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Federal Democratic Republic of Ethiopia  
Ministry of Health

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# ETHIOPIAN NATIONAL HEALTH CARE QUALITY STRATEGY

2016 – 2020

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Transforming the Quality of Health Care in Ethiopia



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## Foreword: The Call to Action

As policymakers, as healthcare professionals, and most importantly, as clients of the Ethiopian health care system ourselves, many of us are aware of the challenges in delivering reliable high quality healthcare to improve patient safety, effectiveness, and patient-centeredness in Ethiopia. Despite significant improvements in health care services in recent years, inconsistent and unreliable quality of care is very rampant.

Ethiopia has achieved significant improvements in priority areas such as maternal and child health, malnutrition, communicable and chronic diseases, as well as in quality of emergency and surgical services. But this progress must accelerate in order to achieve the goals laid out in the Health Sector Transformation Plan (HSTP) of significantly improving the health outcomes in the next five years and meeting the expectations of the Ethiopian people.

A dramatic shift in the status quo requires a view to the entire system, to the issues facing health system leaders, practitioners, outreach workers, community members, and patients alike. This

Ethiopian National Healthcare Quality Strategy builds on the plan laid out in HSTP to further align key stakeholders across prioritized interventions that will drive large-scale improvement in quality of care delivery over the next five years. This will ultimately move Ethiopia towards our long-term goals of achieving the health outcomes of a lower-middle-income country by 2025 and of a middle-income country by 2035.<sup>1</sup>

Dramatic improvement in quality of health care services is within reach. This strategy provides a roadmap for addressing key quality challenges and for accelerating the improvement of health care quality nationwide. **The ultimate aim is to consistently improve the outcomes of clinical care, patient safety, and patient-centeredness, while increasing access and equity for all segments of the Ethiopian population, by 2020.** This is done by ensuring reliable, excellent clinical care, protecting patients, staff, and attendants from harm, and improving the efficiency of the delivery of care, while increasing access, equity and dignity of care for all segments of the Ethiopian population.

More specifically, this document spells out specific next steps to reach this aim, centred on four priority strategic areas, namely:

<sup>1</sup> Health Sector Transformation Plan

1. Develop an integrated approach to planning, improving, and controlling quality
2. Activate key constituencies to advance quality
3. Drive improvements in quality by explicitly linking Universal Health Coverage (UHC) strategy with quality
4. Support strong data systems and feedback loops as “backbone” of all improvement actions

The development of this strategic plan which is also informed by WHO guideline<sup>2</sup> is the call to action, the opportunity to each make a difference in improving quality and equity for all Ethiopians.



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Kesete-birhan Admasu Birhande (Dr.)  
Minister

<sup>2</sup>. Quality of care: a process for making strategic choices in health systems. World Health Organization 2006

## Acknowledgements

Stakeholders at all levels of the Ethiopian Health Care System contributed to this Quality Strategy. We gratefully recognize the providers, patients, community members, professional associations, regulatory agencies, Woreda Health Offices, and Zonal and Regional Health Bureaus who shared their insights into the state of quality of the health system. We also acknowledge the Bill and Melinda Gates Foundation which funded the

development of this strategy and the Institute for Healthcare Improvement for their technical assistance in the development of the strategy. A full list of collaborators can be found in Appendix C.

For a list of acronyms and a glossary of terms used in this document, see Appendices A and B

## Executive Summary

**Clarifying the Vision:** The ultimate aim of the National Health Care Quality Strategy is to consistently ensure and improve the outcomes of clinical care, patient safety and patient-centeredness while increasing access and equity for all segments of the Ethiopian population.

This will result in safe, more effective, more accessible and more equitable care for every Ethiopian, all the time. All patients – regardless of age, geography, or income – will have equal access to reliable, excellent clinical care, which protects them from harm and treats them with dignity and respect.

Since the launch of the Health Sector Development Program (HSDP) in the 1990s, there have been significant achievements in improving health outcomes for the Ethiopian population, such as the reduction of child deaths by more than two-thirds over the past twenty years to meet Millennium Development Goal Four. However, more work remains to be done. The National Health Care Quality Strategy will focus on improving quality across the spectrum of the health care system from prevention to palliative care, with special emphasis on the following five priority public health areas:

- Maternal Neonatal and child health, specifically reducing maternal and neonatal mortality

- Malnutrition, especially the prevention and management of severe acute malnutrition
- Communicable diseases, particularly malaria, HIV, and TB
- Non communicable diseases prevention and management, particularly diabetes, cancer, cardiovascular diseases, mental health, and chronic respiratory diseases
- Clinical and surgical services, particularly regarding timeliness of care

**Achieving this Vision:** In order to significantly improve the outcomes of these particular health areas, the National Health Care Quality Strategy prioritizes the following four key strategic focus areas:

- Develop an integrated approach to planning, improving, and controlling quality
- Activate key constituencies to advance quality
- Drive improvement in quality by explicitly linking UHC strategy with quality
- Support strong data systems and feedback loops as “backbone” of all improvement actions

**Executing this Vision:** To successfully implement the National Health Care Quality Strategy, there are a number of key next steps. In particular, the National Health Care Quality Strategy



## Executive Summary

commits to three key infrastructural changes to improve the quality of our healthcare system:

1. Create a formal Quality Unit within the Ministry of Health to oversee the development of quality agenda through coordinated quality planning, QI and quality control, as well as related structures at all levels to support quality teams and expertise including making the HDAs QI teams., and be ultimately accountable for Quality in Ethiopia.
2. Build the quality expertise of dedicated personnel to drive this quality agenda within each FMoH Directorate, FMHACA, professional associations, Ethiopia Health Insurance Agency, Pharmaceutical Fund and Supply Agency (PFSA), and Core Processes of Regional Health Bureaus.
3. Develop quality structures and learning systems within every level of the system that are capable of delivering, improving and maintaining high levels of quality. These

include the development of a Quality Team within each of the health facilities in both the private and public sectors, as well as within the community structure itself.

**Roadmap Ahead:** This National Health Care Quality Strategy reflects Ethiopia’s commitment to safer, more effective, more accessible, and more equitable care for every Ethiopian by 2020. The document begins with an overview of previous quality initiatives in this country, an explanation of why a National Health Care Quality Strategy is needed now, and an outline of how the Strategy was developed. After examining the current state of quality, key strategic areas to reach our aim (including estimated resources) are outlined, as well as a roadmap and plan for execution that links strategy to action, and a proposed set of indicators to measure improvement.

The time is now for better, more equitable health care for all. This is the National Health Care Quality Strategy’s commitment to every patient and every provider across each region in Ethiopia. Let’s do this together.

# 1. Background

In order to achieve the health improvement goals stated in the Health Sector Transformation Plan, this Strategy builds on a number of quality initiatives and tools that have been developed and implemented over the last 20 years – all of which have been aimed at improving the quality of health care delivery and services. These quality improvement initiatives have not always been well coordinated and generally have lacked strategic guidance and uniformity across the sector and across the regions.

## 1.1. Context of Quality Initiatives

The Federal Ministry of Health (FMoH) has increasingly focused on improving the quality of care over the past 20 years. This is evident in the Health Sector Development Plan (HSDP) IV, which discusses various elements of quality including accelerating speed of delivery, improving service integration, avoiding missed opportunities, increasing effectiveness, enhancing patient safety, and ensuring the availability of resources together with program designs for prioritized diseases and conditions for better outcomes. Following cross-sectoral government initiatives such as Business Process Reengineering (BPR) and Balanced Scorecard, implementation of the reformed HMIS, the FMoH now promotes Kaizen, a quality improvement methodology adopted across multiple sectors in the country, as a means of achieving better health care and health outcomes.

The Ethiopian Hospitals Management Initiative, which started in 2006, is a pioneering initiative to introduce a standardized based quality approach. This subsequently progressed to Ethiopian Hospitals Reform Implementation Guidelines (EHRIG) incorporating the concepts of blue print for hospitals, the health care financing strategy and the Business Process Reengineering BPR. The hospital reform was supplemented by the introduction of Key Performance Indicators for hospitals through the hospital performance monitoring and improvement guideline in 2011. The Ethiopian Hospitals Alliance for Quality (EHAQ) and Clean and Safe Hospitals initiative (CASH) are based on experiences in implementing Ethiopian Hospital Reform Implementation Guidelines (EHRIG).

The establishment of the Food, Medicine, Health Care Administration and Control Authority (FMHACA) enabled the development of various regulatory standards for the different levels of care at both private and public health facilities. These initiatives have paved the way for the Health Sector Transformation Plan (HSTP), which has given due emphasis to quality through appropriate design for quality planning, quality control and quality improvement at all levels.

This National Health Care Quality Strategy builds on existing quality initiatives within our Ministry and across Regional

# 1. Background

Health Bureaus, Woredas, and development partners occurring across the country. To achieve coherence, the Strategy also creates a comprehensive framework that integrates all quality related initiatives under one “roof” for better coordination of efforts throughout the country and functions as a backbone for addressing “Quality and Equity” – the cornerstones of HSTP.

## 1.2. Why Now?

Given the tremendous work and interest in quality in Ethiopia, there is momentum around the role that quality can play in helping to achieve our national health goals. Through the HSDP, Ethiopia made great strides toward access to health care for its entire population. With that advance comes the increasing responsibility to plan, improve, and control the quality of the care being delivered and ensure that is being provided equitably.

Ethiopia stands at a crossroads in its ability to dramatically improve health outcomes – strengthened by the increasing

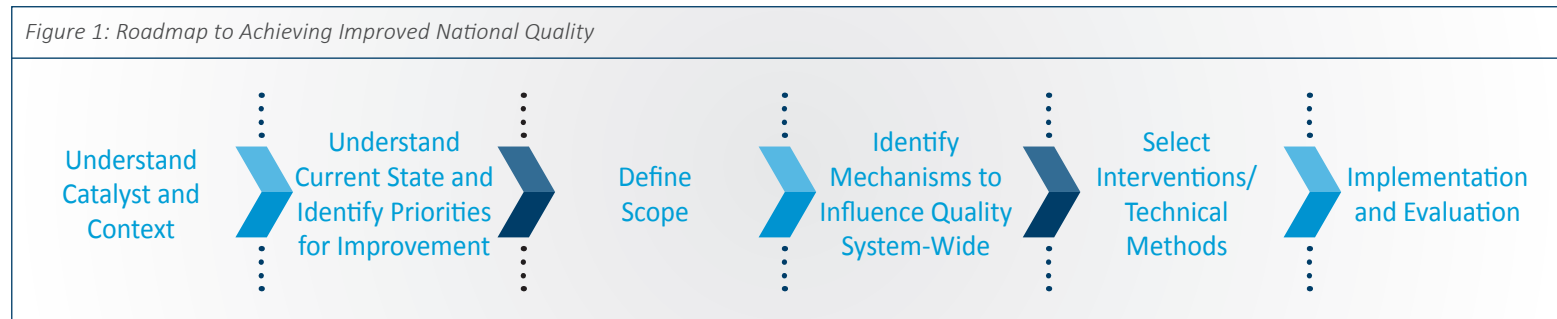
push towards universal health coverage for primary care, the continued strength of the Health Development Army and the role it can play in the structure of quality improvement, and increasing public awareness of safety and quality problems in health care delivery.

Strategies for improving quality will help the existing health workforce and new health care professionals to better perform towards better health outcomes and will maximize use of available resources through better coordination of quality related initiatives. Given the concurrent launch of the Health Sector Transformation Plan which gives emphasis to Quality and Equity, this National Health Care Quality Strategy presents a timely and vital opportunity to accelerate the achievement of Ethiopia’s health goals.

## 2. Approach

Following the approach recommended by the World Health Organization, the strategy development process has been a collaborative effort led by the Medical Services Directorate (MSD) at the FMOH with the technical support of the Institute for Healthcare Improvement (IHI) and involvement of partners working on quality and other key stakeholders.<sup>3</sup> Beginning with a Landscape Report conducted by FMOH and IHI in 2014 to better understand the landscape of quality improvement in Ethiopia, the six broad steps of the roadmap to achieving improved national quality are outlined below:

A core quality task force to this effect has been established under the Medical Services Directorate. Beginning with a document review of existing National Quality Strategies outside Ethiopia, as well as detailed quality documents within Ethiopia, the team conducted a series of interviews with stakeholders at the national, regional, and Woreda levels, utilizing a semi-structured interview guide around key areas of quality. These interviews were held to better understand the leadership and functionality system of quality in Ethiopia, the use of data systems and quality indicators, and existing quality initiatives.



<sup>3</sup>. World Health Organization, “Quality of Care: A Process for Making Strategic Choices in Health Systems”.

## 2. Approach

Site visits were conducted in multiple regions (including Addis Ababa, Oromia, Amhara, and SNNP) to better understand how quality translates at the facility and community levels, and how patients experience quality on a day-to-day basis.

In addition to individual interviews, one group interview and one stakeholder workshop were held with multiple Directorates within the FMOH to collaborate and co-create our aim and generate key drivers to impact this aim and improve quality. This group interview and stakeholder workshop sought to better understand the main levers that various actors within the health care system have to influence and improve quality across all levels of the system.

In parallel, as indicated above, a task force on quality was developed within the FMOH, consisting of the Medical Services and Maternal and Child Health directorates of the FMOH, as well as key quality partners, including the Institute for Healthcare Improvement, Clinton Health Access Initiative, Jhpiego, and Abt Associates. This group met to discuss approach and content of

the quality strategy. Throughout the process, the team consulted global experts in the field of national quality strategies, many of whom have helped other countries develop their own quality strategies.

The objective of this process has been to develop a comprehensive National Health Care Quality Strategy based on an understanding of the population health needs and the measured gaps in the health system in addressing the needs as well as working with leadership on the will to improve. The quality strategy strives to articulate a vision and aim for quality; develop a plan to improve; and develop corresponding policies that lead to changes in health system performance, using quality planning, quality improvement, and quality control methods. The model balances the planning efforts needed to ensure strong systems, the control efforts that must be in place to ensure accountability and safety, and the bold improvement efforts needed to rapidly shift and transform performance at scale.

### 3. Current State Analysis

This section provides an assessment of the health of the population and of the health system. Specifically, we examine the leadership and functionality elements that can be leveraged for a National Health Care Quality Strategy across all levels of the health system, as well as data systems that will serve as the backbone to any future quality improvement activities.

#### 3.1. Health of the Population: Priority Health Areas

Ethiopia has made great strides in improvement of health outcomes for our population over the past 20 years. Notably, under-five mortality decreased from 204 per 1,000 live births in 1990 to 68 per 1,000 live births in 2013, thus achieving Ethiopia's Millennium Development Goal Four. But challenges remain, in the maternal and child health (MCH) realm and beyond. We have identified five priority public health areas where the need is great and improvements in health care service quality have the potential to make a great impact on health outcomes. They are:

1. **Maternal and Child Health:** While under-five mortality overall has reduced significantly, the proportion of deaths that occur during the neonatal period are reducing at a slow rate. Meanwhile, data on trends in maternal mortality show varied results, highlighting the need for improved data quality and increased attention. Thus, priority issues within MCH are the **reduction of neonatal mortality** through improving the

prevention and management of top causes of mortality (e.g. asphyxia and neonatal sepsis), and the **reduction of maternal mortality** through improving the prevention and management of top causes of death (e.g. postpartum hemorrhage). Furthermore, there are great strides to be made with regard to dignity and respect in maternity care. To improve quality in this realm, it is essential that we focus on the patient- and family- centeredness of care.

2. **Nutrition:** Ethiopia has the highest rate of malnutrition in Sub-Saharan Africa, affecting 40% of the country's children.<sup>4</sup> Our priority area is the **reduction of child mortality** through the prevention and management of **severe acute malnutrition**.

3. **Communicable Diseases:** Priority areas within communicable disease are **HIV/AIDS, malaria, and tuberculosis (TB)**, with a focus on reducing the incidence of these diseases. Remarkable progress has been made to reduce prevalence and incidence of HIV/AIDS, however 750,000 people still live with the disease in Ethiopia. After years of overall decline, multi-drug resistant TB rates showed an alarming increase between 2005 and 2014. And while no major malaria epidemics have been reported in the country since 2003/2004, about 70% of the population continues to be at risk. Reduction in the incidence among targeted groups (MARPS and Youth) and expansion of option

<sup>4</sup> Mini DHS 2014

### 3. Current State Analysis

B+ for elimination of mother to child transmission of HIV are focus areas for the strategy.

- 4. Chronic Diseases:** Non-communicable chronic diseases account for 30% of deaths in Ethiopia in 2014. Our priority within chronic diseases is prevention and treatment of acquiring disease, as well as prevention of associated morbidity, through addressing risk factors such as physical inactivity, unhealthy diet, alcohol consumption and cigarette smoking. Specific target illnesses are **diabetes, cancer, cardiovascular disease, mental health, and chronic respiratory disease**.
- 5. Clinical and Surgical Services:** Improvements in emergency services at hospitals and health centers, particularly for

**clinical and surgical services**, are a priority to ensure that the population of Ethiopia has confidence in its health system to provide high quality care.

#### 3.2. Leadership and Functionality

In the current state assessment of the role of Leadership and Functionality in driving quality, stakeholders at the national, regional, zonal and Woreda levels, as well as within facilities and the community, were analyzed with respect to quality improvement. By analyzing the strengths and challenges at each level, mechanisms were identified that can be utilized in Quality Planning, Quality Control and Quality Improvement. Through this process, an ideal state of the Ethiopian health system has been developed, outlined in the table on the following pages.

Level of Health System	Current State	Mechanisms to Influence Quality	Future State
National	<ul style="list-style-type: none"> <li>• Existence of policies, guidelines and some tools to assess quality</li> <li>• Existence of regulatory bodies (FMHACA) developing minimum standards and guidelines (e.g. EHRIG, standards, key performance indicators)</li> <li>• No common understanding or vision of quality among leadership</li> <li>• Inadequate mechanisms to ensure timeliness and availability of supplies and procurement and maintenance of equipment</li> <li>• Disconnect between standards and ability to achieve them</li> <li>• Integrated Supportive Supervision (ISS) is provided to facilities who do not meet Lots Quality Assurance Sampling (LQAS) assessment criteria</li> <li>• Private sector and public sector are not always held to the same criteria or standards</li> <li>• Defined protocols exist, but enforcement of standards is inconsistent and punitive measures have not been defined</li> <li>• Government, rather than partners, is main driver of quality initiatives, leading to unified understanding of needs and goals</li> <li>• Provision of partner expertise and resources</li> </ul>	<p><b>Quality Planning</b></p> <ul style="list-style-type: none"> <li>• Policy development</li> <li>• Planning process for programmatic implementation</li> </ul> <p><b>Quality Control</b></p> <ul style="list-style-type: none"> <li>• Standards and regulations development and enforcement</li> <li>• Qualification, licensing, training and accreditation of laboratories, professionals, facilities</li> </ul> <p><b>Quality Improvement</b></p> <ul style="list-style-type: none"> <li>• Strategize with NGOs to drive nationwide QI initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• Harmonized standards (e.g. hospital) with institutionalized quality control mechanisms to ensure minimum standards are met</li> <li>• Standards and action plans or punitive measures enforced consistently for underperforming facilities</li> <li>• Leadership within the health system has a common definition and vision for quality and is knowledgeable in quality assurance and improvement approaches</li> <li>• Quality structures will be instituted and strengthened at all levels of the health care system</li> <li>• Necessary and appropriate equipment, medicines and reagents are readily available with systems in place to mitigate stock-outs of supplies and breakdown of equipment</li> <li>• Successful quality improvement programs scaled to cover facilities beyond hospitals nationwide (e.g. EHAQ, initiatives for priority conditions and diseases)</li> </ul>



### 3. Current State Analysis

Level of Health System	Current State	Mechanisms to Influence Quality	Future State
<b>Regional, Zonal and Woreda</b>	<ul style="list-style-type: none"> <li>• Recognition of well-performing facilities, leading to sharing of best practices at regional (and national) forums</li> <li>• Supportive supervision provided to facilities</li> <li>• Difficulty in driving initiatives in settings with minimal management support or commitment; need for strong champions and quality mentoring</li> </ul>	<p><b>Quality Planning</b></p> <ul style="list-style-type: none"> <li>• Regional priority setting</li> <li>• Resource distribution</li> <li>• Ensure system for providing capacity and capability to drive quality</li> </ul> <p><b>Quality Control</b></p> <ul style="list-style-type: none"> <li>• Clinical audits and inspections of health facilities</li> <li>• Licensing for private hospitals</li> <li>• Data and reporting standards and requirements development</li> </ul> <p><b>Quality Improvement</b></p> <ul style="list-style-type: none"> <li>• Supportive supervision as a QI mentoring and learning system</li> <li>• Focused improvement efforts around high priority topics using QI methods and learning systems</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthened leadership across regional, zonal and woreda levels of the health system, trained in quality improvement methods</li> <li>• Insurance claims data is used to identify quality challenges</li> <li>• Leverage two-way data feedback loop to develop focused quality improvement activities</li> <li>• Financial and technical assistance may be provided for public and private facilities to implement quality improvements</li> </ul>
<b>Facility Based Care</b>	<ul style="list-style-type: none"> <li>• Some facilities and centers successfully implemented EHRIG standards and established quality structures</li> <li>• Hospitals performing well based on KPIs and clinical audits chosen as LEAD hospitals and provide mentorship to EHAQ member hospitals</li> <li>• Inadequately staffed facilities due to staff attrition / turnover, absenteeism, lack of motivation or incentives</li> </ul>	<p><b>Quality Control</b></p> <ul style="list-style-type: none"> <li>• External Quality Assurance</li> <li>• Collecting, analyzing and reporting data</li> </ul> <p><b>Quality Improvement</b></p> <ul style="list-style-type: none"> <li>• Best practice sharing</li> <li>• Conducting QI peer-learning sessions</li> <li>• Workforce motivation and training</li> <li>• Designing activities based on community involvement and feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Sharing best practices with EHAQ member hospitals lead to sustained increased performance and quality in the selected focus areas</li> <li>• Motivation and alignment of incentives for providers and professionals (individuals and teams) to improve; accountable to quality assessment data</li> <li>• Facilities have low turnover and more satisfied employees</li> </ul>

Level of Health System	Current State	Mechanisms to Influence Quality	Future State
<b>Facility Based Care (continued)</b>	<ul style="list-style-type: none"> <li>• Provider basic skill gaps limit ability to provide quality patient care; capacity of hospitals for practicums is low, limiting hands-on experience</li> <li>• Quality improvement concepts are not covered in medical school/pre-service training or CME</li> <li>• Healthcare professionals may not be “fit to practice” but are not reviewed once accredited/licensed</li> <li>• Facilities may continue to provide services even though they are unable to meet minimum standards</li> <li>• Limited physician engagement in quality</li> </ul>		<ul style="list-style-type: none"> <li>• Strong clinical and QI skills are developed through pre-service and continuing medical education for all health care providers</li> <li>• Career path for Health Extension Workers</li> <li>• All facilities have uniform mechanisms to capture and act on patient feedback</li> <li>• Empanelment of facilities is linked to quality, leveraging health insurance coverage expansion</li> <li>• More emphasis given to clinical quality beyond administration</li> </ul>
<b>Community and Patients</b>	<ul style="list-style-type: none"> <li>• Increased community awareness is leading to demand for quality services</li> <li>• Health Development Army (HDA) members within the community are key links between patients and the Health Extension Workers</li> <li>• Lack of trust due to inconsistency in provider / patient service interaction; fear and lack of education of health worker treatments leading to low uptake in healthcare utilization</li> <li>• Patients do not have access to rankings/ grades of facilities they plan to visit, based on quality</li> </ul>	<p><b>Quality Control</b></p> <ul style="list-style-type: none"> <li>• Patient Feedback</li> </ul> <p><b>Quality Improvement</b></p> <ul style="list-style-type: none"> <li>• Leveraging HDA as quality improvement teams</li> <li>• Leveraging HDA to educate patients and community around quality care</li> </ul>	<ul style="list-style-type: none"> <li>• HDA act as QI teams</li> <li>• Continuous Quality Improvement is institutionalized through public forums facilitated by the HDA</li> <li>• Active patient rights charter</li> <li>• All patients and communities have access to quality health care, information (e.g. service availability) and clear communication with providers and facilities</li> <li>• Community Endorsement Groups, comprised of citizens that assess areas that impact quality, linked with the HDAs</li> </ul>

Additional detail on the assessment of Leadership and Functionality, mechanisms to influence quality, and implications to the National Health Care Quality Strategy, can be found in Appendix C.

## 3. Current State Analysis

### 3.3. Data Systems

Accurate, reliable data are crucial to improving health outcomes. A functioning data system will help to inform program planning, policy initiatives and support ideal health outcomes thereby making the data actionable. The effort continues to strengthen Ethiopia’s health information system at all levels of the health care network. A comprehensive review of the health management information system (HMIS) was conducted to improve data accuracy, timeliness of reporting and data completeness. The community health information system (CHIS) that is used by health extension workers (HEW) to capture granular level data at the user level that is the community, household and individual was also reviewed.

Although there has been a revision of the HMIS indicators to support greater usability and to enhance comprehensiveness and standardization, high quality data remains a challenge. Much of this stems from poor capacity building of users of the data system at all levels of the health system, a lack of feedback loops of information that could support improvement and poor documentation leading to poor reporting performance.

Although HMIS is the main source of hospital and clinical data for the health sector, additional data sources exist, which have been considered in this National Health Care Quality Strategy.

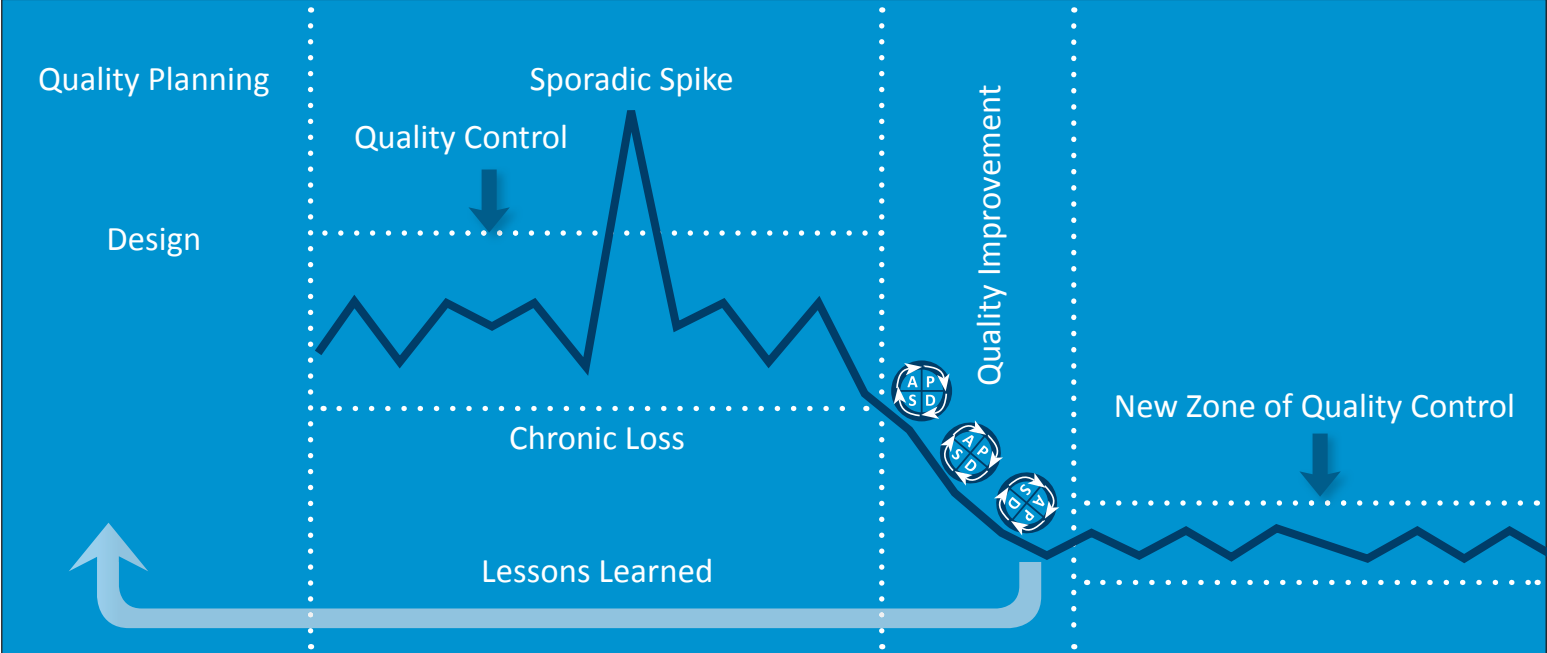
This also includes data sources that can be found outside of the health sector, but still have a major impact on health such as education, infrastructure, water and sanitation. Data to measure the effectiveness of the Ethiopian health system comes primarily from the following sources:

Data Source	Frequency of Data Collected
Health Management Information System (HMIS)	Monthly
Key Performance Indicators (KPIs)	Monthly
Ethiopia Demographic and Health Survey (EDHS)	Every five years
Community Health Information System (CHIS)	Monthly
Surveys Provisional Assessment (SPA)	Every two years

Additional detail on the assessment of Data Systems, as well as implications to the National Health Care Quality Strategy, can be found in Appendix D.

Based on this current state analysis on the health status of the population, leadership and functionality, and data systems, it is clear that opportunity exists for a national quality strategy to integrate policies and actions, while leveraging key strengths that already exist in the system.

# 4. Introducing the Ethiopian National Health Care Quality Strategy: Quality in Ethiopia



## 4. Introducing the Ethiopian National Health Care Quality Strategy: Quality in Ethiopia

### 4.1. Why do we have a national strategy for improving quality in health care?

The role of a strengthened health quality framework and strategy is to ensure that national policies, guidelines, and protocols around quality are reliably implemented, building off the extensive resources and infrastructure that the government has already put in place, thereby accelerating Ethiopia’s efforts to close remaining gaps in health outcomes and ensure equity for our diverse population.

The national health care quality strategy is directly aligned with the HSTP. Far from a standalone strategy, this Ethiopian National Health Care Quality Strategy builds on existing quality initiatives and policies, recognizing the role of multiple actors already engaged in the quality mission including the FMOH, RHBs, Woreda Health Offices, health facilities, communities and development partners and the specific quality initiatives that have been undertaken by multiple actors including MSD, FMHACA, and multiple NGOs.

### 4.2. Defining Quality

To date, there is no universally accepted definition of “quality.” Within the global health care community, the definition from the US Institute of Medicine (IOM) is generally used: “the degree to which health services for individuals and populations increase

the likelihood of desired health outcomes and are consistent with current professional knowledge.”<sup>5</sup> Within a similar framework, Dlugacz, Restifo, and Greenwood (2004) define quality more specifically to be “care that is measurably safe, of the highest standard, evidence-based, uniformly delivered, with the appropriate utilization of resources and services.”

There are six generally accepted dimensions, or aims, of quality, as laid out by the IOM<sup>6</sup>:

**Safe:** avoiding injuries to patients from the care that is intended to help them; the WHO defines “patient safety” as the prevention of errors and adverse effects to patients associated with health care

**Effective:** providing services based on scientific knowledge to all who could benefit, and refraining from providing services to those not likely to benefit

**Patient-centered:** providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions

**Timely:** reducing waits and sometimes harmful delays for both those who receive and those who give care

<sup>5</sup>. Institute of Medicine. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC, USA: National Academies Press; 2001.

<sup>6</sup>. Ibid.

**Efficient:** avoiding waste, including waste of equipment, supplies, ideas, and energy

**Equitable:** providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status<sup>7</sup>

### 4.3. Defining Quality in Ethiopia

In Ethiopia, as highlighted in the HSTP, quality and equity are defined together, believing that the two must go hand-in-hand. Through various consultative processes, the domains that have been prioritized in this Strategy are: safe, effective, patient-centered, efficient, accessible, comprehensive, affordable, and timely. With these prioritized domains, quality in Ethiopia is defined to be:

**“Comprehensive care that is measurably safe, effective, patient-centered, and uniformly delivered in a timely way that is affordable to the Ethiopian population and appropriately utilizes resources and services efficiently.”**

### 4.4. Three Core Elements of Quality

In drilling deeper into quality, it is helpful to spell out the three core elements of quality, namely quality planning, quality improvement, and quality control. Leveraging all three pillars in a

holistic way is one of the key foundations of this National Health Care Quality Strategy.

#### 4.4.1. Quality Planning

Quality planning brings systems thinking to the highest levels of leadership and governance. It responds to the measured gap between what the population needs, and what is currently being delivered in the health system. It then establishes the goals, policies and strategy to close this gap, and ensures that the resources are allocated to do this effectively. Quality planning involves designing a structure that delivers the right care to patients at the right time, every time.

#### 4.4.2. Quality Improvement

Quality improvement (QI) is a continuous process whereby organizations iteratively test and measure changes in work routines, set and achieve ambitious aims, shift whole system performance, and spread best practices for rapid uptake at a larger scale to address a specific issue or suite of issues they have determined to improve. One useful way to define quality improvement is: “...the combined and unceasing efforts of everyone—health care professionals, patients and their families, researchers, payers, planners, and educators—to make the changes that will lead to better patient outcomes (health), better system performance (care), and better professional

<sup>7</sup> Ibid.

## 4. Introducing the Ethiopian National Health Care Quality Strategy: Quality in Ethiopia

development (learning).”<sup>8</sup> Quality improvement begins with an identification of a clear aim statement or charter, to answer the question: “What are we trying to accomplish?” Several overlapping and complementary QI models exist, which all stem from the “Science of Improvement” that starts with an aim and develops tests towards improvement. These include Lean, Six Sigma, Kaizen, and the Model for Improvement. In Ethiopia, Kaizen is thought of as the engine driving improvement, while the Model for Improvement can be seen as the “vehicle” that provides structure for improvement. Specifically, Kaizen focuses on improving efficiency and lowering cost, through a methodology that can be integrated with other complementary quality improvement tools and approaches, such as the Model for Improvement. At the heart of both methodologies are small rapid tests of change that lead to sustained improvement (more details on Kaizen and the Model for Improvement can be found in the Appendix E).

### 4.4.3. Quality Control

Quality control (QC), is a normative process that includes quality assurance, where a system seeks to ensure that quality is maintained or improved, and errors are reduced or eliminated. QC programs evaluate current health care quality, identify problem areas, create a method to overcome issues, and monitor the method taken to improve quality.<sup>9</sup> Processes consist of both internal quality assurance and external quality assurance. For instance, these monitoring and improvement activities may be internally motivated (problems are identified and addressed from within a health care facility by a facility based QI team) or externally required (standards are set, and problems are identified through inspection by government agencies (woreda, zone, region, federal)).<sup>10</sup>

<sup>8</sup>. Batalden PB, Davidoff F. What is “Quality Improvement” and how can it transform healthcare? *Quality and Safety in Health Care*. 2007;16(1):2-3. doi:10.1136/qshc.2006.022046.  
National Center for Biotechnology Information. Quality Assurance, Health Care. National Center for Biotechnology Information. <http://www.ncbi.nlm.nih.gov/mesh/?term=healthcare+quality+assurance>. Accessed January 14, 2014.

<sup>9</sup>. Donabedian A. *An Introduction to Quality Assurance in Health Care*. New York, NY: Oxford University Press, Inc.; 2003.

<sup>10</sup>.

## 4.5. Ideal State of Quality in the Ethiopian Health Care System

By effectively leveraging all three elements of Quality Planning, Quality Improvement, and Quality Control, the following elements are identified as the “ideal” state of quality in the Ethiopian health care system:

Figure 2: Ideal State of Quality in the Ethiopian Health Care System





## 4. Introducing the Ethiopian National Health Care Quality Strategy: Quality in Ethiopia

To reach this ideal state of quality across Quality Planning, Quality Improvement, and Quality Control, this National Health Care Quality Strategy prioritizes four strategic focus areas to reach the collective aim, namely:

1



Develop an integrated approach to planning, improving, and controlling quality

2



Activate key constituencies, particularly to motivate workforce, build leadership across all levels, and activate patient and community demand for quality

3



Drive improvement in quality by explicitly linking Universal Health Coverage (UHC) strategy with quality

4



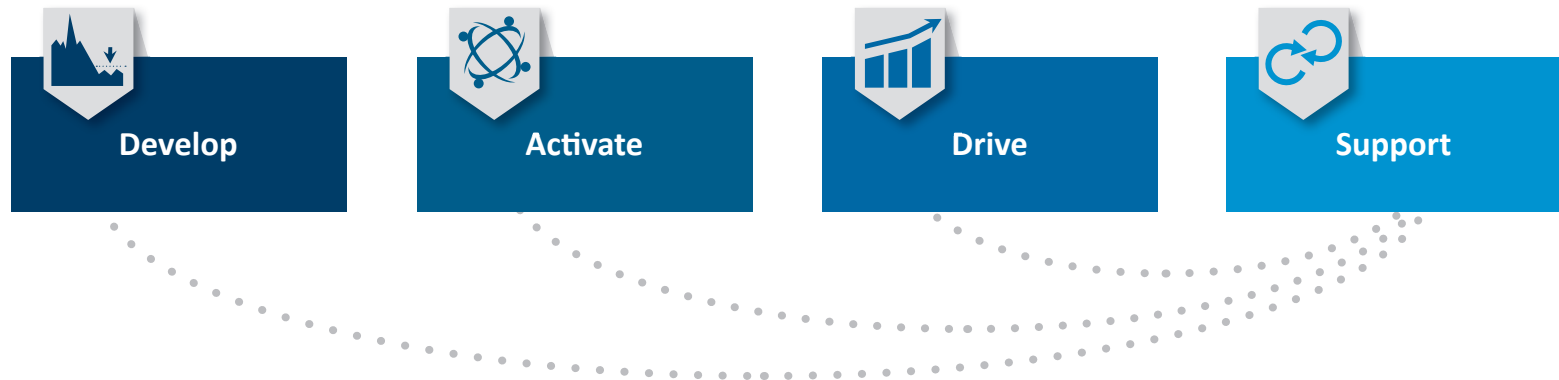
Support strong data systems and feedback loops as “backbone” of all improvement actions.

## 5. The Response

### 5.1. The Aim

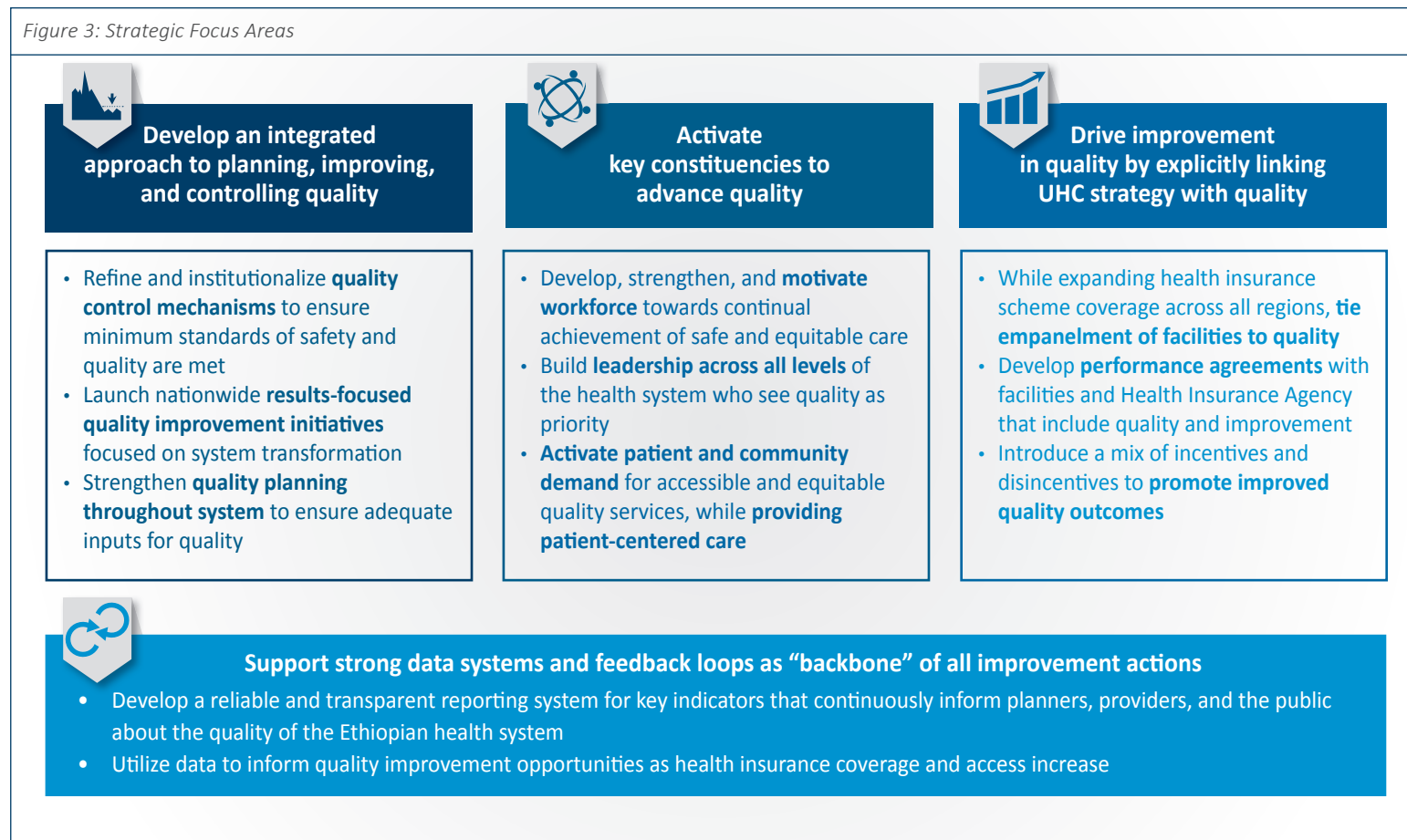
The aim of this National Health Care Quality Strategy is to consistently improve the outcomes of clinical care, patient safety, and patient-centeredness, while increasing access and equity for all segments of the Ethiopian population, by 2020.

The approach to do this rests on the following four key strategic focus areas, represented in the dark blue boxes below. Within each focus area, the ideal state is described, along with prioritized interventions, proposed owners, timeline, success indicators, and a resource estimate. The proposed indicators measure success of this particular key strategic focus area.



## 5.2. Strategic Focus Areas

Figure 3: Strategic Focus Areas





## Develop



### 1. Strategic Focus Area #1:

Develop an integrated approach to planning, improving, and controlling quality.



### Ideal State:

Quality planning, quality improvement and quality control are integral parts of the routine system at both health administrative and health facility structures across the health sector. This includes the enforcement of all set standards, development and execution of clinical standards for each type of service, and a culture of continuous quality improvement across all actors of the health sector which is guided by planning for quality during strategic and operational planning processes.

### Prioritized Interventions:

#### 1.1. Refine and institutionalize quality control mechanisms to ensure minimum standards of safety and quality are met

##### 1.1.1. Provide support for public and private facilities to improve quality

- a. Conduct analysis of gaps identified through assessment of regulatory standards and prepare action plan at national, regional, and facility levels and act accordingly
- b. Provide support to help facilities who fail accreditation/empanelment to improve quality
- c. Enforce standards and protocols when facilities (public and private) do not meet minimum guidelines and standards
- d. Motivate and provide incentives for facilities to adhere to regulatory standards and improve
- e. Build system of governance and accountability around meeting regulation standards

##### 1.1.2. Harmonize hospital standards between FMOH/MSD and FMHACA standards

- a. Introduce clinical protocols and treatment guidelines and ensure adherence by introducing clinical governance

#### 1.2. Launch nationwide results-focused quality improvement initiatives focused on system transformation

##### 1.2.1. Build on EHAQ initiative to cover health facilities beyond hospitals, focused on peer-based quality improvement

- a. Provide assistance to support improvement in the form of “lead facilities” and peer learning
- b. Provide quality improvement training to raise levels of capability among clinicians, pharmacists, and lab technicians at all levels of care



## Develop

### Prioritized Interventions:

- c. Develop performance management systems to build the management skills of healthcare leaders
- d. Build on EHAQ to include networks of laboratory and pharmacy, as well as private facilities and health centers towards the goal of shared learning and the pursuit of shared aims, linked to clear improvements in quality care
- 1.2.2. Implement quality improvement initiatives for priority health conditions and diseases like maternal and child health; malnutrition; communicable diseases; chronic/non-communicable diseases; and clinical and surgical services.
  - a. Utilize collaborative model to address priority issues nationwide, comprised of a group of peer facilities that use QI approach for improvement and peer learning
  - b. Develop large-scale quality improvement program focused on improving primary care, linked with expanded health insurance coverage at the community and Woreda level.
  - c. Focus on continuum of care across health levels and between public and private facilities

### **1.3. Strengthen quality planning throughout system to ensure adequate inputs for quality supplies and support planning more broadly**

- 1.3.1. Develop systems that enable consistent quality planning and analysis throughout system
  - a. Identify client needs, develop process design
  - b. Analyze root cause of any quality issues and integrate lessons learned to future plans
- 1.3.2. Ensure availability of necessary and appropriate equipment (based on local guidelines and appropriate international guidelines, e.g. World Health Organization), medicines, and reagents
- 1.3.3. Build maintenance mechanisms and ensure availability of skilled maintenance professionals for equipment
- 1.3.4. More effectively utilize data to track when supplies are needed and mitigate against stock outs

### Proposed Owners:

Medical Services Directorate | FMHACA | PFSA | Policy Planning Directorate  
Core Quality Team (see following section for more detail)

## Timeline:

### Short-Term:

- Harmonize hospital standards between FMoH/MSD and FMHACA standards
- Develop large scale quality improvement initiatives for priority disease and conditions including maternal & newborn health, emergency service, surgical service and chronic disease patient care
- Develop an action plan to fulfill regulatory standards and start filling gaps
- Expand EHAQ initiative to cover more areas for improvement

### Medium-Term:

- Enforce full implementation of FMHACA standards and other standards deemed necessary (ex: WHO standards)
- Incentivize improvement efforts through the Health Insurance Agency

### Long-Term:

- Institutionalize quality planning, quality improvement, and quality planning processes at all levels

## Success Indicators:

### Quality Control

- # of facilities receiving support (financial, technical) to improve quality
- Delivery of one (combined) set of guidelines/standards that both MSD and FMHACA will use to assess/measure hospitals

### Quality Improvement

- % of facilities that have joined EHAQ (including private facilities)
- % of facilities (including private), and Primary Health Care Units that have implemented CASH and meet those guidelines
- Launch of large-scale national collaborative focused on quality improvement and outcome results

### Quality Planning

- Rate of essential medicine and supplies shortages in facilities
- Rate of inappropriate medicines or reagents that are procured for dispensing and laboratory use
- % of equipment that is not able to be maintained or used



## Activate



**2. Strategic Focus Area #2:**  
Activate key constituencies.



### Ideal State:

Motivated health professionals with appropriate level of knowledge and skill in both clinical service and application of improvement science exercise their full rights and accomplish their duties in an ethical manner. A community demands its rights for quality service and contributes to the betterment of the healthcare delivery with a sense of “ownership” in their health care.

### Prioritized Interventions:

#### **2.1. Develop, strengthen, and motivate workforce towards continual achievement of safe and equitable care**

- 2.1.1. Motivate and align incentives for providers and professionals (individuals and teams) to improve, making it “easy” to do the “right thing”
  - a. Protection of providers’ rights
  - b. Make staff satisfaction a priority at facilities, building pride and joy in work
  - c. Assess, forecast, and plan for health management resource needs at the federal, regional, and woreda level to ensure availability of adequate and appropriately-trained staff.
- 2.1.2. Build clinical and quality improvement skills through pre-service education (medical and nursing school) and continuing medical education across all geographies to improve access to quality care and build equity
  - a. Strengthen quality improvement teaching around setting a quality aim, testing change ideas for improvement, measurement for learning, and scale/spread
  - b. Link quality improvement skill building with continued professional development across all levels of the health system, linking continued professional development with motivation
  - c. Establish skill labs within hospitals to assist clinical skill building processes and onboarding new staffs and graduates

## Prioritized Interventions:

### 2.2. Build leadership across all levels of the health system who see quality as a priority

- 2.2.1. Develop common understanding and vision for quality among leadership within the health system
  - a. Hold national quality summits to share FMOH aims for quality and rally key leaders around shared aims
- 2.2.2. Increase knowledge of quality assurance and improvement approaches among leaders
  - a. Provide training opportunities for leadership in quality improvement methods
  - b. Build clinical governance at health facilities to create a system of quality oversight by senior clinicians in health facilities

### 2.3. Activate patient and community demand for accessible and equitable quality services

- 2.3.1. Introduce the concepts of quality improvement in to the health development army structures at various levels and change the way the health development army functions as if they are quality improvement teams
  - a. Hold public forums around quality, ensuring patients are well-informed through transparent quality data including public announcement of quality performance indicators of health facilities
  - b. Hold forums within health facilities
  - c. Hold forums within health administrative structures
  - d. Promote patient education and empowerment within the community on quality care and the health packages being implemented by the HDA
- 2.3.2. Support uniformity across facilities to capture and act on patient feedback
- 2.3.3. Develop patient rights charter and grievance handling mechanism
- 2.3.4. Ensure patients' access to information (e.g. service availability) and clear communication with provider and facility
- 2.3.5. Establish health literacy units at health facility to deliver focused education to patients about their diseases, conditions and care and facilitate peer learning  
Example: diabetic (or other chronic disease) patients self-care





## Activate

### Prioritized Interventions:

- 2.3.6. Develop Community Endorsement Groups to assess areas that impact quality, e.g. cleanliness, kindness and respect of providers
  - a. Build collaboration between community and facility, building local pride in healthcare units
  - b. Work “with” community and patients (not “to” or “for”), to build relationships and greater sense of ownership of community and patients with their local health facilities

### 2.4. Hand-in-hand with activating patient demand for quality, provide patient centered care across the health care system to be responsive of individual patient needs

- 2.4.1. Chronic patient care will be supported by electronic medical recording system that is capable of monitoring current conditions, tracking progress over time, and predicting future care demands across multiple providers
  - a. Integrated patient-centric care across primary, secondary, and tertiary, enabled by electronic medical recording system across facilities and providers, and includes pharmacies and labs
- 2.4.2. Future health demands of individuals will be anticipated and discussed with individual patients, along with other focused health education areas through the health literacy unit and provider-patient interaction opportunities, ensuring that patients take an active role in their health care
- 2.4.3. Care of patients will be supported by a team of individuals to address not only the clinical complaints, but also socio-economic aspects of care

### Proposed Owners:

Medical Services Directorate | FMHACA and Regulatory Bodies | Professional Associations  
Core Quality Team (see following section for more detail) | Facility leaders

## Timeline:

### Short-Term:

- Begin to utilize existing forums for quality improvement
- Development of Patient Rights Charter
- Begin to hold Quality Summit annually
- Support quality improvement trainings for leadership
- Development of Community Endorsement Groups
- Protection of Providers' Rights

### Medium-Term:

- Ensure patients' access to information and clear communication with provider and facility
- Make staff satisfaction a priority at facilities, building pride and joy in work

## Success Indicators:

### Develop, strengthen, and motivate workforce

- % providers with malpractice protection
- % health care staff reporting high satisfaction in work
- % of medical schools that include QI in curriculum
- Average tenure of HEWs
- % of HEWs that progress to different careers within the health system

### Build leadership across all levels

- # of quality summits over 5 years
- # national, regional, and WHO leaders trained in QI Leadership

### Activate patient and community demand

- # and growth of public forums around quality
- % of hospitals collecting and acting on patient feedback
- Completion of a patient rights charter (yes/no)



## Drive



### 3. Strategic Focus Area #3:

Drive improvement in quality by explicitly linking Universal Health Coverage strategy with quality.



#### Ideal State:

Every Ethiopian has access to quality health care services. Only facilities that have passed quality checklists are empaneled in national health insurance scheme. Data is used to analyze claims data in order to identify opportunities to improve quality.

#### Prioritized Interventions:

##### 3.1. While expanding health insurance scheme coverage across all regions, link empanelment of facilities to quality

3.1.1. Introduce transparency in facility quality “grades” to help drive demand for quality

##### 3.2. Develop performance agreements with facilities and Health Insurance Agency that include quality and improvement

3.2.1. Develop system whereby executive team of healthcare facilities can negotiate how to utilize funds for quality improvement

3.2.2. Allow facilities to retain revenue within their health facility to support quality improvement activities within the facility

##### 3.3. Use Kaizen approaches to improve flow and efficiency in clinics and hospitals and decrease waiting times and hospital support services

3.3.1. Use flow principles to decrease outpatient waiting times, and manage increase inpatient loads in high volume areas (e.g. labor wards)

3.3.2. Eliminate waste through lean approaches

3.3.3. Use learning collaborative to accelerate the development of innovative strategies to improve flow and to spread what works

##### 3.4. Introduce financing strategies consisting of both incentives and penalties (including demand-side financing) as a complement to approaches described above

### Proposed Owners:

Ethiopian Health Insurance Agency | Medical Services Directorate  
Core Quality Team (see following section for more detail)

### Timeline:

To happen in lock-step with the development of the UHC Strategy / expansion of health insurance scheme coverage across all regions.

#### Short-Term:

- Develop quality guidelines to link with empanelment of facilities to quality
- Develop performance agreements with facilities that include quality and improvement in anticipation for empanelment

#### Medium-Term:

- Roll out quality guidelines as basis to screen empanelled facilities and roll out performance agreements

#### Long-Term:

- Consider linking incentives (positive and punitive) to link with quality, e.g. demand-side financing

### Success Indicators:

- % of hospitals empaneled with Ethiopian Health Insurance Agency that have undergone quality check through use of “Quality Empanelment Guidelines”
- % of empaneled hospitals that have signed performance agreements that include quality and improvement
- # of payments / reimbursements that have been held back as a result of poor quality outcomes



## Support



### 4. Strategic Focus Area #4:

Support strong data systems and feedback loops as “backbone” of all improvement actions



### Ideal State:

A data system that is responsive to guide every type of improvement action required at all levels in real time. Every decision will be informed by data and culture in use of data for improvement will be institutionalized across every level.

### Prioritized Interventions:

- 4.1. Develop a reliable and transparent reporting system for key indicators that continuously informs planners, providers, and the public about the quality of the Ethiopian health system
  - 4.1.1. Develop dashboards for different administrative levels on selected priorities for reporting within the health sector
  - 4.1.2. Ensure that quality indicators are a priority above all other data to report by providers, in order to improve
  - 4.1.3. Maximize utilization of data for decision-making from routine reporting
- 4.2. Utilize data to inform quality improvement opportunities as health insurance coverage and access increase
- 4.3. Capacitate health care facilities to be capable of identifying and prioritizing local level data use, including data generated from registers, patient chart audits, and administrative data
- 4.4. Ensure two-way data feedback loop so that local facilities receive information to improve; “supportive supervision” (e.g. benchmarking, regional/national trends, etc.)
  - 4.4.1. Feed data analysis back to Health Development Army to help frontline do their job better, thus motivating them to collect quality data
- 4.5. Incorporate principles of quality improvement and data use within each priority programmatic area for better achievement of intended aim of program

### Proposed Owners:

Policy Planning Directorate | Core Quality Team (see following section for more detail)

### Timeline:

To happen in lock-step with the development of the UHC Strategy / expansion of health insurance scheme coverage across all regions.

#### Short-Term:

- Identify key quality indicators from existing reporting and corresponding dashboards for different administrative levels
- Ensure two-way data feedback loop so that local facilities and HDA receive information to improve

#### Medium-Term:

- Identify core set of quality indicators to report publicly
- Capacitate health facilities to be capable of identifying and prioritizing local level data use

#### Long-Term:

- Utilize insurance claims data to identify quality challenges
- Incorporate principles of quality improvement and data use within each priority programmatic area moving forward

### Success Indicators:

- % of facilities that receive data/feedback from “upstream” to improve care locally
- % of health care facilities that are using local level data to improve
- # of priority programmatic areas that have incorporated principles of quality improvement and data use

## 6. Making This Happen

### 6.1. The Commitments

In order to implement the prioritized interventions for achieving quality outlined in the previous section, three immediate next steps will occur:

#### 6.1.1 A Quality structure with an equivalent status of a directorate will be developed that builds on existing quality structures within the FMoH to set the quality agenda across Quality Planning, Quality Control, and Quality Improvement, and drive this quality agenda forward.

In order to accelerate the achievement of system-wide transformational change in quality, a Core Quality Team that reflects the entire health care system is necessary. This quality team can take the form of a National Quality Board or a Quality Steering Committee. In the case of Ethiopia, it is recommended that a formal Health Service Quality Directorate is developed, which is housed in a particular directorate, with an authority to interact with every directorate and relevant quality partner. This Quality Directorate may be housed under the Medical Services Directorate, the FMoH executives to decide where to position it and what level of authority it will have.

As a designated unit, the Quality Directorate would be fully accountable for quality in the health system and ensure that the quality agenda is set across multiple key constituents and carried out. This Quality Directorate would then be supported by a Quality

Steering Committee, comprised of a multi-disciplinary team, such as representatives from FMoH Directorates (e.g. Medical Services Directorate, Maternal and Child Health, Policy Planning Directorate); regulatory bodies (FMHACA); and representatives from key initiatives linked with quality (e.g. Ethiopia Health Insurance Agency). This Quality Steering Committee should also include key leaders from the private health sector and patient associations.

As an immediate first step, this Quality Directorate would refine and ratify the National Quality Strategy by gaining input through forums with key constituents across the health care system, including the private sector, providers/professional associations, and patients/patient advocacy groups. The Quality Directorate would publish a transparent process for action and a clear roadmap for change. This may include the development of a working group with sub-committees comprised of private sector, providers, and patients to provide input and help refine this National Quality Strategy.

In parallel, this Quality Directorate will also test, refine, and finalize quality indicators across all levels of the health care system. Using the principles of quality improvement, the proposed quality indicators outlined in the following section should be tested and further prioritized by the Quality Directorate and multi-disciplinary Quality Steering Committee,

who will ultimately be accountable for these measures. This process of indicator finalization should narrow down a small set of “headline indicators” and targets, which will be used to build momentum and establish accountability. Each level of the health care system (down to the facility level) should have a core set of prioritized measures. These quality teams will revisit and examine the quality indicators annually, working towards a set of “aspirational” indicators to measure quality in the health care system.

Thirdly, the Quality Directorate will facilitate the selection of facilities to develop their own QI capacity, providing guidelines and a roadmap for achieving this, as well as building a learning system for facilities to improve. This initiative is described in more detail directly on page 40.

Fourthly, this Quality Directorate will be instrumental in ensuring quality is linked with the expansion of health coverage. Linking

quality explicitly with expanding health care coverage and access is perhaps the largest opportunity to create impact in the next 3-5 years. The FMoH has already signaled its commitment to improving access and quality through the recently-launched Health Sector Transformation Plan (HSTP). Formally linking quality with our strategy for Universal Health Coverage is a key step in implementing our vision of improved access and quality.

Fifthly, beyond linkage with the expansion of health coverage, the Quality Directorate would more broadly engage with stakeholders who are doing work on other initiatives linked with quality. This would include the Ethiopian Kaizen Institute, the National Accreditation Agency, and other national quality initiatives.

These five activities are outlined in Box 1 left. Based on the success and of this Quality Directorate at the National level, a similar structure may be tested at the **Regional level**, comprised



## 6. Making This Happen

*Box 1: The five primary next steps would be to:*

1

Refine the National Quality Strategy through collaborative process and develop roadmap for change;

2

Test, refine, and finalize quality indicators across all levels of the health system;

3

Build learning systems for facilities to build capacity and improve;

4

Link quality with expansion of health coverage; and

5

Broadly engage with stakeholders focused on quality, e.g. Ethiopian Kaizen Institute and the National Accreditation Agency.

of Core Processes of Regional Health Bureaus, as well as regulatory and health financing bodies at the regional level, with broad guidelines to ensure uniformity and standardization.

The objective of the formal Quality Directorate is to set the quality agenda across Quality Planning, Quality Improvement, and Quality control and drive it forward at the national level.

6.1.2. The capacity of directors, heads and case team leaders within each FMoH Directorate, FMHACA, professional associations, Ethiopia Health Insurance Agency, and Core Processes of Regional Health Bureaus will be built, with the goal of becoming champions for quality.

To build a culture of quality improvement into everything we do, we plan to build quality expertise at the leadership levels of our health care system. Each FMoH department, regulatory body, health financing body, professional association and Regional Health Bureaus will have dedicated quality leads, in the form of capacitating directors, heads, and case team leaders. This will result in quality being integral to every unit. The quality champion roles will be empowering, with each identified person trained in QI methodology and approaches to quality that are actionable and directly linked with the priorities of the National Quality Strategy. The Quality leads will meet quarterly to identify shared aims aligning with the national quality strategy, share best practices and challenges.

### 6.1.3. Quality structures and learning systems within every level of the system that are capable of delivering, improving and maintaining high levels of quality will be built.

These include the development and/or strengthening of a Core Quality Team within each of the levels, from community to facility (across both public and private facilities), Woreda, zonal, regional and federal. Of course, this must incorporate the complexity of health facilities, with different structures for quality based on the type of facility. For instance, at a complex tertiary teaching hospitals, one unit may be established, led by a quality director and composed of clinicians, quality experts and data clerks. This builds on the current initiative of instituting quality management and clinical governance

directors under executive directors of major university hospitals. For health centers, a quality structure would focus on strengthening the performance monitoring team to be inclusive of quality works. These structures will work with the facility management to develop their own local quality strategies in the areas of quality planning, quality improvement, and quality control towards making quality work an integral part of each unit within the facility.

Each service area of a health facility (ex: Surgery, Labor & delivery, Inpatient, etc ...) will be designating a lead senior person who will be capacitated on quality and quality improvement to facilitate the improvement and internal quality assurance efforts within its unit.

## 6. Making This Happen

### 6.2. Roadmap

The Roadmap below summarizes the key quality activities and interventions across the five year time horizon. Activities focus on early learning and collaboration; for instance, a large-scale quality initiative focused on maternal and child health can help share early learnings across other quality initiatives, who are involved in the overall design process to stimulate cross-learning.

	Short-Term Build alignment around quality across entire health care system at all levels; set foundations for quality	Med-Term Strengthen culture of quality and align incentives / motivate around improvement	Long-Term Focus on holding the gains of prioritized interventions and broader adoption of best practices
 <p>Develop integrated approach to planning, improving &amp; controlling quality</p>	<ul style="list-style-type: none"> <li>• Harmonize hospital standards between FMOH/ MSD and FMHACA standards for clarity in system</li> <li>• Develop action plan to help facilities fulfill regulatory standards</li> <li>• Develop large scale QI initiatives for priority diseases</li> </ul>	<ul style="list-style-type: none"> <li>• Enforce full implementation of FMHACA standards and other standards deemed necessary (e.g. WHO standards)</li> <li>• Incentivize improvement efforts through Health Insurance Agency</li> </ul>	<ul style="list-style-type: none"> <li>• Institutionalize quality planning, quality improvement, and quality control process at all levels</li> </ul>
 <p>Activate key constituencies to advance quality</p>	<ul style="list-style-type: none"> <li>• Develop of Patient Rights Charter</li> <li>• Hold Quality Summit annually</li> <li>• Support QI trainings for leadership</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure patients' access to information and clear communication with provider/facility</li> <li>• Prioritize staff satisfaction at facilities to build joy at work</li> </ul>	<ul style="list-style-type: none"> <li>• Develop of Community Endorsement Groups</li> <li>• Ensure continued protection of providers' rights</li> </ul>
 <p>Link quality with UHC strategy</p>	<ul style="list-style-type: none"> <li>• Develop quality guidelines to link with empanelment of facilities to quality</li> <li>• Develop performance agreements with facilities that include quality and improvement</li> </ul>	<ul style="list-style-type: none"> <li>• Roll out quality guidelines as basis to screen empaneled facilities and roll out performance agreements</li> </ul>	<ul style="list-style-type: none"> <li>• Consider incentives (positive and punitive) to motivate towards quality</li> </ul>
 <p>Support strong data systems and feedback loops</p>	<ul style="list-style-type: none"> <li>• Identify and finalize key quality indicators from existing reporting and build corresponding dashboards for different levels</li> <li>• Ensure two-way data feedback loop so that local facilities and HDA receive information to improve</li> </ul>	<ul style="list-style-type: none"> <li>• Identify core set of quality indicators to report publicly</li> <li>• Capacitate health facilities to be able to use local level data for improvement</li> </ul>	<ul style="list-style-type: none"> <li>• Utilize insurance claims data to identify quality challenges and areas to improve</li> <li>• Incorporate principles of quality improvement and data use within each priority programmatic area moving forward</li> </ul>

## 7. Measuring Improvement

Measuring quality of health care is a powerful tool to accelerate improvements in the delivery of effective and safe care, to benchmark and increase transparency and accountability, and to influence payment for quality services.

In this section, a proposed set of quality indicators is outlined, using a framework that links back to the ultimate aim of **consistently improving the outcomes of clinical care, patient safety, and patient-centeredness, while increasing access and equity for all segments of the Ethiopian population, by 2020.**

### 7.1. Introducing the Quality Indicator Framework

The framework on page 44 organizes the elements of the Ethiopian healthcare system holistically, focusing on the following three areas:

- A) **Health System Performance**, comprised of both health service quality, equity, and access to the system
- B) **Health System Inputs** that lead to this performance

- C) **Health Outcomes**, broken out into health status and equity, linking back to our aim

Within these three areas, the framework seeks to identify indicators across the five key health priority areas (maternal and child health; malnutrition; communicable diseases (malaria, HIV, TB); chronic/non-communicable diseases (diabetes, cancer, cardiovascular, mental health, chronic respiratory); and clinical and surgical services), as well as broad quality indicators. To combat the sometimes “siloed” nature of public health work into vertical streams of health diseases, we have laid out the framework across the four stages of care as outlined in the Organization for Economic Cooperation and Development (OECD) Health Care Quality Indicators Framework, namely:

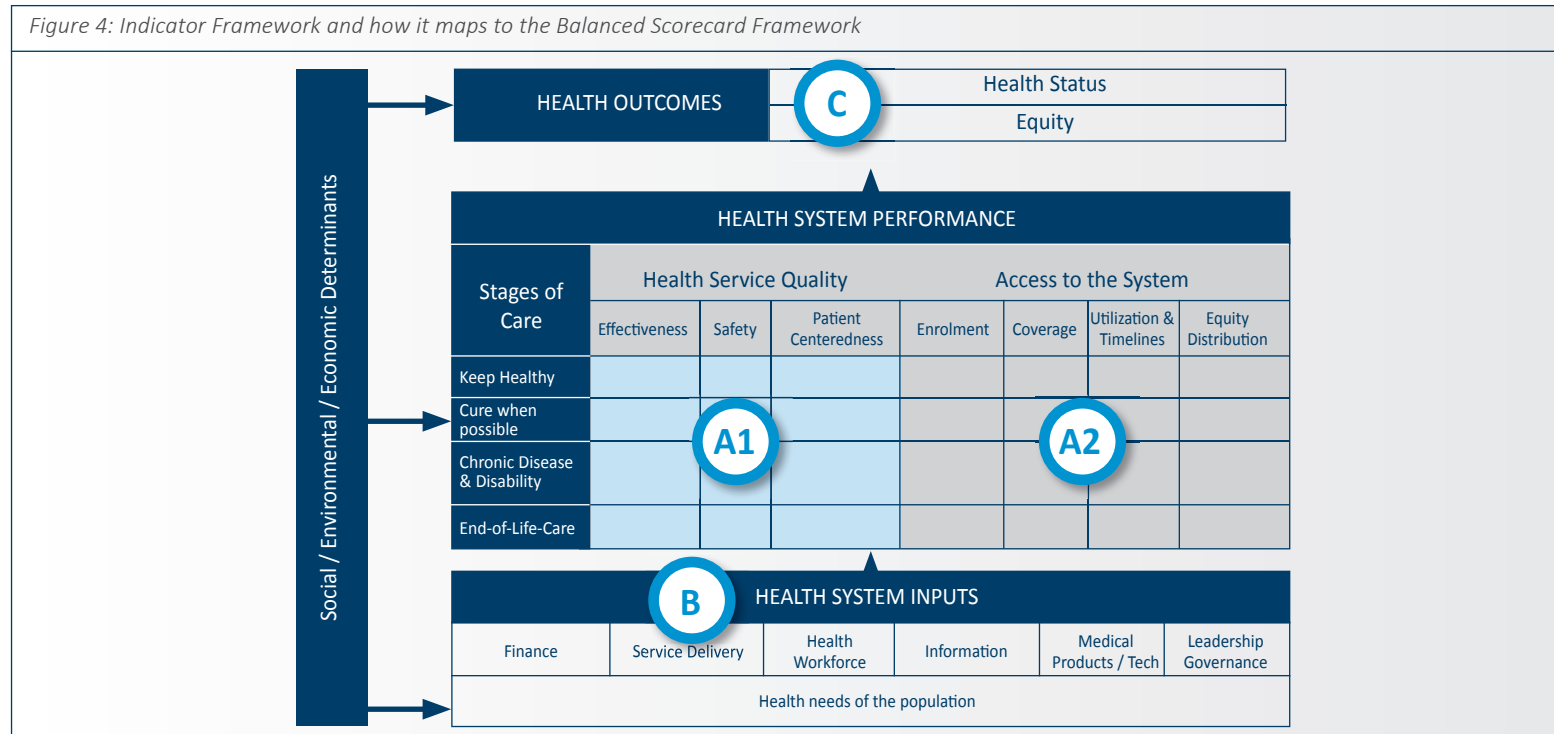
- Keep healthy
- Cure when possible
- Chronic disease and disability
- End of life care

## 7. Measuring Improvement

The full indicator framework is shown below, which builds from the Balanced Score Card tool of planning and communication as well as tools such as the MSD’s Maternal Care Quality Improvement Self- Assessment Tool for Hospitals. It incorporates four perspectives: community, finance, internal process, and capacity building. It is suggested that the indicators are discussed,

revised, and finalized to align with HSTP and HMIS, as well as developed in collaboration with partners supporting quality, such as JSI, Harvard and Yale Universities’ initiative on Developing the Long-Term Capability of Ethiopia’s Health Extension Platform Program (HEPCAPS) to define a national dashboard of quality indicators.

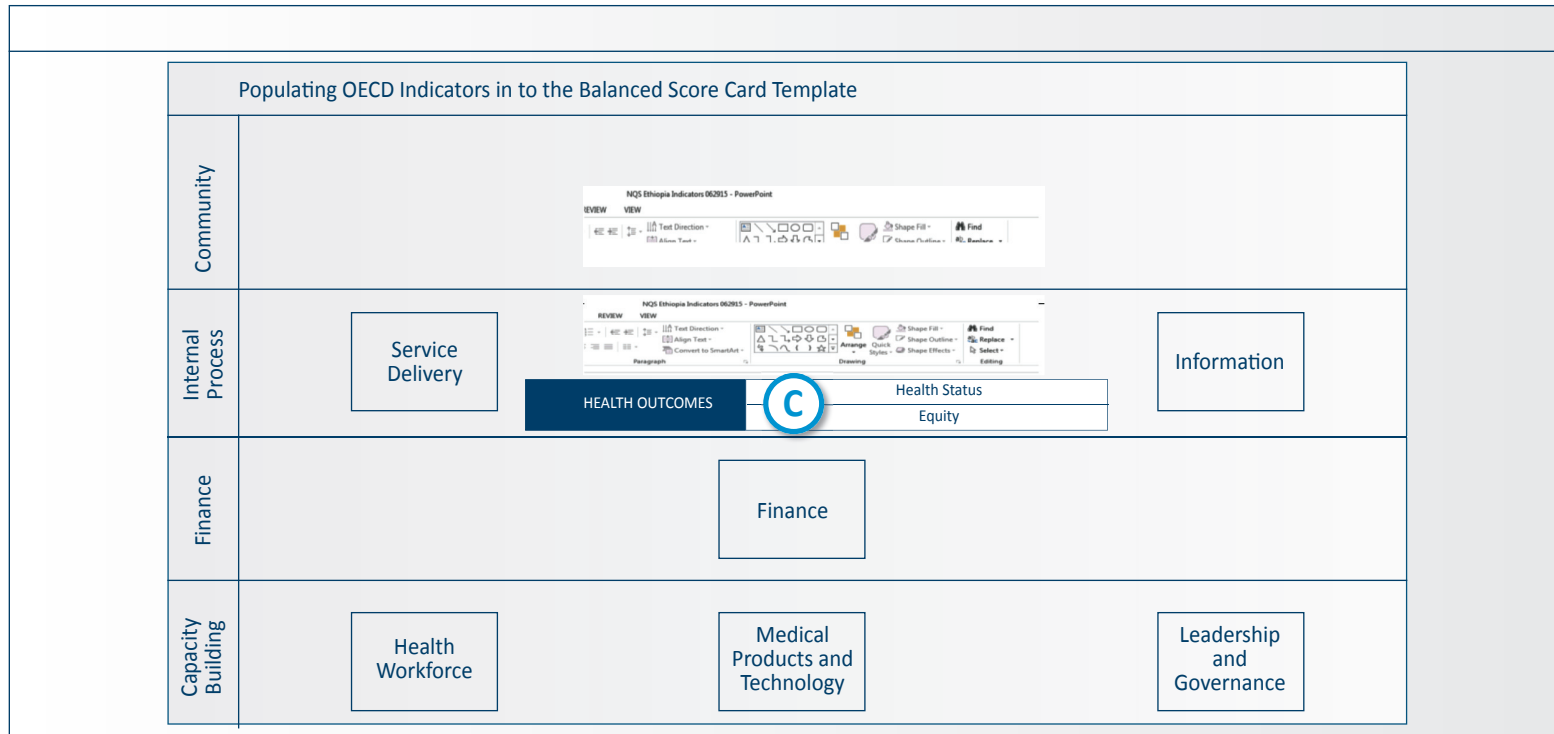
Figure 4: Indicator Framework and how it maps to the Balanced Scorecard Framework



## 7.2. Populating the Quality Indicator Framework

To minimize parallel reporting, all proposed quality indicators are currently being collected from various data sources, e.g. HMIS, KPIs, household surveys such as EDHS and facility surveys such as Service Provision Assessment (SPA). As noted in the HSTP,

determinants of health are also found outside the health system; therefore data sources from other sectors have also been included e.g. education, infrastructure, water and sanitation. (A full analysis of data sources can be found in the Appendix F.)



## 7. Measuring Improvement

All the quality indicators selected have gone through the following nine prioritization criteria:

1. **Health Priority:** does it measure a specific health priority or measure quality more broadly?
2. **Scope of Impact:** what is the scope of impact in measuring this indicator (e.g., population-size clinical outcomes)? Does the indicator speak to a larger issue?
3. **Feasibility:** what is feasible given the data that is already collected and the validity of this data? How easy will this be to implement?
4. **Measurability:** is this indicator possible to measure?
5. **Accuracy:** is the data collected through this indicator accurate?
6. **Actionable:** are clear actions and change in behavior likely to happen from looking at this indicator?
7. **Comparability:** can we compare this indicator against a gold standard (e.g., 95% of children should be immunized) or against other countries or across regions? How easy is it to establish consensus for standards?

8. **Defensible:** is this indicator defensible from a scientific point of view and from the perspective of what key decision-makers view as important?

9. **Credible:** in the end, is the indicator credible for those who need to take action and those whose performance is being measured and compared?

### 7.3. Detailed Quality Indicator Framework

The framework on the right pulls from indicators that are already being collected in Ethiopia. As shown on the right, certain gaps exist. We propose an approach and example aspirational indicators to help fill these gaps in the next section. Indicators required for quality improvement work at different levels of care and level of health administrative unit is not fully listed down here. Therefore each level of health facility and health administrative unit could be guided by the framework to further develop and refine quality indicators for their level day to day quality improvement work.

**A1**

**HEALTH SYSTEM PERFORMANCE: HEALTH SERVICE QUALITY**

	<b>Effectiveness</b>	<b>Safety</b>	<b>Patient Centeredness</b>
<b>Keep Healthy</b>	<p><i>Maternal and Child Health:</i></p> <ul style="list-style-type: none"> <li>• % of health facilities providing all BEmONC signal functions</li> <li>• % of district hospitals providing all CEmONC signal functions</li> <li>• % of women having at least 4 ANC visits</li> <li>• % of mothers/ newborns receiving postnatal care</li> <li>• % of women who received prophylactic uterotonics</li> <li>• % of newborns receiving skin-to-skin contact within 30 minutes of birth</li> <li>• % of newborns breastfeeding within 1 hour of birth</li> <li>• % of newborns receiving exclusive breastfeeding through first 6 months</li> <li>• % of pregnant women receiving ANC who receive a test result for syphilis</li> <li>• % of women with post-partum check-up within 2 days for last live birth</li> <li>• % of babies with post-natal check-up within 2 days for last live birth</li> <li>• % of children receiving full immunization coverage (&lt;1 year)</li> <li>• Measles (MCV1) immunization coverage</li> </ul>	<ul style="list-style-type: none"> <li>• % deliveries attended by skilled health personnel</li> <li>• % of deliveries where delivery attendant washed hands with soap</li> <li>• Number of persons provided with Post-exposure prophylaxis (PEP)</li> <li>• % of newborns receiving clean cord care</li> <li>• % of newborns having CHX 7.1% w/v (of an appropriate formulation) applied to the cord stump within the first 24 hours of life</li> </ul>	<ul style="list-style-type: none"> <li>• Customer satisfaction index</li> <li>• Proportion of emergency patient getting emergency care in less than 5 minutes</li> </ul>



## 7. Measuring Improvement

A1

### HEALTH SYSTEM PERFORMANCE: HEALTH SERVICE QUALITY

	Effectiveness	Safety	Patient Centeredness
Keep Healthy	<p><b>Malnutrition:</b></p> <ul style="list-style-type: none"> <li>• % of children aged 6-59 months who received vitamin A supplement</li> <li>• % of children under five years who sought treatment within 24 hours from onset of fever</li> </ul> <p><b>Communicable Diseases:</b></p> <ul style="list-style-type: none"> <li>• % of HIV+ pregnant women who received ARV prophylaxis (ART of Option B+) to prevent MTCT of HIV</li> <li>• HIV+ persons receiving cotrimoxazole prophylaxis</li> </ul> <p><b>Chronic / Non-communicable Diseases:</b></p> <ul style="list-style-type: none"> <li>• % women age 30-49 years screened for cervical cancers</li> </ul>		
Cure When Possible	<p><b>Maternal and Child Health:</b></p> <ul style="list-style-type: none"> <li>• % of VLBW newborns received KMC</li> <li>• % of asphyxiated newborns who were resuscitated</li> <li>• % of newborns with suspected sepsis treated with antibiotics</li> <li>• % of pregnant women tested for syphilis and given treatment if needed</li> <li>• % of women with pre-eclampsia who are treated with IV/IM MgSO4</li> <li>• % of pregnant women with pPRoM who are not in labor and are given oral erythromycin</li> <li>• Cesarean-section rate</li> </ul>		

**A1**

**HEALTH SYSTEM PERFORMANCE: HEALTH SERVICE QUALITY**

	Effectiveness	Safety	Patient Centeredness
Cure When Possible	<ul style="list-style-type: none"> <li>• % of children aged 2-5 years dewormed</li> <li>• % children aged 2-5 with pneumonia treated with Amoxicillin</li> </ul> <p><b>Malnutrition:</b></p> <ul style="list-style-type: none"> <li>• % children with malnutrition receiving treatment</li> </ul> <p><b>Communicable Diseases:</b></p> <ul style="list-style-type: none"> <li>• TB case detection rate for all forms of TB</li> <li>• Cure rate for bacteriologically confirmed TB cases</li> <li>• HIV screening for TB patients</li> <li>• TB screening for HIV patients</li> <li>• Percentage of ART patients with an undetectable viral load at 12 months after initiation of ART</li> </ul>		
Chronic Disease and Disability	<ul style="list-style-type: none"> <li>• Morbidity attributed to diabetes mellitus</li> <li>• Number of health facilities providing integrated mental health services</li> </ul>		
End of Life Care			

## 7. Measuring Improvement

**A2**

### HEALTH SYSTEM PERFORMANCE: ACCESS TO THE SYSTEM

	Enrollment	Coverage	Utilization and Timeliness	Equity, Distribution
Keep Healthy	<ul style="list-style-type: none"> <li>• % primary health coverage</li> <li>• % of households enrolled in community based health insurance</li> <li>• Number of HIV positive adults and children newly enrolled in clinical care</li> </ul>	<ul style="list-style-type: none"> <li>• Proportion of woredas with <math>\geq 80\%</math> of pentavalent 3 immunization coverage</li> </ul>	<ul style="list-style-type: none"> <li>• Outpatient attendance per capita</li> <li>• Bed occupancy rate</li> <li>• Average length of stay (in days)</li> </ul>	<ul style="list-style-type: none"> <li>• All Health Service Quality indicators (above) by region</li> </ul>
Cure When Possible	<ul style="list-style-type: none"> <li>• Number of PLHIV newly enrolled in pre-ART care</li> </ul>			
Chronic Disease and Disability				
End of Life Care				



## HEALTH SYSTEM INPUTS

Element	Indicators
Finance	<ul style="list-style-type: none"><li>• Proportion of health budget utilization to allocation</li></ul>
Service Delivery	<ul style="list-style-type: none"><li>• Admissions rate</li><li>• Inpatient mortality rate</li></ul>
Health Workforce	<ul style="list-style-type: none"><li>• Health staff to population ratio by region</li><li>• Health staff skills mix</li><li>• Facilities staffed as per the standard</li></ul>
Information	<ul style="list-style-type: none"><li>• % of births registered at the health facilities as per the Civil Registration system of Ethiopia</li><li>• % of deaths registered at the health facilities as per the Civil Registration system of Ethiopia</li></ul>
Medical Products and Technologies	<ul style="list-style-type: none"><li>• % and geographic distribution of essential medicines and technologies availed to treat major NCDs in health centers and hospitals</li><li>• Proportion of identified potential epidemics with adequate emergency drug kits (EDKs) and other supplies</li><li>• Availability of cervical cancer screening in at least one health facility per woreda</li></ul>
Leadership / Governance	

## 7. Measuring Improvement



### HEALTH OUTCOMES

Element	Indicators
Health Status	<p><i>Maternal and Child Health:</i></p> <ul style="list-style-type: none"> <li>• Maternal mortality ratio (MMR)</li> <li>• Institutional maternal mortality ratio (MMR)</li> <li>• Neonatal Mortality rate (NMR)</li> <li>• Stillborn rate</li> <li>• % of low birth weight newborns</li> </ul> <p><i>Malnutrition:</i></p> <ul style="list-style-type: none"> <li>• Treatment outcome for management of severe acute malnutrition</li> </ul> <p><i>Communicable Diseases:</i></p> <ul style="list-style-type: none"> <li>• Number of malaria deaths per 100,000 population at risk</li> <li>• Malaria mortality rate</li> <li>• % of infants born to HIV positive women who are HIV infected</li> <li>• % of young people aged 15-24 who are living with HIV</li> <li>• Survival on ART</li> <li>• TB treatment success</li> </ul> <p><i>Chronic / Non-communicable Diseases:</i></p> <ul style="list-style-type: none"> <li>•</li> </ul> <p><i>Clinical and Surgical Services</i></p> <ul style="list-style-type: none"> <li>•</li> </ul>
Equity	<i>Indicators disaggregated by region (geography), by sex, and by age</i>

#### 7.4. Testing and Improving Quality Indicators

One advantage of using a systems framework is identifying where current indicators may not currently exist (additional Quality Indicator Frameworks can be seen in the Appendix G). As stated above, all indicators outlined above are current indicators that are currently being collected across the Ethiopian health care system and prioritized by linkage to aim, our health priorities, and strength of indicators. In the spirit of quality improvement, these indicators represent a proposed foundational set of quality indicators. They must be tested and refined across various levels of the health system on a regular (e.g. annual) basis, while gaps in indicators should also be addressed.

As part of immediate next steps following this National Quality Strategy, the Quality Health Service Quality Directorate and the National Quality Steering Committee will examine the following across the various levels of the health system, down to the facility and community level:

- 1) Gaps in the framework and areas where fewer indicators currently exist (e.g. patient centeredness, end of life care, leadership/governance inputs, equity outcomes, etc) in order to propose and test potential indicators
- 2) Current quality indicators to test and finalize

## 7. Measuring Improvement

### 7.5. Aspirational Indicators

This strategy defines aspirational indicators as indicators that do not currently exist in the current health system, but serve as improvements to current indicators, as well as address current gaps in the indicator framework. Examples of aspirational indicators in the framework above include the following:

**A2**

#### HEALTH SYSTEM PERFORMANCE: HEALTH SERVICE QUALITY

- Non communicable disease indicators, e.g. amputation among diabetics rate
- Additional patient-centered indicators, e.g. patient experience with primary care
- Additional safety indicators, e.g. avoidable hospital admissions; avoidable hospital readmissions; surgical complications; obstetric trauma

**A2**

#### HEALTH SYSTEM PERFORMANCE: ACCESS TO THE SYSTEM

- Geographic distribution of doctors, nurses, dentists, pharmacists
- Provider to population ratio disaggregated by region

**B**

#### HEALTH SYSTEM INPUTS

- Additional indicators on health financing, e.g. health expenditure per capita; health expenditure as a percentage of GDP; expenditure by disease/health priority
- Additional indicators on medical products and technologies, e.g. skills of workforce to utilize
- Indicators on leadership and governance, e.g. percent of facility leaders leading QI sessions

**C**

#### HEALTH OUTCOMES

- Non communicable disease outcome indicators, e.g. diabetes prevalence and incidence
- Equity outcomes, e.g. life expectancy at birth per region; health outcomes per region

## 8. Conclusion

The Ethiopian health care system is poised for improvement. From the launch of our Health Sector Transformation Plan (HSTP) this year, to Ethiopia’s increased focus towards Universal Health Coverage (UHC) in the years ahead, the country is embarking on massive change that will result in significantly improved access and quality.

This National Health Care Quality Strategy builds on existing quality initiatives and lays the framework to improve health care quality at the systems level, based on an understanding of the current state of the healthcare system to drive quality, an analysis of existing gaps, and an examination of what has worked successfully globally.

Focusing on these priority areas over the next five years will accelerate the achievement of our health outcome goals across our priority health areas of maternal and child health; malnutrition; communicable diseases; chronic diseases; and clinical and surgical services. At the same time, long-term capability of our system to foster on-going improvement in quality will be prioritized and developed. We are confident that the prioritized interventions outlined in this strategy will support us in achieving Ethiopia’s vision of an equitable and accessible healthcare system defined by safe, effective, patient-centered care for all.

The four strategic focus areas outlined in this document represent key levers to affecting change across our system:

-  Drive improvement in quality by explicitly linking UHC strategy with quality.
-  Activate key constituencies, namely providers, leaders across all levels of the system, and patients and communities.
-  Target key leverage points across quality control, quality improvement, and quality planning.
-  Support strong data systems and feedback loops as “backbone” of all improvement actions.



## 9. Appendices

### Appendix A: List of Acronyms

<b>BTS</b>	Breakthrough Series	<b>ISS</b>	Integrated Supportive Supervision
<b>CASH</b>	Clean and Safe Hospitals	<b>KPI</b>	Key Performance Indicator
<b>CBDDM</b>	Community Based Data for Decision Making	<b>LQAS</b>	Lots Quality Assurance Sampling
<b>CBHI</b>	Community-Based Health Insurance	<b>MSD</b>	Medical Services Directorate
<b>CHIS</b>	Community Health Information System	<b>NCD</b>	Non-Communicable Disease
<b>CME</b>	Continuing Medical Education	<b>NGO</b>	Non-Governmental Organization
<b>CPD</b>	Consumer Protection Council	<b>PCHU</b>	Primary Care Health Units
<b>DALY</b>	Disability Adjusted Life Years	<b>PDSA</b>	Plan-Do-Study-Act
<b>EDHS</b>	Ethiopia Demographic and Health Survey	<b>PFSA</b>	Pharmaceutical Fund Supply Agency
<b>EHAQ</b>	Ethiopian Hospitals Alliance for Quality	<b>QA</b>	Quality Assurance
<b>EPHA</b>	Ethiopian Public Health Association	<b>QC</b>	Quality Control
<b>EQA</b>	External Quality Assurance	<b>QI</b>	Quality Improvement
<b>FMHACA</b>	Food, Medicine, Healthcare Administration and Control Authority	<b>RHB</b>	Regional Health Bureaus
<b>FMoH</b>	Federal Ministry of Health	<b>SPA</b>	Surveys Provisional Assessment
<b>HAD</b>	Health Development Army	<b>SNNP</b>	Southern Nations, Nationalities and People's
<b>HEW</b>	Health Extension Workers	<b>TB</b>	Tuberculosis
<b>HMIS</b>	Health management information system	<b>UHC</b>	Universal Health Care
<b>HSDP</b>	Health Sector Development Program	<b>UI-FHS</b>	Universal Immunization through Improving Family Health Services
<b>HSTP</b>	Health Sector Transformation Plan	<b>WHO</b>	World Health Organization
<b>IHI</b>	Institute for Healthcare Improvement		

## Appendix B: Glossary of Terms

### Quality

While there is no universally accepted definition of quality, the global health care community often uses the US Institute of Medicine’s (IOM) definition of quality 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.”<sup>11</sup> The IOM further spells out six dimensions of quality:<sup>12</sup>

1. Safe: avoiding injuries to patients from the care that is intended to help them; the WHO defines “patient safety” as the prevention of errors and adverse effects to patients associated with health care
2. Effective: providing services based on scientific knowledge to all who could benefit, and refraining from providing services to those not likely to benefit
3. Patient-centered: providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions
4. Timely: reducing waits and sometimes harmful delays for both those who receive and those who give care
5. Efficient: avoiding waste, including waste of equipment, supplies, ideas, and energy
6. Equitable: providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status<sup>13</sup>

Taking this definition and our national priorities into account, this National Quality Strategy defines quality in Ethiopia to be “comprehensive care that is measurably safe, effective, patient-centered, and uniformly delivered in a timely way that is affordable to the Ethiopian population and appropriately utilizes resources and services efficiently.”

Quality is generally considered to have three core elements that work in concert: Quality Planning, Quality Control, and Quality Improvement.

<sup>11</sup>. Institute of Medicine. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC, USA: National Academies Press; 2001.

<sup>12</sup>. Ibid

<sup>13</sup>. Ibid

## 9. Appendices

### Appendix B: Glossary of Terms

<b>Quality Planning</b>	<p>Quality planning determines the needs that a health care system must fulfill, and establishes the goals and strategy to meet these needs. Quality planning involves designing a structure that delivers the right care to patients at the right time, every time. It rests largely on key principles laid out by W. Edwards Deming, a renowned statistician and professor, often referred to as the “father of the third industrial revolution”:</p> <ul style="list-style-type: none"><li>• Systems produce results.</li><li>• Data, especially variation in performance, reveals how the system functions.</li><li>• The system must create, adapt to, and spread new knowledge.</li><li>• Humans ultimately carry out the work; the system must be designed around human psychology.</li></ul>
<b>Quality Control</b>	<p>Quality control (QC), is a normative process that includes quality assurance, where a system seeks to ensure that quality is maintained or improved, and errors are reduced or eliminated. QC programs evaluate current health care quality, identify problem areas, create a method to overcome issues, and monitor the method taken to improve quality.<sup>14</sup> Processes consist of both internal quality assurance and external quality assurance. For instance, these monitoring and improvement activities may be internally motivated (problems are identified and addressed from within a health care facility by a facility based QI team) or externally required (standards are set, and problems are identified through inspection by government agencies (woreda, zone, region, federal)).<sup>15</sup></p>
<b>Quality Improvement</b>	<p>QI is a continuous process whereby organizations set ambitious aims, iteratively test and measure changes, shift whole systems’ performance, and spread best practices for rapid uptake on a larger scale. Within QI, there are several approaches to drive change and accelerate the improvement of quality, such as the <i>Model for Improvement</i>, <i>Kaizen Lean</i>, and <i>Six Sigma</i>. All of these methods include the essential elements required for a breakthrough in performance: identify an ideal state though setting aims, targets, or goals; use a data measurement system to track those targets on a regular basis; and introduce some activity to close the performance gap.</p>

<sup>14</sup>. National Center for Biotechnology Information. Quality Assurance, Health Care. National Center for Biotechnology Information. <http://www.ncbi.nlm.nih.gov/mesh/?term=healthcare+quality+assurance>. Accessed January 14, 2014.

<sup>15</sup>. Donabedian A. An Introduction to Quality Assurance in Health Care. New York, NY: Oxford University Press, Inc.; 2003.

## Appendix B: Glossary of Terms

### Model for Improvement

The Model for Improvement is a framework for accelerating improvement. The model is based on three fundamental questions: (1) What are we trying to accomplish? (2) How will we know that a change is an improvement? (3) What changes can we make that will result in improvement? These questions are combined with the Plan-Do-Study-Act (PDSA) cycle to accelerate improvement

### Kaizen

Kaizen, which means “improvement” in Japanese, refers to processes that focus on continuous improvement and has been applied to health care as well as other industries, particularly manufacturing. Kaizen focuses on continuous, bottom-up problem solving by front-line workers as responsible and autonomous teams; it was first implemented in several Japanese businesses after World War II. The five main elements of Kaizen are management teamwork, increased labor responsibilities, increased management morale, quality circle, and management suggestions for labor improvement.

### Lean

Initially developed and championed by the Toyota Motor Company, Lean focuses on the customer to determine what the customer values. If a process does not provide value, it is considered a waste and should be a target of improvement. Its version of the PDSA cycle is often OPDCA: Observe, Plan, Do, Check, Act.

### Six Sigma

Initially growing from quality control efforts at Motorola, GE is its most popular champion. The context of Six Sigma is to identify sources of variation (potential sources of error) in a process and work to reduce variation such that it can perform nearly error free. Deriving from statistical process control theory, the name derives from the goal of creating a process that performs with such low variability that it is error free to six standard deviations of a normal distribution. Altering the PDSA cycle slightly, its acronym is DMAIC: Define, Measure, Analyze, Improve, and Control.

### Community Endorsement Groups

Groups of citizens who are mobilized and empowered to assess local facilities based on patient-focused quality measures; based on this assessment, they can then publicly “endorse” the facility.

## 9. Appendices

### Appendix C: Collaborators and Stakeholder Interviews

#### 1. Federal Ministry of Health

**Dr. Abraham Endeshaw**

Director, Medical Services Directorate

**Noah Elias**

Director, Policy Plan Directorate

**Dr. Wondimagegn Embiale**

Director, Human Resource Directorate

**Mekonnen Engida**

Director, Public Health Infrastructure Directorate

**Hangato Mohamed**

Director, Special Support (HSS) Directorate

**Dr. Ephrem Tekle**

Director, MNCH Directorate

**Seife Bashaye**

Malaria Case Team Lead, Disease Prevention and Control Directorate

**Kahsu Bekuretsion**

HSTP Core Technical Team

**Lelisa Fekadu**

TB/Leprosy Case Team Lead, Disease Prevention and Control Directorate

**Habtamu Mikias**

Quality Officer, Medical Services Directorate

**Markos Paulos**

AA & Federal Case Team Lead, Medical Services Directorate

**Alemayehu Birhanu**

Assistant Director, Medical Services Directorate

**Yakob Seman**

Assistant Director, Medical Services Directorate

**Biru Shigut**

TB Case Team, Disease Prevention and Control Directorate

## 2. Health Agencies

### Gonfa Ayana

Director, Regional Laboratory Capacity Building,  
Ethiopian Public Health Institute

### Kidane Gebre-Michael

Director, Regulatory Standard Setting and Information  
Delivery Directorate, FMHACA

### Yared Yigezu

Director, Forecasting and Capacity Building Directorate,  
Pharmaceuticals Fund and Supply Agency (PFSA)

### Addis Kebede

External Quality Assessor, Regional Laboratory Capacity  
Building, Ethiopian Public Health Institute

### Achamyeleh Mulugeta

National Quality Team Coordinator, Regional Laboratory  
Capacity Building, Ethiopian Public Health Institute

## 3. Regional Health Bureaus

### Girma Ashenafi

Head, Addis Ababa City Administration Health Bureau

### Bayeh Atnaf

Head, CRCP, Amhara Regional Health Bureau

### Asfaw Defar

Head, Wuchale Woreda Health Office

### Ayele Mamo

Head, CRCP, Oromia Regional Health Bureau

### Yohannes Letamo

Head, CRCP, SNNP Regional Health Bureau

### Asefa Kebe

Regulatory Process Lead, North Shoa Zonal  
Health Department (Oromia)

## 9. Appendices

### 4. Health Facilities

**Dr. Dereje Alemayehu**

Medical Director, Gandhi Hospital

**Kahsa Berhe**

CEO, Addis Hiwot Hospital (Private)

**Dr. Girma Kibret**

Medical Director, Bethzatha Hospital (Private)

**Andualem Menigistu**

CEO, Butajira Hospital

**Dr. Adugna Tesfaye**

Medical Director, Bishoftu Hospital

**Misirach Ayalew**

Head, Quality Management Office, St. Paul Teaching Hospital

**Girma Getachew**

Head, Muketuri Health Center

**Abinet Tariku**

Vice Matron, Addis Hiwot Hospital (Private)

**Sr. Safiya Guyu**

Bishoftu Health Centre

### 5. Professional Associations

**Tatek Abate**

Executive Director, Ethiopian Midwifery Association

**Abiy Hiruye**

Executive Director, Ethiopian Medical Association

**Mekuria Altaseb**

Senior franchising Officer, Family Guidance Association Ethiopia

**Kindalem Damite**

Manager, Training Institute and Special Services, Family Guidance Association Ethiopia

**Mehari Getaneh**

Planning, Monitoring Evaluation Unit, Ethiopian Public Health Association

**Tiegist Mekonen**

Program Manager, Ethiopian Midwifery Association

**MeazaSemaw**

Coordinator, Ethiopian Midwifery Association

## 6. Partner Organizations

### Zelalem Abebe

Health Insurance Advisor, Abt Associate

### Demissew Asefa

QI Lead, CDC-Ethiopia

### Samrawit Ashenafi

Technical Advisor, UI-FHS

### Bezu Beshir

Clinton Health Access Initiative

### Abera Biadgo

Reaching Every District – Quality Improvement (RED-QI) Advisor, UI-FHS

### Melissa Cole

Project Manager at Options- Evidence for Action

### David Conteh

Program Director, EHMI, Clinton Health Access Initiative

### Rachel Cullen

Technical Specialist at Options, Evidence for Action

### Daniel Dejene

Pre-Service Strengthening Health Systems, Jhpiego

### Bobby Demisse

McKinsey

### Abebaw Derso

Clinton Health Access Initiative

### Amanda Folsom

Results for Development Institute

### Dr. Abebe Gebremariam

Maternal and Newborn Health in Ethiopia Partnership (MaNHEP)

### Sofonias Getachew

Health Systems Strengthening (HSS), WHO

### Ellie Hukin

Technical Advisor, Evidence for Action

### Ruth Lauley

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Senior Hospital Reform Specialist, Abt Associates

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Project Director, MCSP, Jhpiego

### Dr. Nabreed Zemicheal

L10K

### Thomas Kin

### Dr. Melaku Zenebe

Director, International Center for AIDS Care and Treatment Programs (ICAP) Ethiopia

### Dr. Solomon Zewudu

Bill & Melinda Gates Foundation



## 9. Appendices

### 7. Quality Strategy Experts

**Dr. Pierre Barker**

Senior Vice President, Institute for Healthcare Improvement

**Tricia Bolender**

Faculty, Institute for Healthcare Improvement

**Dr. Derek Feeley**

Executive Vice President, Institute for Healthcare Improvement

**Dr. Sheila Leatherman**

Professor of Health Policy and Management

**Dr. Nneka Mobisson-Etuk**

Executive Director of African Operations, Institute for Healthcare Improvement

**Dr. Abiyou Kiflie**

Ethiopia Project Director, Institute for Healthcare Improvement

**Dr. Kedar Mate**

Senior Vice President, Institute for Healthcare Improvement

**Dr. Enrique Ruelas**

Former Vice Minister for Quality and Innovation, Mexico MCH

## 8. Interviewers

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Federal Ministry of Health

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Institute for Healthcare Improvement

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**Mebratu Massebo**  
Abt Associates

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**Sarah Olver**  
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**Kathryn Brooks**  
Institute for Healthcare Improvement

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**Vidya Ramachandran**  
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**Catherine Ternes**  
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**Melissa Page**  
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## 9. Others

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Deputy technical committee chairman, Ethiopian  
Quality Award

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**Wondu Bekele**  
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Ethiopian Kaizen Institute

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### Appendix D: Leadership and Functionality Detail

#### Driving Quality at the National Level

At the national level, we, along with regulators, are responsible for developing policies, guidelines and minimum standards for the health care system. In addition, professional associations, e.g. Ethiopian Public Health Association, provide guidance into many of these policies and strategies. NGOs are key partners in providing resources and technical assistance to support facilities' move towards self-sufficiency and empowerment. Through our analysis of the key quality structures at the national level, we identified the following key mechanisms that we can utilize to drive quality planning, control and improvement.

#### Quality Planning

As we formulate policy, we ensure through our Harmonization Plan that we work with all stakeholders to create one plan, one budget and one report for each initiative. We also support new initiatives by ensuring that the necessary legislation is in place prior to launching them. In our assessment we uncovered that there are many definitions or visions for quality among the health system; we look to develop a common understanding and vision among leadership within the system through this strategy.

There is opportunity for our directorates to work more closely together to influence quality. As an example, the Public

Health Infrastructure Directorate is tasked with designing and constructing health facilities. While this Directorate utilizes standard designs, they require input from expert healthcare providers and specialists to augment their designs. Other directorates would be able to better support this Directorate by identifying key experts who can provide insight in how best to design specific areas within the hospital. This would ensure the facility meets patient demand and allows for quality patient flow while limiting changes to the infrastructure once construction has begun.

#### Quality Control

Levers through which we and regulators can control quality include providing Integrated Supportive Supervision to facilities, requiring qualification (e.g. for laboratory) and licensing (for professionals and private and public facilities), researching and incorporating international standards of care, conducting quality assurance (including data quality assurance) and monitoring against standards, increasing indicators provided for HMIS, training health workers and developing strategies for health extension workers to engage communities more effectively.

The development of standards is also another way in which we influence quality. One such example is the development of hospital standards. Working with partners, mainly the Clinton Health Access Initiative, we developed EHRIG (Ethiopian Hospital

Reform Implementation Guidelines) to implement standards of hospital management. There is also an opportunity to work more closely with regulatory agencies to ensure harmonization of standards and guidelines.

### Quality Improvement Initiatives

In Ethiopia, the government, rather than development partners, is the main driver of quality improvement initiatives, allowing us to directly influence resource allocation and mobilization as well as the speed and scale-up of implementation. For example, currently the Medical Services Directorate is driving 20 initiatives to improve quality, and the majority of these initiatives impact multiple key priority areas: **equitable, patient-centered, timely, effective, safe and efficient.**

A few of those initiatives include:

- CASH (Clean and Safe Hospitals)
- Auditable Pharmaceutical Transaction & Services
- Intensive Care Unit Service
- Infection Prevention & Patient Safety

In addition, we can drive the scale-up of successful partnership initiatives in our identified priority areas. JSI's UI-FHS RED/C-QI (Reaching Every District/Community – QI) approach to empower field and facility staff to identify, analyze and address local level problems using PDSA. Through the implementation of this

initiative in three Woredas in the Afar, SNNP and Tigray regions, JSI/UI-FHS was able to present evidence of their success with this approach which led to scale up to additional Woredas and regions. NGO partners can help us drive quality by designing initiatives, developing tools and training, providing expertise and additional workforce.

### Driving Quality at the Regional, Zonal and Woreda Levels

The regional level is primarily responsible for implementing national policies and guidelines. Strength of the linkages within the regional, zonal and woreda levels as well as down to the facility and community levels often determine effectiveness of implementation.

### Quality Planning

In most cases, the budgets reside at the regional level; therefore, the RHB is a key player in influencing policy as well as financial and human resources for the zonal, woreda and facility (hospital, health center and health post) levels. Woreda Health Offices can directly influence quality by providing leadership of quality; we know that districts with administrative 'champions' perform better. Motivated administrators and supervisors provide greater support to health centers and posts, enabling them to identify, analyze and solve their own quality issues, which in turn leads to provision of higher quality services.

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### Quality Control

There are specific activities conducted by the RHBs that can be enhanced to directly influence quality control: clinical audits for health centers, collecting supervisory reports and conducting review meetings with hospitals, where hospitals can share their challenges and successes. While much of their influence is over the public sector, RHBs are also involved in providing licensing for private hospitals; thus, there is opportunity for regulatory oversight to be equally applied to public and private hospitals.

One mechanism the Zonal offices use is conducting performance reviews. These are conducted by the zonal management team; the purpose of these reviews is to investigate if reporting is timely and complete as well as facility performance. Zonal offices also conduct quarterly inspections on a sample of health facilities while woreda offices conduct monthly inspections of all their health facilities.

### Quality Improvement

Zonal offices provide some supportive supervision to selected facilities within their inspection samples. If woreda inspections uncover gaps in public facilities, they will also provide supportive supervision. If woredas find gaps in private facilities or pharmacies, they will provide education and warnings; if improvements are not implemented, there may be closures. In some cases, facilities may not be able to implement quality improvements due to limited financial or technical resources.

Zonal offices are also able to influence quality by negotiating with woredas to implement quality improvement activities; if there are challenges, the zonal office raises the issue to the Zonal Administration. In addition, the zonal office conducts review meetings with woredas and health centers to foster collaboration and spread learning between and within the woredas.

### Driving Quality at the Facility Level

Quality assurance and quality improvement initiatives are implemented at the facility level with varying degrees of success. As facilities are directly linked to the community and patients, it is imperative that facilities have strong quality teams to identify, analyze and solve issues to provide high-quality health services to the population.

### Quality Control

One key mechanism at the facility level is External Quality Assurance (EQA). Within some regions and facilities, External QA has been decentralized to the hospital level, e.g. RHB provides EQA for the hospital and hospitals provide EQA for their associated health centers. Facilities can also collect and analyze from within their facilities to ensure that they are meeting quality standards.

### Quality Improvement

Sharing best practices across facilities and QI peer-trainings are mechanisms through which facilities can be better prepared to

identify quality gaps and solutions for improvement. Currently, through our EHAQ initiative, hospitals that are performing well can provide mentorship to other member facilities.

We uncovered workforce motivation and skill gaps as an area of focus that, when addressed, will be a strong mechanism to improve quality. Training, supporting, motivating, and incentivizing employees, will increase satisfaction and ensure they are providing quality health services to the community. Additionally, our assessment uncovered that developing a career path for Health Extension Workers will further increase motivation and work capacity.

Facilities can also improve quality by designing activities based on patient feedback. Many facilities have multiple methods of capturing patient feedback (e.g. feedback cards, complaints office). By analyzing feedback and developing solutions to address issues, facilities can ensure that they are listening to their clients' needs and providing quality health services. Private facilities may have more incentive to respond to patient feedback, as this has a direct impact on patient return rates.

### **Driving Quality at the Community and Patient Level**

Due to the progress we have made so far with instituting quality into the health system, the community is becoming more aware

of the care available to them and beginning to demand for quality health care services. Developing a patient rights charter will also ensure that patients receive high-quality health care. The Health Development Army (HDA) has a key role in linking the community with the health system; leveraging the HDA will further our progress in this direction.

### **Quality Control**

Collecting data from the community is a method through which we can verify quality standards are being met. Encouraging the community to actively provide feedback on health services they receive or facilities they visit also help increase their trust in health care providers, facilities and the system.

### **Quality Improvement**

Since the HDA is in a key position within the health system, we believe that introducing them to quality improvement would allow them to identify and provide solutions for quality gaps they uncover. In addition, we found that many patients do not trust the health care system due to poor interactions with providers and facilities. Since patients trust the HDA, we can leverage them to educate patients on quality and activate community demand for quality services.

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### Implications for Strategy

While we have made progress, our current state assessment revealed that there are still aspects we must address. Taking the following implications into consideration will position us for greater success.

### Quality Planning

- Develop policies that go beyond the hospital and include preventive care
- Develop a common understanding of quality among leadership
- Harmonize our hospital standards with FMHACA standards
- Strengthen quality planning across supply chain to ensure facilities have adequate supplies
- Build maintenance mechanisms and ensure availability of skilled maintenance professionals for equipment

- Revise regional-level policies for human resources for optimal ratio of care providers to patients
- Identify strong leadership at each level to promote quality planning, control and improvement activities; increase their knowledge of quality assurance and improvement approaches
- Establish quality teams in each facility to manage quality control and quality improvement; increase focus on health centers and posts
- Develop a patient' rights charter

### Quality Control

- Disseminate international best practices
- Ensure that protocols are in place for frequent public and private facility assessments and development of actions plans based on the assessment results, especially for underperforming facilities

- Ensure all practicing physicians have met licensing criteria
- Build clinical and QI skills of medical professionals by offering pre-service and CME, leveraging professional associations as training partners and collaborations with clinical bodies to develop opportunities
- Ensure up-to-date data is utilized to ensure greater influence in driving policies and implementation of initiatives that improve quality.
- Ensure a timely capture and response mechanism for patient feedback
- Leverage health insurance coverage expansion by linking empanelment of facilities to quality
- Training and mentorship from key leaders on how to interpret data for decision-making
- Provide financial and technical assistance for public and private facilities who lack resources to implement quality improvements
- Develop a career path for HEWs
- Support for health care providers from the facility to promote a culture of trust, transparency and satisfaction
- Ensure greater awareness of available services and clarity of provider communication with patients
- Introduce HDA to QI concepts, allowing them to play a greater role in quality improvement activities
- Develop Community Endorsement Groups to assess areas that impact quality

### Quality Improvement

- Build on current initiatives that focus on key priority areas



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Leadership and Functionality SWOT Analysis				
Levels of Health System	Strengths	Weaknesses	Opportunities	Threats
National	<ul style="list-style-type: none"> <li>• Existence of policies, guidelines and some tools to assess quality</li> <li>• Existence of regulatory bodies (FMHACA, PFSA) developing minimum standards and guidelines</li> <li>• Integrated Supportive Supervision (ISS) is provided to facilities who do not meet assessment criteria</li> <li>• Government, rather than partners, is main driver of quality initiatives, leading to unified understanding of needs and goals</li> <li>• Provision of partner expertise and resources</li> </ul>	<ul style="list-style-type: none"> <li>• No common understanding or vision of quality among leadership</li> <li>• Inadequate mechanisms to ensure timeliness and availability of supplies and procurement and maintenance of equipment</li> <li>• Private sector and public sector are not always held to the same criteria or standards</li> </ul>	<ul style="list-style-type: none"> <li>• Develop government strategy and plan inclusive of all levels and stakeholders</li> <li>• Develop one common understanding of quality</li> <li>• Harmonize hospital standards with FMHACA</li> <li>• Incorporate international guidelines, best practices and experts</li> <li>• Integration of public and private sectors (e.g. data, standards)</li> <li>• Ensure that quality teams exist at all levels throughout the health system</li> <li>• Ensure action plans are developed and implemented for underperforming facilities</li> <li>• Scale current successful initiatives</li> <li>• Necessary and appropriate equipment, medicines and reagents are readily available with systems in place to mitigate stock-outs of supplies and breakdown of equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Disconnect between standards and ability to meet them</li> <li>• Defined protocols exist, but enforcement is inconsistent and punitive measures have not been defined</li> </ul>

Levels of Health System	Strengths	Weaknesses	Opportunities	Threats
Regional, Zonal and Woreda	<ul style="list-style-type: none"> <li>• Recognition of well-performing facilities, leading to sharing of best practices at regional (and national) forums</li> <li>• Supportive supervision provided to facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulty in driving initiatives in settings with minimal management support or commitment; need for strong champions and quality mentoring</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthened leadership across regional, zonal and woreda levels of the health system, trained in quality improvement methods</li> <li>• Utilize insurance claims data to identify quality challenges</li> <li>• Leverage two-way data feedback loop to develop focused quality improvement activities</li> <li>• Provide financial and technical assistance to public and private facilities to implement quality improvements</li> </ul>	

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Levels of Health System	Strengths	Weaknesses	Opportunities	Threats
<b>Facility-Based Care</b>	<ul style="list-style-type: none"> <li>Some facilities and centers successfully utilizing PDSA to identify, analyze and solve local issues</li> <li>Hospitals performing well based on KPIs and clinical audits chosen as LEAD hospitals and provide mentorship to EHAQ member hospitals</li> </ul>	<ul style="list-style-type: none"> <li>Inadequately staffed facilities due to staff attrition / turnover, absenteeism, lack of motivation or incentives</li> <li>Provider basic skill gaps limit ability to provide quality patient care; capacity of hospitals for practicums is low, limiting hands-on experience</li> <li>Healthcare professionals may not be “fit to practice” but are not reviewed once accredited/licensed</li> <li>Facilities may continue to provide services even though they are unable to meet minimum standards</li> </ul>	<ul style="list-style-type: none"> <li>Sharing best practices with EHAQ member hospitals lead to increased performance and quality in the selected focus areas</li> <li>Motivation and alignment of incentives for providers and professionals (individuals and teams) to improve; accountable to quality assessment data</li> <li>Strong clinical and QI skills developed through pre-service and continuing medical education for all health care providers</li> <li>Career path for Health Extension Workers</li> <li>All facilities have uniform mechanisms to capture and act on patient feedback</li> <li>Leveraging health insurance coverage expansion by linking empanelment of facilities to quality</li> </ul>	<ul style="list-style-type: none"> <li>Quality improvement concepts are not covered in medical school/pre-service training or CME</li> </ul>

Levels of Health System	Strengths	Weaknesses	Opportunities	Threats
Community and Patients	<ul style="list-style-type: none"> <li>Increased community awareness is leading to demand for quality services</li> <li>Health Development Army (HDA) members within the community are key links between patients and the Health Extension Workers</li> </ul>	<ul style="list-style-type: none"> <li>Patients do not have access to rankings/ grades of facilities they plan to visit, based on quality</li> </ul>	<ul style="list-style-type: none"> <li>HDA act as QI teams</li> <li>Continuous Quality Improvement is institutionalized through public forums facilitated by the HDA</li> <li>Development of patient rights charter</li> <li>Creation of Community Endorsement Groups that assess areas that impact quality</li> </ul>	<ul style="list-style-type: none"> <li>Lack of trust due to inconsistency in provider / patient service interaction; fear and lack of education of health worker treatments leading to low uptake in healthcare utilization</li> </ul>

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### Regulators

The Food, Medicine, Healthcare Administration and Control Authority (FMHACA) and Pharmaceutical Fund Supply Agency (PFSA) are two agencies which support the Ministry by providing regulations and standards to ensure quality. In addition to these regulations and standards, they are able to influence guidelines through various methods. Licensing of professionals and facilities (both private and public), as well as facility inspections allow FMHACA to ensure that standards are met. PFSA influences quality by ensuring supplies and equipment imported into Ethiopia meet quality standards. The Ethiopian Public Health Institute influences quality by conducting research on health issues and disseminating scientific and technical knowledge as well as implementing standards for laboratory quality management.

### Other National Level Organizations

Professional organizations such as the Ethiopian Public Health Association (EPHA) support the work of the Ministry through its membership and training courses. EPHA members are providing input into policies, such as HSTP. EPHA also offers courses to help its members increase their understanding of data as well as

improve leadership skills. Members of the FMOH and Regional Health Bureaus often participate in EPHA training courses. The Ethiopian Medical Association (EMA) offers CME training courses and is working to establish an 'Ethics and Quality' unit to support the focus on quality and raise the public's trust in physicians. The Ethiopian Quality Award Organization offers facilities the opportunity to apply for accreditation; there are rigorous standards for accreditation but the majority of health facilities that apply tend to be from the private sector. Facilities that apply but do not meet accreditation criteria are provided feedback and suggestions for action. EQA has driven quality by improving facilities' understanding of quality process and standards as they apply for the Quality Award. Another national organization that has the potential to influence change in the health system is the Ethiopian Kaizen Institute, which teaches staff how to identify waste and address gaps. They have had little success implementing quality improvement initiatives in the health sector; most of their healthcare work has been with other governmental organization health facilities such as university hospitals.

## NGOs

NGOs partner with the Ministry on many quality improvement and quality assurance initiatives. They are able to influence quality through various ways: by raising awareness of quality issues, providing technical assistance, sharing best practices or conducting QI peer-learning sessions, involving the community, leveraging existing structures, and collecting, analyzing and reporting data on their initiatives which can lead to the scale up of their programs. They also leverage global experts and provide point of view to demonstrate the value of improving quality within the health system.

Partners can contribute resources to help drive quality. For example, the diverse responsibilities of health extension workers lead to dilution of presentation focus of specific topics to the community. In addition, as stated earlier, quality mentoring and training programs can be difficult to achieve. In-country partners can contribute resources (e.g. financial support, tools, human resources, and training) to improve the targeted use of front-line workers and increase empowerment and self-sufficiencies in the facilities and communities they support.

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### Regional Health Bureaus

In Ethiopia, nine regional health bureaus and two city administration health bureaus are the central bodies that manage the health care system for their respective areas. The RHBs oversee Zonal and Woreda Health Offices and cascade the national guidelines down to hospitals and health centers. They also have the ability to formulate laws and directives. For quality health care to be consistent at the community level, the goals of the Zonal and Woreda Health Offices must align with that of the RHB. In most cases, the budgets reside at the regional level; therefore, the RHB is a key player in influencing policy.

### Zonal Health Offices

Zonal Health Offices work with Regional Health Bureaus and Woreda Health Offices by serving as the link between the Region and the Woreda.

### Woreda Health Offices

As Woreda Health Offices oversee primary health care units (PHCU), they are an important link to ensuring that quality issues at the health centers and posts are identified and addressed.

## Driving Quality at the Facility Level

### Key Mechanisms to Influence Quality at the Facility Level

#### Quality Control

External Quality Assurance  
Collecting, analyzing and reporting data

#### Quality Improvement

Best practice sharing  
Conducting QI peer-learning sessions  
Workforce motivation and training  
Designing QI activities based on community involvement and feedback

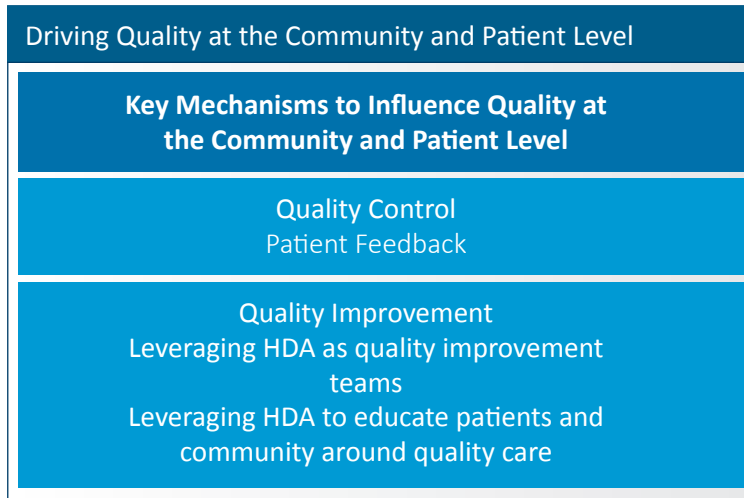
## Facilities

Facilities include all hospitals, health centers and health posts. There are differing strengths of leadership, culture and environments across facilities which cause differing levels of implementation of guidelines and standard. Pharmacists, while working within the facility, historically have not been involved in ensuring continuity of care. Both public and private facilities face many of the same challenges. Moving forward, PFSA plans to develop protocols for pharmacy standards and guidelines, and we envision greater integration of pharmacists into patient care.

External QA strengthens the links between the regions, health facilities and health centers. In many cases, the links between hospitals and health centers are voluntary. For example, hospitals may decide to expand the use of HIV funding to provide technical support in broader clinical areas.



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### Community

As demand for healthcare is the main method the community can influence quality, we must ensure that they are aware of the health services provided. Nomadic pastoralist populations struggle to understand the need for a solid and institutionalized healthcare structure, which can make it difficult to drive quality in the basic services provided in those regions. Gender and language play a role in defining who will access healthcare services. For example, in rural and more religious areas, female healthcare providers are preferred, while urban (e.g. Addis Ababa) areas prefer male healthcare providers.

### Health Development Army

The Health Development Army (HDA) is a very important aspect of the community structure. One HDA member is responsible for 5 community members, and about 20 HDA members report

into an HEW. Leaders in the community are expected to train the others. In many communities, they are more accessible than HEWs and, in communities where they are active, health outcomes have been shown to be better. For example, for maternal care, HDA is involved much sooner in the pregnancy: sharing information with mothers, ensuring mothers are going for care; taking responsibility for care that mothers receive and ensuring close follow-up. In many cases the HEW may not have the ability to track when the mother has delivered and returned to the community; the HDA members will know that information and are able to close the loop with the HEW.

### **Patient Associations**

Patient associations play a large role in providing resources and advocacy for the community. Some associations, with funding, can provide many social, psychological and economic resources

for patients. Providing patients with accommodations, transport, and the ability to sustain income (e.g. providing patients a loan to develop an income generating activity) allow patients who travel from great distances for healthcare to focus on their treatments, rather than stresses about how they will survive economically and emotionally. Patient associations is to advocate for disease areas that are impacting the community. For example, Mathiwos Wondu – YeEthiopia Cancer Society with the NCD Technical Working Group conducted a situational analysis within Ethiopia to show that focus is needed on NCDs. In addition, they can support us and regulators in implementing directives by creating campaigns targeting various groups within the community (e.g. reduce tobacco use by making it more costly for youth).

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### Summary of Mechanisms to Influence Quality across the Health System



## Appendix E: Data Systems Detail Analysis

Accurate, reliable data are crucial to improving health outcomes. A functioning data system will help to inform program planning, policy initiatives and support ideal health outcomes thereby making the data actionable. We have reflected on our current strengths, weaknesses, opportunities, and threats within our current data system and how this impacts the direction of the National Quality Strategy.

Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> <li>• HMIS considered core information component of effective health care delivery</li> <li>• Health Information Quality Improvement Plan developed and implemented to overcome data quality challenges</li> <li>• DQA conducted regularly to identify gaps in data</li> <li>• One Plan, One Budget &amp; One Report policy relies on the data and information from the HMIS and supports a unified view of the data</li> <li>• Guidelines and Toolkits exist for training and use of the HMIS</li> </ul>	<ul style="list-style-type: none"> <li>• HMIS has not been completely implemented across all facilities</li> <li>• Still not enough buy-in by some health workers (clinicians, nurses, etc...) on the importance of data reporting and usage</li> <li>• Data reporting is inconsistent, fragmented</li> <li>• Parallel reporting systems</li> <li>• Data is not generated for timely decision making</li> <li>• Inadequate harmonization of all data collected (e.g. HMIS, surveys)</li> <li>• Lack of supportive supervision (mentoring and training) in data collection and data use</li> </ul>	<ul style="list-style-type: none"> <li>• Our commitment to implement a national quality strategy with a strong emphasis on data improvement and data use, we have the ability to engage all implementing partners (e.g. private sector, NGOs, etc...)</li> <li>• Major push to roll out and scale HMIS in all hospitals and clinics</li> <li>• Engaging use of the hospital KPIs to support development of KPIs for health centers</li> </ul>	<ul style="list-style-type: none"> <li>• There is no significant user support for HMIS, no infrastructure and no sense of data ownership at this level</li> <li>• Not enough computers in the wards</li> <li>• Disconnect between projected outcomes from FMOH based on data that has been inaccurately collected and the reality on the ground</li> <li>• Power outages</li> <li>• Fear of reporting data, leading to missing or inaccurate data reports</li> <li>• Burnout of the HEW due to lack of support and motivation</li> </ul>

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Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> <li>• Some regional health bureaus drive implementation of HMIS by taking ownership of the process through providing resources and promoting quality HMIS information</li> <li>• Most public hospitals have implemented the KPIs as part of HMIS to promote quality care and patient satisfaction</li> <li>• Most public hospitals have dedicated HMIS staff and quality improvement staff supporting collection of data and quality improvement initiatives</li> <li>• Some health centers have been able to track their progress in dissemination of the basic health package and have documented this on their walls-this supports and increases motivation</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate capacity building</li> <li>• No feedback of data from higher levels of care/administration to the lower levels of care (e.g. health centers/health posts/HEW/HAD)</li> <li>• Not enough trained managers at the regional and zonal levels to support training and mentoring of data collection and usage at the health center level</li> <li>• Health care workers at this level are stretched thinly across several health areas</li> <li>• Dedicated staff /skills needed to support data systems are not adequately met</li> <li>• Poor sense of data and process ownership by the Health Extension Workers due to little feedback/communication from the health center/woreda/RHB on data that has been collected and reported</li> <li>• Incomplete data collection</li> </ul>	<ul style="list-style-type: none"> <li>• Increased trained and skilled staff to support the health centers in data collection, analyses and review would lead to a cascade training and support of the HEWs</li> <li>• Providing health care in the country through “health summits” that gather all stakeholders to discuss the quality strategy and the important role played by the HMIS- how NGOs can drive this process within their clinical settings</li> <li>• Hospitals and health centers identify and collect indicators that target their specific needs for health quality improvement</li> <li>• Some RHBs organize data review meetings to support the health centers</li> <li>• Hospitals that have performance monitoring teams are able to monitor data quality, including utilizing LQAS</li> </ul>	

## How Data is Used

In analyzing how data is currently being used to improve quality across all levels of the health system, three themes emerge around reporting performance; standardization; and feedback loops.

### 1. Reporting Performance

We consider HMIS to be the core information component of effective health care delivery. Data quality assessments (DQA) are routinely conducted to identify gaps in the data and to help improve the quality of the data being reported. Hospitals that have functioning performance monitoring teams are able to monitor data quality. However, we are still challenged in generating the desired quality of data due to constraints in adapting to the reformed HMIS. This has led to a dearth in motivation for some health workers in collecting and appropriately reporting data, resulting in collecting the bare minimum. There are also missed opportunities at health care facilities to prioritize local level data that could be used to inform specific health outcomes. Due to lack of supportive supervision at all levels of the health system, quality checks of the data may not always be performed.

### 2. Standardization

Capacity building to drive data quality initiatives is important. We include a wide set of indicators related to health and specific

donors or programs report on a narrower set, parallel collection processes exist in the country leading to little standardization. Parallel data systems pose a problem for health workers as they struggle to report on vertical programs (e.g. HIV, malaria, TB). Although there has been an attempt to harmonize indicators through the One Plan, One Budget and One Report policy, this remains a challenge for facilities in reporting quality data that could be useful to program outcomes. There is currently no core set of key quality indicators that could be used by all stakeholders to standardize data collected along the continuum of care as well as the different levels of the health system.

### 3. Feedback Loops

The lack of feedback loops and supportive structures to get information, analysis, and benchmarking back down to the facility and community levels for improvement leads to a gap in information that could have been resourced to inform the health system. Some regional health bureaus report organizing data review meetings to support health centers, but this is often not enough to meet the expected outcomes. Ongoing mentorship of data collection, data review and data feedback will increase a sense of ownership of the data collection process, as well as use of the data being collected by frontline workers, whether they are health extension workers, nurses, or doctors.

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### **Implications to National Quality Strategy**

Identifying a core set of quality indicators will be important to assess quality across the health system. To ensure transparency within the health system, a core set of indicators should be identified that will be used to report publicly. This information collected routinely will increase provider accountability and will provide the public with true measurements that can be used to demand greater quality.

Strong data systems have the potential to significantly increase the efficiency of the health system and will be a core part of

the national quality strategy. Creating feedback mechanisms that support making the data actionable will depend on the functionality of the data systems. Data systems can be leveraged by providers and administrators alike to impact quality health outcomes at every level in real time. This will require significant investment in targeted training and mentorship for the existing and future workforce of frontline workers at all levels of the health system. Increasing health worker capacity to accurately collect, analyze and use the data appropriately will promote the use of evidence-based information to make effective clinical decisions.

## Appendix F: Quality Improvement: Kaizen and the Science of Improvement

### 1. Kaizen: The Engine Driving Improvement

Taking into account the national direction to use Kaizen in different sectors of the country, including the industry and service providing sectors, the FMOH plans to adapt existing QI methods within the Ministry, with internationally-proven methodologies of QI and Kaizen principles and methods. This adaptation process will enable the ministry to achieve the maximum potential of QI to improve health outcomes.

Kaizen is a Japanese term meaning “continuous improvement.” Kaizen was initially used by factories in order to improve efficiency, lower cost, and ultimately increasing profitability. Kaizen was first implemented in several Japanese businesses after World War II and has since been broadened in its application to support improvement of health care systems. This methodology can be integrated with existing quality improvement tools and approaches, which have been used in the Ethiopian setting. These include the use of Plan-Do-Study-Act (PDSA) rapid testing cycles, which the FMOH has been using in a variety of settings. The FMOH wishes to incorporate the concepts and methodologies

of Kaizen into the already existing approaches and international accepted methodologies of QI in Ethiopia.

When applied to health care, Kaizen is a **distributed leadership management model** that stresses continuous quality improvement and learning at the point of service for the patient. The method emphasizes the importance of engaging leaders and staff at every level of the facility, and solving every process problem at the lowest level possible, maintaining focus on service providers who best understand the system in which they work and have the most knowledge and skill to change it.

The Kaizen methodology uses an **integrated set of change concepts** that work to create ideal care processes that are integrated, responsive, and efficient. A “change concept” is an idea that can stimulate change that leads to improvement. A selection of these change concepts include jidoka, kanban, visual controls, just-in-time, pull, and flow – all of which serve to eliminate waste, improve workflow, improve efficiency, and



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optimize inventory (see Appendix B). Many of these change concepts are based on elements of the Toyota Production System and W. Edwards Deming's System of Profound Knowledge: appreciation for a system, understanding variation, building knowledge, and the human side of change.<sup>16</sup>

In conjunction with these, Kaizen utilizes a **set of tools and methods** to help system participants move towards their aim and goals. This suite of tools include gemba walks, Kaizen events, Value Stream Mapping, Plan-Do-Study-Act (PDSA) cycles, and run charts to drive change forward (see Appendix B).

At the heart of quality improvement and Kaizen are **small rapid tests of change** to drive improvement. Plan-Do-Study-Act cycles (PDSA, sometimes known as Plan-Do-Check-Act, or PDCA) allow existing knowledge to be tried and adapted on a small scale,

thereby discovering contextually appropriate interventions within and across systems. Data is collected on the system by front-line workers and is continuously analyzed and made available at all levels of the health system to enable real-time, data-driven decisions to improve performance.

### 2. The “vehicle” that provides structure for improvement

If Kaizen is the engine that drives change, The Science of Improvement is the vehicle that facilitates and supports improvement, providing a structure to execute change.

There are a variety of **project formats to facilitate improvement**, which are proven to be effective and are widely adopted. The basic local project structure is through the QI or Kaizen Team, a representative team with members from across an organizational unit that meets regularly to run tests, engage above mentioned

<sup>16</sup> Langley GL, Nolan KM, Nolan TW, Norman CL, Provost LP. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance (2nd Edition). San Francisco, California, USA: Jossey-Bass Publishers; 2009.

tools and methods for change, and review their data and outcomes in an effort to reach a determined aim. Project formats that have been shown to be effective at the team level include Kaizen events, deep dive, and QI team coaching (see Appendix B). Establishing and leveraging peer-to-peer networks to spread changes allows teams working on similar improvement efforts to learn from one another as they work through their testing, implementation, and spread plans.

Project formats that facilitate **spread and scale** include the Breakthrough Series (BTS) Collaborative for the rapid development and spread of best practices across multiple teams, organizations, or nations.<sup>17</sup> Developed at the Institute for Healthcare Improvement to dramatically improve health outcomes at a systems level, the BTS Collaborative is designed to bring together clinics, hospitals, and communities. These key

stakeholders work together to close the gap between their current performance and ideal performance by creating a structured way to easily learn from each other and from recognized experts. This method also allows for the spread and sustainability of successful changes across a wider area than typically found in one-to-one coaching. Other common structures to facilitate improvement are hub-and-spoke spread, as well as campaigns.

Science of Improvement-based interventions begin by building a **structured roadmap for project design, execution, and evaluation** by drawing together the appropriate tools, methods, and conceptual frameworks, all in pursuit of local, regional, or country-wide aims. These use a wide variety of tools such as driver diagrams and run charts; methods like SPC, experimental design, and open access; and conceptual frameworks like the Toyota Production System and reliability science.

<sup>17</sup>. *The Breakthrough Series: IHI's Collaborative Model for Achieving Breakthrough Improvement*. IHI Innovation Series white paper. Cambridge, MA, USA: Institute for Healthcare Improvement; 2003.

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### Appendix G: Indicator Data Sources

Although HMIS is the main source of hospital and clinical data for the health sector we have reviewed and assessed the entire picture of health system performance through additional data sources. This also includes data sources that can be found outside of the health sector but still have a major impact on health such as education, infrastructure, water and sanitation. Data to measure the effectiveness of the Ethiopian health system comes primarily from the following sources:

Data Source	Frequency of Data Collected
Health Management Information System (HMIS)	Monthly
Key Performance Indicators (KPIs)	Monthly
Ethiopia Demographic and Health Survey (EDHS)	Every five years
Community Health Information System (CHIS)	Monthly
Management Information System (MIS)	Monthly
Surveys Provisional Assessment (SPA)	Every two years

Introduced in 2008, the HMIS has recently undergone reform, aligning with the HSDP priorities. By 2013, 122 (98%) of public

hospitals and 2697 (87%) health centers implemented the HMIS (HSTP 2015). HMIS data is collected monthly at different levels of the health system and reported up. Quality of hospital services is measured through the Key Performance indicators and are reported monthly. In an effort to assure quality of the data being collected, some health facilities that have performance monitoring teams and that have been trained are able to use the LQAS (Lots Quality Assurance Sampling) technique. A LQAS result yielding less than 85% for a report is not used, the inconsistencies in the data are reviewed and resolved and another report is generated by the HMIS team/focal person within two weeks. HMIS has not scaled country wide due to resource constraints however it is our goal to have 100% of all health facilities with complete HMIS functionality, particularly in the rural agrarian and pastoralist regions by 2020.

These various data sources provide a good foundation for the development of quality indicators. The HMIS capture key indicators at a high level while the CHIS target the community level indicators that impact households and families. Although there may be some challenges with timeliness and accuracy of the data collected among all the listed data sources, the current indicators collected are comprehensive and target our health priorities

## Appendix H: Alternative Quality Indicator Frameworks

The two frameworks below offer alternative ways of structuring quality indicators. The first outlines the Priority Health Areas against the five domains of quality prioritized in our aim and National Health Care National Quality Strategy, namely:

- Effectiveness (outcomes of clinical care)
- Patient Safety
- Patient-Centeredness
- Access
- Equity

The second utilizes the “stages of life” systems framework of the OECD and maps against the five domains of quality and equity outlined above.

### Alternative Framework #1: Priority Health Areas and Quality/Equity Domains

Priority Areas	Quality and Equity Domains				
	Effectiveness	Safety	Patient-Centeredness	Access	Equity
Maternal Mortality	<p>Full immunization coverage (&lt;1 year)</p> <p>% Women age 30- 49 years screened for cervical cancers</p> <p>Maternal Mortality Ratio (MMR)</p>	<p>Deliveries attended by skilled health personnel</p>		<p>Measles (MCV1) immunization coverage</p> <p>Postnatal care coverage</p> <p>Avail VIA for cervical cancers screening in at least one health facility per woreda</p>	<p>Potential primary health coverage</p>

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Priority Areas	Quality and Equity Domains				
	Effectiveness	Safety	Patient-Centeredness	Access	Equity
Maternal Mortality	<p>Proportion of women having at least 4 visits of Antenatal Care</p> <p>Institutional Maternal Mortality Rate</p> <p>% of mothers/ newborns receiving postnatal care</p> <p>% of children receiving full immunization coverage (&lt;1 year)</p> <p>Proportion of children under five years who sought treatment within 24 hrs. from onset of fever</p>			<p>Proportion of Woredas with <math>\geq 80\%</math> of Pentavalent 3 Immunization coverage</p> <p>Number of women receiving comprehensive abortion care services</p>	
Malnutrition	<p>Percentage of low birth weight newborns</p> <p>% of VLBW newborns received KMC</p> <p>Proportion of children aged 2-5 years de-wormed</p> <p>Treatment outcome for management of severe acute malnutrition</p>			<p>Proportion of children aged 6-59 months who received vitamin A supplementation</p> <p>Proportion of clinically undernourished People Living with HIV (PLHIV) who received therapeutic or supplementary food</p>	

Priority Areas	Quality and Equity Domains				
	Effectiveness	Safety	Patient-Centeredness	Access	Equity
Communicable Diseases	<p>% of HIV+ pregnant women who received ARV prophylaxis (ART of Option B+) to prevent MTCT of HIV</p> <p>% of ART patients with an undetectable viral load at 12 months after initiation of ART</p> <p>Survival on ART</p> <p>Number of malaria deaths per 100,000 population at risk</p> <p>Malaria mortality rate</p> <p>Cure rate for bacteriologically confirmed TB cases</p> <p>TB case detection rate for all forms of TB</p> <p>TB treatment success</p> <p>HIV screening for TB patients</p> <p>TB screening for HIV patients</p>			<p>Number of HIV positive adults and children newly enrolled in clinical care</p> <p>Number of PLHIV newly enrolled in pre-ART care</p>	

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Priority Areas	Quality and Equity Domains				
	Effectiveness	Safety	Patient-Centeredness	Access	Equity
Communicable Diseases	<p>HIV positive persons receiving co-trimoxazole prophylaxis</p> <p>Percentage of infants born to HIV positive women who are HIV infected</p> <p>Percentage of young people aged 15-24 who are living with HIV</p>				
Chronic / Non-communicable Diseases	<p>Morbidity attributed to diabetes mellitus</p> <p>Number of health facilities providing integrated mental health services</p> <p>Proportion of identified potential epidemics with adequate emergency drug kits (EDKs) and other supplies</p>		Average length of stay (in days)	Percent and geographic distribution essential medicines and technologies availed to treat major NCDs in Health centers and hospitals	
Facility Clinical & Surgical		<p>Proportion of blood units utilized by transfusing hospital received from blood bank service</p> <p>Serious adverse transfusion incidents and reactions</p>	Emergency patient triaged within 5 minutes	Waiting time to admission for elective surgeries	

Alternative Framework #2: “Stages of Life” and Quality/Equity Domains

Stages of Life	Quality and Equity Domains				
	Effectiveness	Safety	Patient-Centeredness	Access	Equity
Keep Healthy (prevention)	<p>% of women having at least 4 ANC visits</p> <p>% of mothers/ newborns receiving postnatal care</p> <p>% of children receiving full immunization coverage (&lt;1 year)</p> <p>Measles (MCV1) immunization coverage</p> <p>% of children aged 6-59 months who received vitamin A supplement</p> <p>% of children under five years who sought treatment within 24 hours from onset of fever</p> <p>% women age 30-49 years screened for cervical cancers</p>	<p>% deliveries attended by skilled health personnel</p> <p>Number of persons provided with Post-exposure prophylaxis (PEP)</p>	<p>Customer satisfaction index</p> <p>Proportion of emergency patient getting emergency care in less than 5 minutes</p>	<p>% primary health coverage</p> <p>% of households enrolled in community based health insurance</p> <p>Number of HIV positive adults and children newly enrolled in clinical care</p> <p>Number of PLHIV newly enrolled in pre-ART care</p> <p>Proportion of woredas with &gt;=80% of pentavalent 3 immunization coverage</p> <p>Proportion of clinically undernourished People Living with HIV (PLHIV) who received therapeutic or supplementary food</p> <p>Number of women receiving comprehensive abortion care services</p>	



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Stages of Life	Quality and Equity Domains				
	Effectiveness	Safety	Patient-Centeredness	Access	Equity
Cure When Possible (Acute Care)	% of HIV+ pregnant women who received ARV prophylaxis (ART of Option B+) to prevent MTCT of HIV HIV+ persons receiving cotrimoxazole prophylaxis % of VLBW newborns received KMC % of children aged 2-5 years dewormed % of asphyxiated newborns who were resuscitated TB case detection rate for all forms of TB Cure rate for bacteriologically confirmed TB cases HIV screening for TB patients TB screening for HIV patients Average length of stay (in days)	Emergency patient triaged within five minutes Proportion of blood units utilized by transfusing hospital received from blood bank service Serious adverse transfusion incidents and reactions	Waiting time to admission for elective surgeries (in days)		
Chronic Disease	Morbidity attributed to diabetes mellitus Number of health facilities providing integrated mental health services				
End of Life					



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