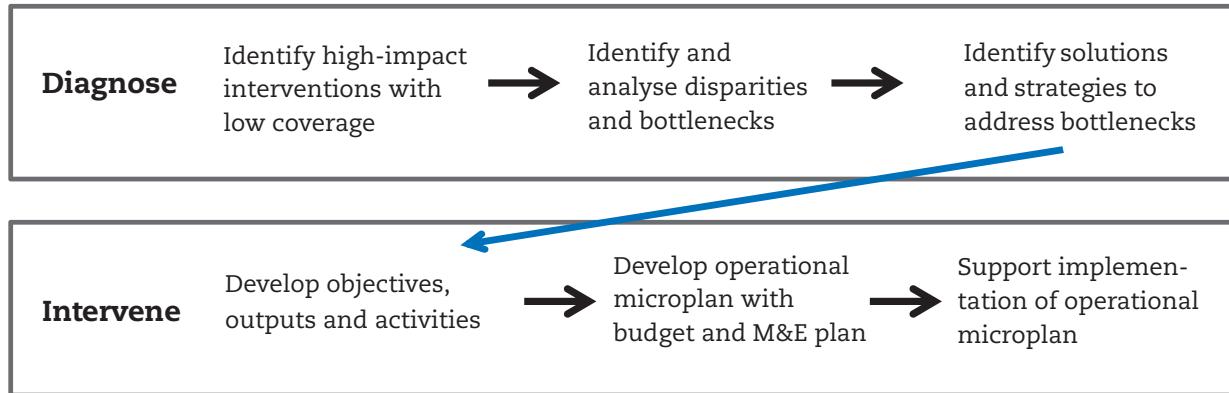
Microplanning is systematic and targeted planning with the intention of helping to make the district planning cycle more evidence-based and efficient.

DEVELOPING AN OPERATIONAL MICROPLAN

In developing an operational plan with the characteristics of a microplan, it is important to recognise that this plan does not replace current district health operational plans but rather builds on and attempts to improve what currently exists. It is intended to provide a more systematic, evidence-based process that over time can build efficiencies into planning. The operational plan should also take into consideration the local health system's capacity and available resources from all actors, including government, civil society, private sector, communities and development partners. If there is a district strategic plan, align the operational microplan to its priorities (as appropriate).

The figure below illustrates how the Intervene step builds upon the Diagnose step.

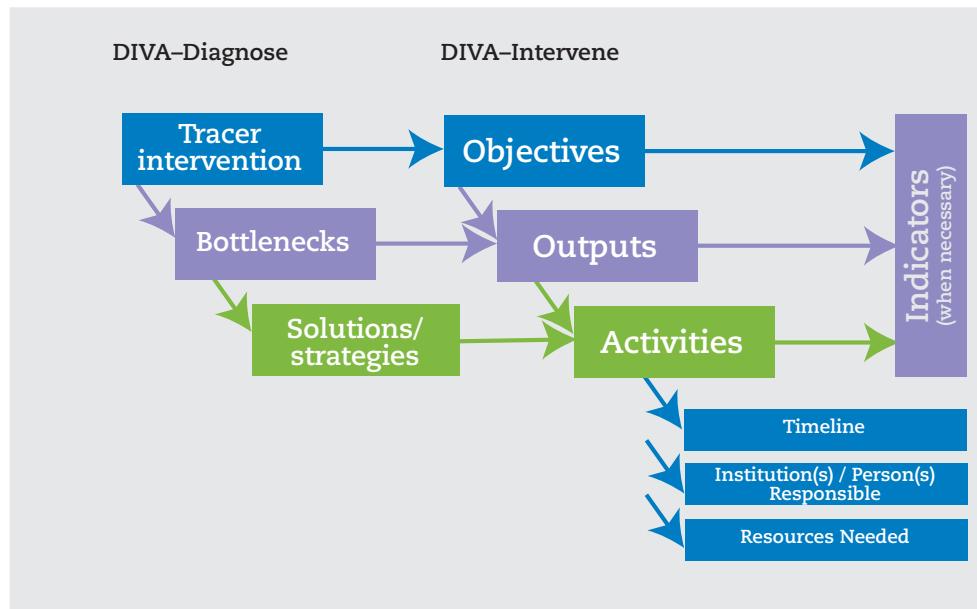
FIGURE 2-1 From Diagnose to Intervene



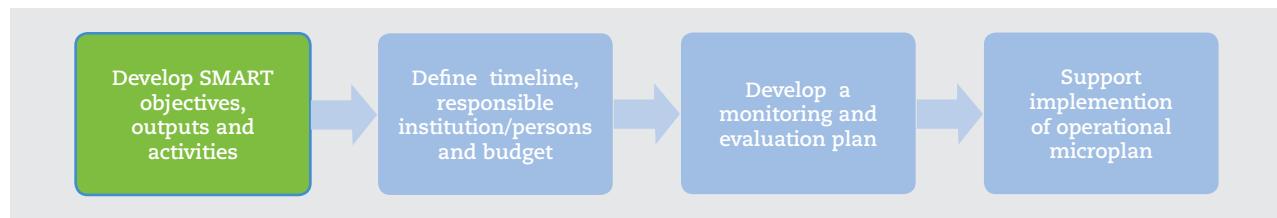
The figure below illustrates the key components of a district-level operational plan.

Development of an operational microplan comprises four steps, which are described in this chapter. Please refer to the operational microplan template found at the end of this chapter when working through these steps.

FIGURE 2-2 Key components of operational microplanning



STEP 1: Develop SMART objectives based on solutions and strategies



Developing clear and actionable objectives requires time and focus. The solutions and strategies and activities identified in the Diagnose step are your starting point (see Chapter 1, Table 1-14).

The Core Group can convert the intervention into SMART objectives:

Use summary table completed at end of Diagnose step

S = Specific

M = Measurable

A = Actionable to address bottlenecks

R = Realistic with available resources

T = Time bound with a one year timeframe

Completion of the table below will help when developing SMART objectives to address bottlenecks.

TABLE 2-1 Develop SMART objectives

Proposed objective:					
SMART criteria	Is it specific?	Can it be measured?	Is it actionable to address bottlenecks?	Is it realistic with available resources?	Is it time bound with a one year timeframe?
	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO
SMART objective					

Sample completed SMART objective: To increase Increase coverage of antiretroviral prophylaxis for HIV+ pregnant women from 20% to 60% by December 2012

When the Core Group has identified SMART objectives, it can use these objectives to develop outputs and activities.

Develop outputs: Outputs are verifiable markers that confirm that the proper path is being followed to carry out the strategy and obtain results. They address the causes of the supply, demand and managerial causes of bottlenecks and can be expressed as a positive change (i.e., should be a measurable increase).

Sample output: Increase % of health facilities without any stock-outs over the last 3 months from 40% to 90% by October 2012

Confirm and further develop activities (if needed): Since activities were identified at the end of the Diagnose step, revisit the activities. Activities operationalise the solutions and strategies identified to address causes of bottlenecks. Activities can be expressed in clear, concrete terms and in chronological order.

Sample activity: Develop new stock registers, train nurses in stock management, establish incentives for stock out free facilities

Each activity listed in an operational microplan should be specific enough to allow you to:

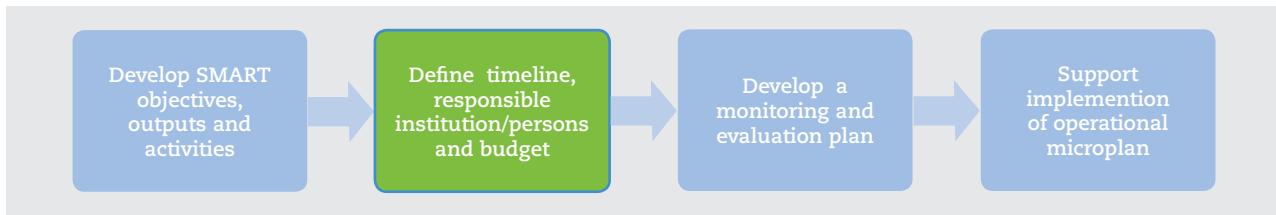
- assign a cost to it
- cite deliverables to be produced
- identify a result to be achieved
- prepare a timeline for accomplishing it
- define the related measurement of quality (controlled through routine monitoring)
- assign people to oversee implementation of activities and monitoring

Completing this first step forms the foundation from which the timeline, responsible institution/person(s) and budget can be built.

Ensuring involvement from key stakeholders

For successful planning, ensure involvement from community representatives, the private sector, development partners and civil society organisations that support health service delivery and can have an important role in the implementation of the planned strategies. Meet with these stakeholders with the overall objective to prepare an annual operational microplan. Although the plan should be developed by the Core Group, engaging a larger group will increase the chances of the plan being successful. Through this process and with the participation of key stakeholders, there will develop a sense of ownership of the plan.

Step 2: Define Timeline, Responsible Institution/Persons and Budget



Defining the timeline and responsible institution/persons can help ensure that the plan is carried out in a timely manner and that people are held accountable for delivering—important components in any operational plan.

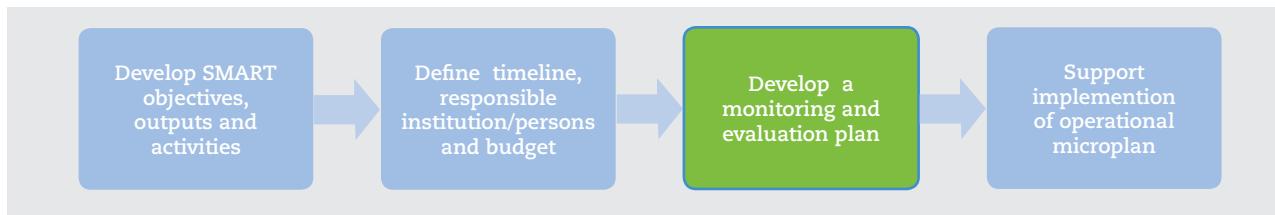
Developing a budget requires that the Core Group estimate the resource requirements for all identified activities. It quantifies the district's chosen activities by guiding the allocation (or reallocation) of financial and human resources. Accurate and complete budgets that are monitored throughout implementation of the operational microplan are critical. Budgets are designed to meet two sets of needs: (1) for operational purposes, budgets help a district allocate available resources as effectively as possible and monitor and control costs and (2) for management purposes, budgets help managers make decisions about the mix and scope of activities and projects to be undertaken during the year.

Estimate resource requirements for all priority activities

To prepare the budget for the operational microplan, it is important to have the help of someone with solid experience in financial management and budgeting. Technical and programme staff who work alongside the budgeter can specify in detail what is entailed in carrying out the planned activities and gather information about unit costs for key line items, including:

- salaries and wages
- consultant costs
- travel and transportation
- facilities and supplies
- other direct costs (costs associated solely with the execution of the activity, such as printing or reproduction, communications, shipping, supplies and materials, and outside services)
- other indirect costs (costs that are not exclusively associated with the execution of the activity)

Step 3: Develop a Monitoring and Evaluation Plan



The backbone of results is measurement. The achievement of results is estimated by what has been defined as indicators—measurable markers of change in a condition, capability, quantity, or quality over time. The indicators incorporated into the plan should allow for regularly monitoring progress toward desired results and evaluation of the actual results achieved.

Although additional types of indicators might be useful (e.g., to measure inputs, processes and even longer term impact), concentrate on output and outcome indicators to monitor the progress and results of planned interventions. The full list of suggested indicators for use at community, facility and district levels can be found in D-I-V-A's Diagnose and Verify Manual.

A good indicator can make complex concepts readily measurable and typically has a number of desirable features:

- **Valid:** It measures the phenomenon it is intended to measure.
- **Reliable:** It produces the same results when used more than once to measure the same thing.
- **Precise:** It is defined with clear, specific terms.
- **Discrete:** It captures a single component or aspect of a more complex result (it measures only one thing, not a set of things).
- **Easily understood:** Both experts and non-experts can grasp its meaning.
- **Comparable:** It avoids narrow or unique definitions whose values would be difficult to compare to other results.
- **Feasible to use:** It is based on data that are easy and inexpensive to obtain.

A good indicator has a number of desirable features

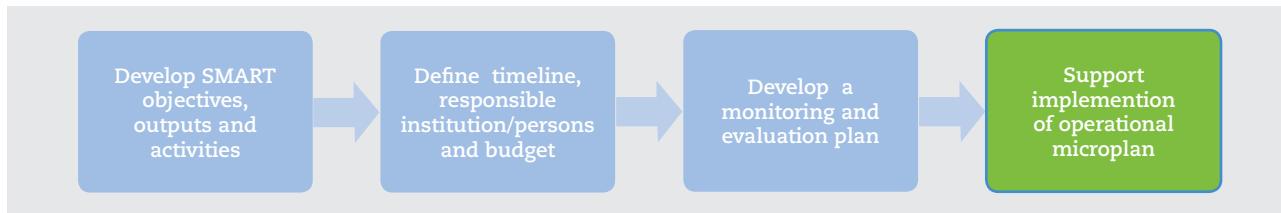
Also include in the plan three main monitoring activities: (1) monthly monitoring of the implementation of planned activities, (2) regular supportive supervision and (3) performance reviews so as to track bottleneck reduction and intervention performance. Please refer to the table on the next page and the Verify chapter for more detail. It is important that these activities are well planned for and budgeted.

Monitoring should take place at the community, sub-district and district levels. The table shows what to monitor and the frequency because some activities require monthly monitoring and others require only biannual monitoring.

TABLE 2-2 Summary of decentralised equity monitoring

Level	What to monitor	Frequency
Community/PHC facility	<ul style="list-style-type: none"> ■ Implementation status of planned activities 	Monthly
	<ul style="list-style-type: none"> ■ Performance of community-based preventive and treatment interventions (focused on process and outputs) ■ Process and output (bottleneck) indicators, to improve selected implementation strategies of community-based interventions 	Quarterly
Sub-district	<ul style="list-style-type: none"> ■ Implementation status of planned activities in the sub-district plan 	Monthly
	<ul style="list-style-type: none"> ■ Progress on the reduction of bottlenecks related to the selected interventions 	Quarterly
	<ul style="list-style-type: none"> ■ Performance of preventive and treatment interventions selected for monitoring the utilisation rates and/or coverage of YCSD interventions and treatment 	Biannually
District	<ul style="list-style-type: none"> ■ Implementation status of planned activities in the district plan 	Monthly
	<ul style="list-style-type: none"> ■ Progress with the reduction of bottlenecks related to the selected interventions ■ Performance of promotive, preventive and treatment interventions selected for monitoring looking at both utilisation rates and coverage of YCSD interventions and treatment 	Biannually

Step 4: Support Implementation of the Operational Microplan



Effective implementation can be made possible through support and capacity development of service providers in health facilities and at the community level. A combination of management support and capacity-building at the district and sub-district levels (i.e., facility-based and community-based staff) will help to create an enabling environment for implementation.

KEY FACTORS FOR SUCCESSFUL IMPLEMENTATION

Factor Number 1: Build capacity

Four key types of skills are required to support effective functioning of the health system at district level: clinical skills, public health skills, management skills and leadership. In most countries, academic training and professional experiences equip DHMTs well to meet the desired levels of clinical and public health skills. Much attention is paid to clinical and public health skills during on-the-job training as well. Less focus is given to developing the management and leadership skills of the DHMT.

Capacity-building of DHMTs should address the lack of technical knowledge and skills in management and leadership and build a supportive network, which is crucial for making improvements.

To reach many target populations, in addition to building the capacity of DHMTs, community health workers must be recognised as critical players in the district health system. They are often the focal point for linkages in their catchment areas. They are selected by and accountable to their communities, as represented by CSOs, and can be jointly supervised by teams of health facility and NGO staff who have been trained in supportive supervision. It is important that CHWs have opportunities to build their capacity so that more quality care is delivered to hard-to-reach populations.

Factor Number 2: Provide quality supportive supervision

Supportive supervision at the national and provincial levels is critical to improving the quality of services and programme management. “Supportive supervision refers to the process in which experienced technical staff, designated and trained as supervisors, assess other staff members’ job performance, give positive and negative feedback, and then work cooperatively with the staff to improve weaker performance areas.” (RED Approach, 2008) Supervisors provide supportive supervision to members of district health management teams, who in turn supervise health workers in the district. If supportive supervision is not yet defined and communicated within the district, it is important to flesh out how to make supervision more supportive. Some elements of supervision to consider defining to suit the local context include:

- **Targets:** from national/regional/provincial supervisors to DHMTs; from DHMTs to health facility staff
- **Frequency:** Supervisors from the district level should supervise health facility staff at least quarterly. National/regional/provincial supervisors should also supervise activities in the district at least quarterly.

Factor Number 3: Encourage peer-to-peer learning

Exchange visits can foster learning between peers who have similar responsibilities. Peer-to-peer learning activities could target district health management staff as well as other levels of staff within the health system. One of the most effective approaches to provide technical and managerial skills to DHMTs is using a peer-to-peer approach based on problem solving.

Factor Number 4: Hold periodic meetings and performance reviews

Periodic meetings and performance reviews by a regional/provincial health officer will enable ongoing implementation monitoring as well as timely responsiveness to address any issues that arise. Annual performance reviews are also encouraged at the facility level, promoting and implementing a simple quality improvement plan. These reviews will recognise and reward positive performance and identify areas for improvement.

Factor Number 5: Establish performance-based incentives (monetary and non-monetary)

Establishing incentives should be an integral part of encouraging better performance. One of the main determinants of performance in any human activity is motivation. Incentives can be put in place to increase motivation

Use
performance-
based
incentives to
increase staff
motivation

and address issues that demotivate staff. It is usually more effective to set up an incentive system comprising various motivational factors, which, in combination, produce stronger and longer lasting motivation than individual incentives do.

Performance-based contracting (PBC) may be used as a way to reward high performers. PBC is a supply-side performance-based financing approach involving the development of a contract or other formal agreement. The contract or agreement must include a clear set of objectives and indicators, systematic efforts to collect and validate data on those indicators and consequences based on performance. The consequences might be rewards or penalties for the contractor based on whether they achieve or fall short of the predetermined objectives.²

The table below presents a synthesis of incentives used in the health sector in several developing countries. A review of the literature revealed that the underlined incentives are more likely to be effective at motivating health managers.

2. USAID, *The PBF Handbook: Designing and Implementing Effective Performance-Based Financing Programs*, developed by Management Sciences for Health under the AIDStar-Two Project, 2011

TABLE 2-3 Financial and non-financial incentives

Individual Incentives		
Financial	Non-financial	
<p>Terms and conditions of employment</p> <ul style="list-style-type: none"> ■ Salary/wage ■ Pension ■ Insurance (health, life...) ■ Allowances (e.g. housing, clothing, child care, transportation) ■ Paid leave <p>Performance payments</p> <ul style="list-style-type: none"> ■ <u>Achievement of performance targets</u> ■ <u>Length of service</u> ■ <u>Performance-related bonuses</u> <p>Other financial support</p> <ul style="list-style-type: none"> ■ Allowances (hardship, rural location...) ■ Fellowships ■ Loans ■ Tuition reimbursement ■ Subsidized meals ■ Travel and transport ■ Housing allowances 	<p>Positive working environment</p> <ul style="list-style-type: none"> ■ Enforced protection of pregnant women against discrimination ■ Equal opportunity policy ■ Functional and professional autonomy ■ Parental leave ■ Potential for dual practice ■ Improved working and living conditions ■ Safe and clear workplaces ■ Technical support and feedback systems ■ Clarity of roles and responsibilities ■ Sufficient resources ■ Supportive management and peer structured ■ Manageable workload ■ Effective employees representation and communication <p>Flexibility in employment arrangements</p> <ul style="list-style-type: none"> ■ Flexibility in working hours and job sharing ■ Planned career breaks ■ Granting unpaid leave 	<p>Support for career and professional development</p> <ul style="list-style-type: none"> ■ Coaching and mentoring structures ■ <u>Continuing education, training and professional development</u> ■ Sabbatical and study leave ■ <u>Job descriptions, criteria for promotion and career progression</u> ■ <u>Transparent reward systems</u> <p>Access to services such as</p> <ul style="list-style-type: none"> ■ Occupational health ■ Recreational facilities ■ Housing ■ Transport ■ Child care and schools <p>Intrinsic rewards</p> <ul style="list-style-type: none"> ■ <u>Recognition of work, valued by the organization</u> ■ <u>Respect of colleagues and community</u> ■ <u>Membership of team, belonging</u>
Organisational incentives		Environmental incentives
<p>Internal</p> <ul style="list-style-type: none"> ■ <u>Autonomy</u> ■ <u>Accountability</u> ■ <u>Market exposure</u> ■ <u>Financial responsibility</u> 	<p>External</p> <ul style="list-style-type: none"> ■ <u>Governance</u> ■ <u>Public finance policy</u> ■ <u>Regulatory mechanisms</u> 	<ul style="list-style-type: none"> ■ Amenities ■ Transportation ■ Job for spouse ■ School for children

To systematically address the incentives for district health managers, the district can set up or improve incentives for facility and programme directors, for the DHMT, for other partners and the private sector.

Factor Number 6: Promote community oversight and co-management

Community oversight and co-management led by CSOs with broad community acceptance can enable communities to participate in monitoring implementation and to hold managers and providers accountable for the scope and quality of services provided. The community's involvement in regularly monitoring the operational microplan is explained in more detail in the next chapter, which describes the **Verify** step.

ANNEX 2 Sample operational microplan template



Chapter 3: Verify (V in D-I-V-A)

In the delivery of health services, monitoring is recognized as an essential management step to gather useful information, assess progress and inform changes to the program. The **Verify** step aims to obtain actionable data for two purposes: (1) for local performance monitoring and (2) for reporting on bottleneck and disparity reductions. In addition, this step aims to address the problem of irregular and inadequate monitoring because of poorly motivated health care providers.

This chapter describes the recommended steps for strengthening monitoring at community, primary health care facility catchment area (in some countries called sub-district) and district levels. It addresses the common challenges of health management information systems (HMIS) in many countries, which include poor quality of data in terms of timeliness, accuracy and completeness; under-development of some sub-systems, such as community-based HMIS; the lack of linkages between various data sources; and inadequate data analysis and use for local decision-making.

Three key principles underlie this step:

- **Limit indicators** to those that are related to relevant objectives and targets, and easy-to-collect through existing or new information systems.
- **Link outcomes of monitoring to performance** for service providers and managers.
- **Ensure participation of key stakeholders** such as communities, civil society and the private sector in reviewing and interpreting the findings of monitoring processes in terms of the extent to which planned activities have been carried out, identified bottlenecks have been reduced and the plan's goals and targets have been achieved.

At the district level, the continued leadership and commitment of the DHMTs will be critical to facilitating the selection of interventions to be monitored at different levels, guiding the definition of monitoring indicators, and fostering a consensus on the frequency of monitoring. The important role of national and provincial/regional levels in creating a conducive and motivating programming and monitoring environment, developing capacities and providing the necessary support through supervision and other means cannot be overemphasised.

Even where the district has a plan in place, district managers are still encouraged to conduct this step, using the Diagnose and Verify Manual to refine and further target their planning.

OBJECTIVES OF VERIFYING (MONITORING)

Continued
DHMT
leadership
is critical to
monitoring

In the context of equity-focused programs, routine monitoring aims to improve overall program performance in reducing disparities for the most disadvantaged populations and improving YCSD outcomes. The following three specific objectives can be achieved, namely to:

- 1. Empower managers, communities and key stakeholders** with actionable data for timely local decision-making and effective community participation in problem solving.
- 2. Track sub-national progress** towards equity for the most disadvantaged populations.
- 3. Improve the quality, timeliness, use and reporting** of data at all levels of the system.

1. ENTRY POINTS AND OPPORTUNITIES TO SCALE UP EQUITY MONITORING

Ensure local health managers lead equity monitoring

Effective monitoring requires ownership, commitment and allocation of adequate resources by government and other key stakeholders, such as donors and development partners. To ensure that the local health managers take the lead on equity monitoring and that all opportunities to strengthen the health system are realised, priority will be given to country-level advocacy to secure buy-in and commitment from governments and key partners. It is encouraged to undertake a mapping of ongoing government- and donor-driven processes such as Joint IHP+ assessments, mid-term reviews and development of national expenditure frameworks and strategic plans. These could be used as opportunities to build capacity and provide resources and equipment to establish routine equity monitoring.

Strategic partners, such as WHO, USG and WB, should be mobilised to help join hands in positioning and supporting equity monitoring as an essential government-driven health system strengthening intervention. In addition, the outcomes of monitoring processes should be used to inform Joint IHP+ assessments, mid-term reviews and development of national expenditure frameworks and strategic plans.

For long-term sustainability, capacity will need to be developed at all levels. Initiatives such as H4, IHP+, health systems strengthening under GAVI Alliance and GFATM, PMTCT and measles elimination and polio eradication should be particularly targeted to mobilise additional resources for scaled up implementation. In addition, ongoing results-based and performance-based financing initiatives by the World Bank, USAID and others offer a unique opportunity to position decentralised-level monitoring as a tool to generate the needed data to track performance against set goals and targets. These initiatives can provide resources to cover the costs of monitoring, thus motivating managers and ensuring sustainability.

2. WHERE, WHAT AND HOW OFTEN TO MONITOR IN THE HEALTH SYSTEM

To ensure that monitoring remains a relatively manageable process that does not unnecessarily take up time needed for implementation, the number of interventions (no more than six) to be monitored at community, sub-district and district levels should be limited to avoid overburdening the managers and service providers.¹

The table below provides a summary of decentralised equity monitoring and is followed by a more detailed explanation.

TABLE 3-1 Summary of decentralised equity monitoring

Level	What to monitor	Frequency
Community/PHC facility	■ Implementation status of planned activities	Monthly
	■ Performance of community-based preventive and treatment interventions (focused on process and outputs)	Quarterly
	■ Process and output (bottleneck) indicators, to improve selected implementation strategies of community-based interventions	Quarterly
Sub-district	■ Implementation status of planned activities in the sub-district plan	Monthly
	■ Progress on the reduction of bottlenecks related to the selected interventions	Quarterly
	■ Performance of preventive and treatment interventions selected for monitoring the utilisation rates and/or coverage of MNCH interventions and treatment	Biannually
District	■ Implementation status of planned activities in the district plan	Monthly
	■ Progress with the reduction of bottlenecks related to the selected interventions	Biannually
	■ Performance of promotive, preventive and treatment interventions selected for monitoring looking at both utilisation rates and coverage of MNCH interventions and treatment	Biannually

1. As suggested in Chapter 1 (Diagnose), best results can be achieved by limiting the number of interventions to be analysed and monitored to no more than six.

Three levels of decentralized equity monitoring

There are three different levels of decentralised equity monitoring: community, sub-district, and district level.

1. Community/PHC facility level

The community is the smallest well-defined administrative unit in most decentralised systems. At this level, monitoring should be completed through routine information systems, such as community registers. For example, depending on its population size, a village might be covered by one or more community health workers and supported by village development and/or health committees. Under the direct guidance of the health centre manager, CHWs together with members of the Village Development Committee should monitor the implementation plan as follows.

Monthly:

- a. Assess the status of implementation of planned activities.

Quarterly:

- b. Assess the performance of community-based preventive and treatment interventions by reviewing the numbers of women, children and households reached. Preventive interventions (households owning ITNs, IPTp 2 administration, vitamin A supplementation) and treatment interventions (neonatal sepsis, diarrhoea, malaria, pneumonia and severe acute malnutrition) should be integrated into and therefore assessed through the HMIS. Comparison with previous months and years can provide data on trends.
- c. Review progress on the reduction of bottlenecks related to the selected community-based interventions.

Note that changes in coverage of key family practices can only be monitored through household surveys, which typically are not feasible with community-level detail. Therefore, they are not included in the monthly monitoring. Instead, the strength of implementation of promotive activities such as household visits, support groups and educational campaigns can be used as a proxy. In addition, intervention performance can be assessed through utilisation rates (the number of children treated per 1000 population) to keep it simple for CHWs and Village Development Committees and because it is not possible to get ratios or coverage levels (i.e., percent of children with a disease given appropriate treatment) from routine systems.

In addition, at community level a mechanism should be established to triangulate and review data from different sources across YCSD programmes (i.e., WASH, nutrition, HIV), as some of the data might not be captured in the health information system.

Monitoring will use both routine and survey data

2. Sub-district level

Depending on the country context, sub-district level might represent a PHC catchment area that includes one health centre with a certain number of CHWs. It can also represent a grouping of PHC catchment areas with more than one health centre and many CHWs. As an administrative unit, the sub-district should undertake regular monitoring, as follows.

Monthly:

- a. Assess the implementation status of planned activities in the sub-district plan: training, supervision, outreach services, campaigns, monitoring meetings, etc.

Quarterly:

- b. Review progress on the reduction of bottlenecks related to the selected interventions (see dashboard in the next section of this chapter).

Biannually:

- c. Assess the performance of preventive and treatment interventions selected for monitoring the utilisation rates and/or coverage of YCSD interventions, which include prevention (ANC, HIV testing, ARVs/ART, TT, ITNs distributed, IPTp 2 administration, skilled attendant deliveries, immunisations, vitamin A supplementation, etc.) and treatment (neonatal sepsis, diarrhoea, malaria, pneumonia and severe acute malnutrition). The comparison with previous months and years can provide trend data.

Monitoring uses primarily routine information systems

Monitoring at the sub-district level will primarily be based on routine information systems. Where they are implemented, household surveys such as LQAS will be used to validate the data from routine systems because it is possible to sample the sub-district as a supervision area. At this level, a mechanism should be established to triangulate and review data from different sectors across YCSD programmes.

3. District level

Monitoring at this level will use both routine monitoring system data and survey data and will include all the interventions selected for monitoring in the district in order to provide a complete picture of district performance. This will include promotive, preventive and treatment interventions across the life cycle continuum. Monitoring at the district level should be done under the direct oversight of the provincial/regional management offices and should include the key stakeholders, such as community representatives, civil society organizations and private sector partners to ensure mutual accountability to the district goals and targets.

Monthly:

- a. Assess the implementation status of planned activities in the district plan: training, supervision, monitoring meetings, procurement of supplies, campaigns, etc.

Biannually:

- b. Review progress with the reduction of bottlenecks related to the selected interventions.
- c. Assess the performance of promotive, preventive and treatment interventions selected for monitoring looking at both utilisation rates and coverage of YCSD interventions, which include promotive measures (WASH, Nutrition, ITN use, Care seeking for treatment), prevention (ANC, HIV testing, ARVs/ART, TT, ITNs distributed, IPTp 2 administration, skilled attendant deliveries, immunisations, vitamin A supplementation, etc.) and treatment (neonatal sepsis, diarrhoea, malaria, pneumonia and severe acute malnutrition). The comparison with previous months and years should provide trend data.

Reviews at
district level
will be more
comprehensive

Unlike the other two levels, reviews at district level will be more comprehensive and may include a re-run of the in-depth analysis of root causes of identified bottlenecks if progress has been unsatisfactory. Data from sub-district levels can be collated and examined in aggregate at district level. Where they are implemented, household surveys such as LQAS can help provide data on key family practices and coverage of key interventions. Such surveys can also be used to validate data from routine systems.

In districts where hospitals are separate from district management offices, hospitals should undertake their own monitoring, focusing primarily on first-referral-level interventions such as emergency obstetric and newborn care and care of the severely sick child. Periodic performance reviews at the hospital should be done under DHMT oversight and should include an in-depth analysis of root causes of identified bottlenecks.

Organize regular team meetings to review implementation progress

3. MONITORING ACTIVITIES

The following activities can be carried out to conduct ongoing and periodic monitoring. For monitoring the implementation plan, please refer to the template at the end of this chapter.

3.1 MONTHLY MONITORING OF PLANNED ACTIVITIES

It is a routine practice in district offices and health facilities (with some degree of variation depending on commitment and resources) to organize regular management team meetings to review progress in implementation of health programs. However, it requires each of these institutions to develop a plan at the beginning of the fiscal year reflecting the main activities to be undertaken. These meetings should be maintained, supported and guided because they provide an opportunity to monitor the extent to which planned activities are being implemented in order to identify barriers on time and act on them. In the context of equity programming, monitoring meetings at the district offices and health facilities should focus on assessing the status of implementation of key activities in the plan (e.g., training, supervision, monitoring meetings, procurement of supplies, outreach visits, campaigns) for timely course correction, with particular attention paid to activities targeting poor and marginalized populations.

Supervision should be frequent, integrated, and targeted

3.2 FOCUSED SUPPORTIVE SUPERVISION

Supervision is an integral management strategy and requires managers and technical officers from higher levels of the health system to regularly support those at lower levels for on-site capacity-building, motivation and progress monitoring. Health care managerial supervision is recommended to help assure quality, but it requires skilled supervisors, time and resources.

To be effective, supervision has to be frequent, integrated and targeted to the key interventions, bottlenecks and activities identified in order to have the greatest impact of improving program effectiveness and saving lives. Supervision in this context should aim to:

- assess the performance of the interventions selected to be monitored
- assess the determinants of effective coverage (enabling environment, supply, demand, quality) to track progress on bottleneck reductions and identify new ones if they emerge
- assess the extent to which planned activities are implemented

The frequency and duration of supervision will depend on both available capacity and resources and on the district needs. However, every CHW, health facility and district hospital should be supervised at least once every quarter to check on progress of relevant operational plan activities for each responsible person/institution. Supervisors should also consider the package of interventions, determinants of supply and demand, and quality of activities.

Supervision depends on available capacity, resources and district needs

Supervising CHWs has remained a challenge in many settings because of limited capacity and resources at the health-facility level. Districts will need to innovate to find local solutions to this challenge, including reorganizing services and outsourcing to NGOs and other stakeholders in the district. A particularly promising approach is the promotion of the most effective CHWs to become supervisors. This practice would relieve shortages of health facility supervisory staff while rewarding CHWs for superior performance.

Some innovative approaches to supervision of CHWs

- Post-training follow-up, skill assessment, and support by trainers
- Periodic group meetings to review training content, discuss common problems and concerns, share solutions
- Separation of data collection from observation/feedback to improve performance
- Two-way supervision: Feedback from CHW to supervisor as well as from supervisor to CHW
- Joint planning
- Focus on different themes during supervisory visits: seasonal health problems, referral systems, drug supply, etc.
- Checklists with only a few items, with copies for the CHW, used as a basis for discussion
- When CHWs come to facilities for administrative reasons (such as re-stocking commodities or submitting reports), assess their clinical skills by asking them to manage one or two sick children who present at facilities

3.3 QUARTERLY AND/OR BIANNUAL JOINT REVIEWS OF BOTTLENECK REDUCTIONS

Reviews provide insight into interventions' effect on YCSD outcomes

While it is not possible to monitor the outcomes of district efforts throughout the year, an interim measure is for the Core Group to assess the effect of the district interventions on reducing identified bottlenecks, using data collected from HMIS and some LQAS applications where these are indicated. These mid-term reviews provide managers and stakeholders an opportunity to gain insight on the direction of the expected effect on YCSD outcomes. Significant reductions in supply and demand bottlenecks should lead to improvements in service availability, accessibility, utilisation and/or quality which, in turn could contribute to better health outcomes. To carry this out, the following steps are suggested:

Step 1: Collect data before the performance review

In preparation for the performance review, the Core Group should ensure that data have been collected and entered in the Equity and Bottleneck Assessment Tool developed for this purpose. At this stage, the key indicators are known and the database has been updated for use during subsequent performance reviews.

Step 2: Review of bottleneck reductions by key stakeholders

The core of performance monitoring will be based on two key graphs (dashboards). They combine the performance of key interventions with equity across different sub-districts. In order to ensure a well-targeted approach to monitoring, the focus of the review will be on assessing negative or positive changes in the dashboards. These changes quantify the performance of selected interventions across different districts and reveal the pattern of supply and demand bottlenecks. This allows managers and stakeholders to ascertain the effectiveness of implemented solutions to reduce the key bottlenecks and improve overall performance.

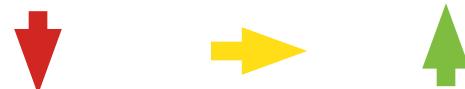
The Equity and Bottleneck Assessment Tool is designed to collect the necessary data and automatically produce the following two figures for ease of analysis.

Dashboard One: Coverage of interventions by sub-districts

This dashboard can help assess the changes in a subset of intervention coverage from the baseline, particularly for interventions where change can be rapidly effected, to see whether implemented strategies and activities are having any effect. The dashboard system uses pre-defined coverage thresholds (instead of point estimates) which are to be decided locally by the districts. The upper limit reflects the district target in the plan and the lower limit is the pre-defined level of unacceptable performance. This overall picture is important for a realistic interpretation of the findings on implementation strength and bottleneck reductions. The figure below gives an example of a completed dashboard.

FIGURE 3-1 Change in intervention coverage by sub-district

Interventions	Threshold		National Target	District		Sub-district A		Sub-district B		Sub-district C	
	Lower	Upper		Base	+ 6 months	Base	+ 6 months	Base	+ 6 months	Base	+ 6 months
ANC 4	50%	80%		Red	Yellow	Red	Yellow	Red	Yellow	Green	
IPTp2	50%	80%		Yellow	Yellow	Red	Red	Green	Green	Yellow	Green
ARVs	50%	80%		Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	
SBA	30%	60%		Red	Red	Red	Red	Red	Red	Green	
Measles immunization	60%	90%		Red	Yellow	Red	Red	Yellow	Green	Green	
Antibiotics for pneumonia	30%	60%		Red	Red	Red	Red	Yellow	Yellow	Yellow	



Reviewing the performance of these interventions across sub-districts allows the district managers and stakeholders to:

- Examine the pattern of change over time to see whether identified solutions are having a positive or negative effect on the coverage of selected interventions.
- Identify the weakest sub-districts needing more targeted support.
- Identify the well performing sub-districts to be used as best practices for peer-to-peer learning.

Dashboard Two: Bottleneck reductions by sub-districts

The scale of implementation of child survival interventions is reliant on the strength of the health systems and the communities' willingness to use the services. UNICEF has used an adapted Tanahashi model of effective coverage² to assess the strength of the interaction between health services and the people to whom they are intended, using effective coverage as a proxy for improved health.

The measurement of effective coverage includes six key determinants.

■ Supply of services

1. **Availability of commodities:** This is measured through the absence of stock-outs of essential commodities.
2. **Availability of skilled HR:** This is measured through the assessment of the availability of skilled human resources for health when compared to the norms.
3. **Access to services:** Often limited to geographical accessibility, it is assessed by looking at the proportion of the population residing within 5 kilometers of or a 30 minutes' walk to the nearest health facility. Other types of accessibility such as financial and socio-cultural access are assessed in the demand causality analysis.

■ Demand for services

4. **Initial utilisation:** Many health services, for example antenatal care, require more than one contact point. This determinant is assessed by looking at the proportion of the target population utilising the service for the first time.
5. **Continued utilisation:** This is assessed by looking at the proportion of the target population that continues to use the service as recommended. Again using antenatal care as an example, it looks at the proportion of the population utilising the service at least four times, as per WHO guidelines on focused antenatal care.

■ Quality

6. **Effective coverage:** The overall impact of YCSD interventions depends not only on the coverage, but also on the quality of what is provided. This determinant assesses the proportion of the target group that receives the intervention as defined in the standard of care, which includes timeliness and completeness.

2. For more discussion of this model, please refer to Chapter 1 (Diagnose).

Dashboard Two uses coverage thresholds to compare the performance of the six determinants across sub-districts at six-month intervals. The districts decide the thresholds locally.

FIGURE 3-2 Change in bottlenecks by sub-district-ANC 4

Determinants	Threshold		District		Sub-district A		Sub-district B		Sub-district C	
	Lower	Upper	Base	+ 6 months	Base	+ 6 months	Base	+ 6 months	Base	+ 6 months
HR Availability of trained nurses, midwives compared to norm	70%	100%							Yellow	
Commodities Stock out of IF, SP, ITN, HIV tests, ARV over last 3 months	60%	90%	Yellow		Yellow		Yellow			
Access Pregnant women residing <5km of ANC site	50%	80%	Yellow		Yellow		Yellow		Green	
Utilisation Pregnant women attending 1 ANC visit	50%	80%	Yellow	Yellow	Red	Red	Yellow	Yellow	Green	
Continuity Pregnant women attending 4 ANC visits	50%	80%	Red	Yellow	Red	Red	Red	Yellow	Yellow	Green
Quality Women with urine + HIV tests + BP check up during ANC	50%	80%	Red	Red	Red	Red	Red	Red	Yellow	



Reviewing bottleneck reductions for the selected interventions across sub-districts allows district managers and stakeholders to:

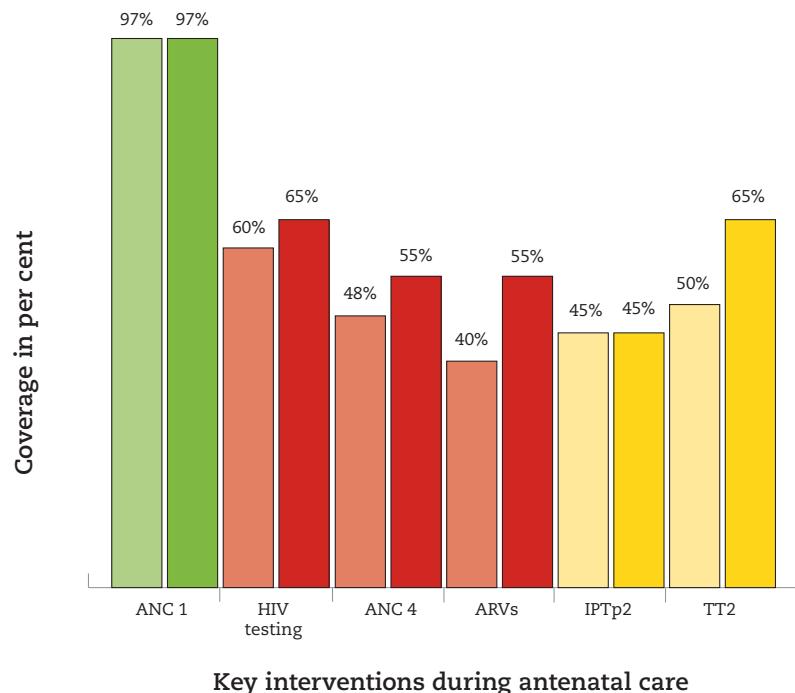
- See whether identified solutions are having any positive or negative effect on reducing identified bottlenecks;
- Identify the weakest sub-districts needing more targeted support;
- Identify the well performing sub-districts to be used as best practices for peer to peer learning.

This information will guide future decision of adjustments and/or changes of strategies to further improve the effectiveness of the district response.

Dashboard Three: Continuum of care and integration within ANC+

This dashboard is useful to examine where gaps in coverage lie along the continuum of care. As in the previous dashboards, the threshold is to be defined locally by the districts. The comparison shows the change in the continuum of care and integration within ANC+ six months later.

FIGURE 3-3 Change in continuum of care and integration within ANC+ after six months



This figure does not contain interventions for which coverage can be measured with point estimates (e.g. using data collected through LQAS). Without point estimates, the quality of the coverage can be assessed and classified with the “traffic light” code system, e.g. ITN coverage.

Step 3: Assess the strength of implementation of identified solutions

Progress on bottleneck reduction and intervention performance will depend on the effectiveness and implementation strength of identified solutions. Therefore, the DHMT should assess the extent to which planned solutions have been implemented to better differentiate between effectiveness and implementation-related issues.

A monitoring template, found at the end of this chapter, can be used to assess progress and achievement of objectives, outputs and solutions. Based

on the assessment, the Core Group should have a clearer understanding of the situation in the district, which can be categorized in one of the scenarios presented in the following chapter, Chapter 4 (Adjust). These scenarios propose actions that will lead to the achievement of greater impact.

4. REWARD GOOD PERFORMANCE AND FACILITATE PEER-TO-PEER LEARNING

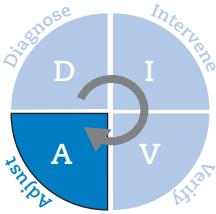
The success of the collective efforts of all stakeholders in reducing disparities and coverage gaps for the poor and most deprived will depend heavily on the motivation and capacity of managers and service providers to implement equity-focused strategies, regularly track performance and achieve results. In order to generate the necessary motivation, the outcomes of equity monitoring should be used to inform national and local assessments, situation analyses, mid-term reviews, planning, target setting and budgeting processes.

Most importantly, these outcomes should be linked to performance-based incentives (financial and non-financial) to create positive competition for maximum impact. Districts are encouraged to identify the most appropriate and sustainable incentives in consultation with service providers.

In addition, engaging higher achieving districts and sub-districts to support those that are under-performing can facilitate the transfer of skills and innovations through peer-to-peer learning. Incentives and learning should be combined with sufficient investment in building capacity of managers and service providers, as well as putting in place enabling policy and regulatory frameworks that increase the strength of health systems and institutions. Collaboration with governments and institutions working on performance-based incentives—such as the World Bank and other development banks, bilateral and international partners and academic institutions—is important.

ANNEX 3 Monitoring template

Note: strength of implementation/achievement - poor: <50% of planned activities; good: 50–80%; excellent: >80%



Chapter 4: Adjust (A of D-I-V-A)

Effective implementation of high-impact interventions through high-quality and equity-focused strategies involves continuous learning by doing. Many of the solutions and strategies identified to overcome supply and demand barriers are either supported by good evidence that need to be adapted to a different context, or new interventions whose effectiveness and efficiency in meeting the health needs of the most deprived populations have not yet been fully assessed. Therefore, district-level implementation requires close performance monitoring of key indicators that are clearly linked to desired improvements in quality (e.g., management performance indicators), in outcomes (e.g., coverage indicators) and in impact (e.g., morbidity and mortality indicators) to inform district managers where they need to stop or modify (**Adjust**) ineffective solutions and strategies and implement new or revised approaches in order to focus limited time and resources on what achieves results.

D-I-V-A incorporates quality improvement methods that allow district managers, through monthly, quarterly/biannual performance reviews, to take stock and make adjustments during the course of implementation to maximise program efficiency and effectiveness for better outcomes. Another important difference is that the approach places an emphasis on setting priorities and ensuring that implementation of various activities is sequenced in a sustainable manner, allowing managers to focus on a few issues of the highest priority and remove bottlenecks by targeting the major causes of problems. Once these critical issues are resolved, health managers can move on to the next set of bottlenecks. Rather than trying to fix everything at once, which can squander precious resources and achieve little in the way of sustainable impact, it is a targeted approach.

1. Actively engage key stakeholders in joint responsibility

The best possible district health performance—success in increasing coverage of high-impact interventions—can only be achieved if there is active engagement, participation and alignment of all stakeholders including communities, civil society organisations, private sector and development partners around one results-focused district plan and one monitoring system.

Performance reviews, completed quarterly at sub-district level and biannually at the district level, will provide the impetus to adjust district plans as necessary. Recognising that changes to the district plans often have technical and financial implications, consensus-building among key stakeholders is required as well as a commitment by all to provide additional resources to support implementation to achieve common goals and targets.

2. Take advantage of opportunities to make adjustments

Entry points to make changes and adjustments to the district SMART objectives, outputs and activities include:

- **Quarterly and biannual performance reviews:** These are the main opportunities to make substantive changes in the district programming cycle. The decision to make changes will be informed by the strength of implementation as well as the performance of activities on the achievements of outputs and SMART objectives. These adjustments can happen at the district as well as at sub-district levels.
- **Independent situation analysis of vertical programs:** Vertical program reviews provide another opportunity to make adjustments to the program itself and beyond. For example, changes in the coverage of antenatal care could necessitate adjustments of programs delivered through this platform such as prevention of mother to child transmission, malaria in pregnancy and tetanus toxoid vaccination in pregnancy.
- **Changes in funding:** Increases or decreases in funding directly affect district plan implementation and thus necessitate some upward or downward adjustments to the SMART objectives, outputs and activities.

**Core Group
uses entry
points to make
adjustments**

- **Introduction of new initiatives or projects:** New initiatives often require the addition or modification of SMART objectives, outputs and activities. These changes should be made in a way that ensure complementarities, build synergy and strengthen existing plans without displacing attention, funding and human resources.

3. Conduct performance reviews to help identify where to adjust

Performance reviews are best completed in two phases

During quarterly and biannual reviews, the main focus is to assess whether the district is on track with the implementation of activities and the achievements of outputs and SMART objectives. Based on the outcome of these reviews, DHMT members and stakeholders should have a clear picture of the overall performance and the areas needing strengthening. The scenarios presented in the phases below and summarised in the figures illustrate the common situations where adjustments are needed during the course of implementation.

The review is best completed in two phases. Use the monitoring template from the previous chapter (Chapter 3: Verify) to capture the observations and recommended actions to refine the operational microplan or conduct analyses.

PHASE 1: QUARTERLY REVIEW OF THE ACHIEVEMENT OF THE OUTPUTS AT ALL LEVELS

Outputs expressed the targeted reduction of identified bottlenecks during the equity and bottleneck assessments and causality analysis. They constitute a good predictor of the district and sub-district likelihood to achieve their objectives. Depending on the country situation, this first phase should take place quarterly at all levels: PHC facility, sub-district and district. It will focus on reviewing the strength of implementation of planned activities and the level of achievement of key outputs. The figure below summarises the possible scenarios and proposed actions.

FIGURE 4-1 Review reduction of outputs (PHC, sub-districts and districts)

	Activities on track (Adequately implemented)	Activities not on track (NOT adequately implemented)
Output on track (Bottleneck reduced)	Continue implementation	Review implementation barriers and make modifications and/or accelerate implementation
Output not on track (Bottleneck NOT reduced)	Rerun causality analyses and suggest new solutions and/or activities	Review implementation barriers and make modifications and/or accelerate implementation

Scenario 1: Both outputs and activities are on track

In situations where all planned activities have been adequately implemented and good progress is being made in the achievement of outputs, the district management team should be encouraged to continue implementation. Efforts should be made to ensure sufficient motivation exists to maintain the good work at all levels and in all sub-districts and PHC facilities.

Understanding the scenario helps to identify needed actions

Scenario 2: Outputs are on track and activities are not on track

During the process of reviewing district performance, the first element to be assessed is the status of implementation of activities. Inadequate implementation can have its origins in external factors such as lack of financial resources as well as in intrinsic factors such as the difficult or complex nature of the activity to be implemented, particularly in the context of limited district capacity.

Remember that activities are derived from selected solutions and strategies to reduce supply and demand bottlenecks identified during the equity and bottleneck assessment conducted in the Diagnose step. The Core Group should review the reasons for inadequate or delayed implementation and make modifications and adjustments where needed. Contributing factors could include poor planning, competing priorities (e.g., unplanned immunisation campaigns) or changes in staffing and/or funding (e.g., transfer of key staff, delayed disbursement of funding).

If an activity is targeting a very high-priority problem, more sustainable and feasible options need to be found. It may be necessary to reconsider whether to keep these activities in the plan. In most cases, these activities should be dropped and replaced with activities that are more feasible and sustainable within the limit of the district capacity and resources.

Scenario 3: Outputs are not on track and activities are on track

Effective implementation of activities should ultimately lead to the achievements of the outputs. The lack of progress in the achievement of key outputs during mid-term performance reviews is an early warning of the overall district under-performance and should prompt a re-examination of selected solutions and strategies as well as the relevance and appropriateness of implemented activities.

Key outputs might not be achieved because the solutions and strategies selected were not right in the first place or activities were not adequately relevant and appropriate to achieve the output. In this case, it is recommended that the Core Group re-run the causality analyses to re-examine the underlying causes of bottlenecks and assess if an important cause of the problem was overlooked. Next, review the relevance and appropriateness of recommended solutions and strategies and make adjustments, where needed.

When implementation is inhibited beyond the control of the Core Group, raise this with the national committee overseeing D-I-V-A

Scenario 4: Both outputs and activities are not on track

In situations where planned activities have not been adequately implemented and there is slow progress in the achievement of outputs, the Core Group should be encouraged to review implementation barriers and re-run causality analyses. This is an indication of a serious weakness in the plan design and/or implementation. There may also be factors inhibiting implementation outside of the control of the Core Group, which could be brought to the attention of the national committee overseeing D-I-V-A if progress does not improve over time.

PHASE 2: BIANNUAL REVIEW OF THE ACHIEVEMENT OF SMART OBJECTIVES AT DISTRICT AND SUB-DISTRICT LEVELS

YCSD SMART objectives are specific, time-bound results at outcome level and should lead to improvements in overall health outcomes in terms of morbidity and mortality reduction. The achievement of SMART objectives is the ultimate aim of the district response and a key indicator for measuring the district health performance. Note that this second phase should only be considered if the key outputs have been achieved; it is recommended to take place biannually at district and sub-district levels.

FIGURE 4-2 Review achievement of objectives (sub-districts and districts)

Output on track (Bottleneck reduced)	
Objective on track (Coverage increased)	Continue implementation
Objective not on track (Coverage NOT increased)	Rerun bottleneck analysis and suggest new solutions and/or activities

Achievement of SMART objectives is the ultimate aim of the district

SMART objectives measure changes in intervention coverage (i.e., outcomes) and therefore constitute the last level where adjustments can be effected. It is not common to change SMART objectives during the year, except in situations where there is gross under-performance, changes in funding or introduction of new initiatives.

Scenario 1: SMART objectives are on track

In situations where good progress is being made in the achievement of outputs and SMART objectives, the district management team should be encouraged to continue implementation. Efforts should be made to ensure sufficient motivation to maintain the good performance at all levels and in all sub-districts and PHC facilities.

Scenario 2: SMART objectives not on track despite full achievement of outputs

In situations where SMART objectives are not on track despite adequate implementation of activities and the achievement of key outputs, it is possible that the bottleneck analysis failed to identify the real bottlenecks. In this case,

the Core Group should re-run the bottleneck analysis to identify new bottlenecks and come up with new outputs and revised activities. If the analysis comes to the same results, then consider the second recommendation in the list of key strategies, below.

In some instances, there might be a need to refine the delivery strategy or shift the intervention within and/or across delivery channels, as shown in the figure on the next page. The Core Group should consider making some strategic shifts to the delivery channel to accelerate implementation and improve efficiency and effectiveness.

Strategic shifts
can be made
to accelerate
implementation

Key strategies include:

- 1. Task shifting and task sharing:** This involves delegating tasks to less specialised workers to make more efficient use of the available human resources and to quickly increase delivery capacity. For example, allowing midwives in ANC settings to prescribe antiretroviral treatment for care of HIV-infected pregnant women with advanced HIV infection can reduce dropout rates and rapidly increase coverage.
- 2. Shift across delivery channels:** This is the process of moving an intervention to a better performing delivery mode to improve implementation. For example, shifting the delivery of ITNs and vitamin A supplementation from routine services to campaigns has rapidly improved efficiency, reduced inequity and increased coverage in many developing countries.
- 3. Improve performance within same delivery channel:** Expanding capacity of the same delivery channel can improve effectiveness, efficiency and equity. For example, the expansion of malaria treatment to the private sector and CSOs has been shown to increase coverage and reduce disparities.

Note that shifts in the delivery of high-impact interventions could require to changes and adjustments in outputs and activities.

FIGURE 4-3 Refining the delivery strategy or shifting the intervention within and/or across delivery channels

If bottlenecks continue or are new, refine delivery strategy			
	Shift existing within channel	New delivery or technology approach	Improve channel performance
Potential approach	Shift intervention within channel	Shift intervention to different delivery channel	Improve performance of delivery channel
Description	Improve intervention to increase delivery within existing channels (e.g., less need for skilled provider)	New technology or policy change to deliver the intervention through a better performing channel	Improve efficiency, capacity or equity of delivery channel
Examples	<ul style="list-style-type: none"> ■ Task shifting of maternal ART from doctors to midwives in ANC settings ■ Point-of-care technologies (CD4, EID) to replace lab based tests 	<ul style="list-style-type: none"> ■ Deliver Vitamin A supplement with EPI and LLIN campaigns ■ Delivering treatment for diarrhoea, pneumonia and malaria through iCCM ■ Treatment adherence and patient follow up through CHWs 	<ul style="list-style-type: none"> ■ Voucher program to increase use and quality of HIV testing OR skilled birth attendance ■ Increase EPI coverage by expanding cold chain capacity ■ Improve capacity of private sector and CSO to deliver antimalarials
Observation	Might need new technologies and continued capacity building	Only applies to a limited range of interventions	For many interventions, improving channels performance is the only way to increase equitable uptake

Source: Adapted from Dan Kreis, BMGF

4. Adjust tracers, indicators and equity-focused strategies

As needed, adjustments such as adding or changing tracer interventions and indicators and modifying the frequency of monitoring activities should be made to the HMIS and survey tools. This can help strengthen existing systems and tools to generate quality and reliable actionable data to guide decision-making. In addition, the HMIS and survey tools should allow sufficient flexibility to change tracers with improvement in performance based on at least three different performance reviews. Failing equity-focused strategies should be either adjusted or replaced to improve effectiveness and efficiency of interventions.

5. Respond to new initiatives or changes in funding

In situations where new initiatives have been introduced and/or changes made in funding, DHMTs are often required to create additional SMART objectives or adjust existing ones. Where new objectives have been added, the Core Group is encouraged to run a new bottleneck analysis to identify the main supply and demand barriers, quality and managerial shortcomings and select appropriate solutions, strategies and activities to overcome them.

When adding new objectives, conduct analysis and develop a plan

This analysis should be followed by operational microplanning in order to set new outputs and objectives. These new targets should be guided by a reassessment of epidemiological or equity patterns, external shocks (natural or human-caused) or other factors that shift core national health-related goals. In situations where changes in funding have been made, the Core Group should re-run the selection and prioritisation of solutions, strategies and activities to decide where to adjust upward or downward in line with the budget changes.

6. Convene stakeholders to validate findings and recommended solutions

Through a multi-sectorial stakeholder consultation involving government, civil society, community and private sector, the findings of routine monitoring should guide the adjustment of solutions and activities during implementation to maximise the effectiveness of the district response. The consultation should review and interpret the Core Group's findings and validate its recommendations, drawing on the expertise and experience of stakeholders..

The stakeholder consultation should systematically review the:

Routine monitoring guides the adjustment of solutions and activities to maximise the effectiveness of the district response

- pattern of change in the performance of identified bottlenecks
- strength of implementation of identified solutions and actions
- recommendations on the actions to be taken

At the end of the meeting, discuss how to share the division of labor to ensure all stakeholders make meaningful contributions to the district plan and budget. Also, discuss how communities can be empowered to play a much bigger role in driving behavioral change and share accountability to the district's common health goals.

Conclusion

In many settings today, implementation takes place in the context of decreasing resources and increased pressure for results. Introducing the concept of quarterly and biannual adjustments in district planning and implementation allows managers and stakeholders to eliminate ineffective activities and make positive changes where needed to prioritise activities that achieve results and accelerate the reduction of illness and death, particularly for the unreached and most vulnerable groups.

Depending on the type of adjustments to be made and the resources available to the district, some changes can be implemented immediately while others can be incorporated into future plans. The decision on what to do and when to start implementation should be guided by an assessment of how to overcome the key bottlenecks to achieve sustainable results in reducing the leading causes of morbidity and mortality. This is to be managed by the Core Group in full and transparent collaboration with key stakeholders such as civil society, private sector, development partners and others.

