Measurement of pediatric quality of care

Lessons from Sierra Leone & Kenya on the process for integrating pediatric quality of care indicators in the national health information system

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Interpretation is available in French. Une interprétation est disponible en Français.

Quality, Equity, Dignity
A Network for Improving Quality of Care
for Maternal, Newborn and Child Health

CHILD HEALTH TASK FORCE

Welcome and introduction

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Agenda

Welcome: Dr Anne Detjen, Health Specialist, UNICEF New York

Introduction of the pediatric QoC indicators and overview of WHO-led activity to support the uptake of the indicators in 4 pathfinder countries: Dr Moise Muzigaba, Technical Officer, Epidemiology, Monitoring and Evaluation Unit, Department for Maternal, Newborn, Child and Adolescent Health and Ageing, WHO Geneva

Experience from Sierra Leone and Kenya and next steps:

- Mr Bernard M. Wambu, Senior Programme Manager, Monitoring & Evaluation and Health Systems, Division of Neonatal, Child and Adolescent Health, Ministry of Health Kenya
- Dr Makeba Shiroya, Technical Officer, Child and Adolescent Health, WHO Kenya
- Dr Binyam Hailu, Medical Officer, Team Lead for Reproductive, Maternal, Newborn, Child and Adolescent Health, WHO Sierra Leone
- Dr Hailemariam Legesse, Health Specialist, UNICEF Sierra Leone

Questions & Answers

Part 1

Introduction of the pediatric QoC indicators and overview of WHO-led activity to support the uptake of the indicators in 4 pathfinder countries

Dr Moise Muzigaba
Technical Officer, Epidemiology, Monitoring and Evaluation Unit
Department for Maternal, Newborn, Child and Adolescent Health and Ageing
WHO Geneva

WHO's global effort to support the uptake of paediatric and young adolescent quality of care indicators

Dr Moise Muzigaba

Epidemiology, Monitoring and Evaluation Unit

Department of Maternal, Newborn, Child, and Adolescent Health and Ageing

World Health Organization

Geneva, Switzerland

World Health Organization

The four key QoC measurement components

01	02	03	04
Core Indicators	Quality Improvement Indicators	Sub-national Performance Indicators	Implementation Milestones
Prioritized small set of input, process, outcome and impact indicators for use by all stakeholders at every level of the health system to track and compare progress across levels	Flexible menu of prioritized indicators to support rapid improvement in quality of care led by facility-based quality improvement teams and supported by district/regional managers	Flexible menu of indicators to support district or regional managerial and leadership functions in improving and sustaining quality of care in facilities	Prioritized set of milestones to track whether quality of care program activities are being implemented as intended, including preparatory and ongoing activities to support improvement efforts

The four key QoC measurement components

Matrix of data collection and use in relation to the four QoC measurement components and different stakeholders across health system levels

	Health facility level (users: facility managers, QI teams)	Subnational level (users: District and Regional Managers)	National Level (users: Ministry of Health Leadership)	Global level (users: UN & other multilateral agencies, donors, research institutions)
Global core QoC indicators	• **High** data collection • **Moderate** data use	• **Moderate** data collection • **High** data use	• **Low** data collection • **High** data use	• **High** data collection • **High** data use
QI indicators	• **High** data collection • High data use	• **Moderate** data collection • **Moderate** data use	• **Low** data collection • **Low** data use	• **No** data collection • **No** data use
Subnational performance indicators	• **Low** data collection • **Low** data use	• **High** data collection • **High** data use	• **Moderate** data collection • **Moderate** data use	• **No** data collection • **No** data use
Implementation milestones	• **Moderate** data collection • **Moderate** data use	• **High** data collection • **High** data use	• **High** data collection • **High** data use	• **Moderate** data collection • **Moderate** data use

Origin of the current global effort

- In 2018, WHO standards for improving QoC for children and young adolescents in health facilities were published
- Trigerred discussions on how to advance WHO's work on the development of paediatric and young adolescent QoC indicators, building on the work done around MNH QoC measurement in the QoC network.
- From 2019 – 2020, WHO HQ led an effort to develop a small set of global QoC indicators for paediatric measurement
- Based on these efforts, **a core set** of **25** paediatric QoC indicators and a **catalogue** of **172** QI indicators and their metadata were produced
- Both Core and QI indicators were prioritized on the basis that they are essential for measuring paediatric QoC but without due regard to feasibility of measurement and monitoring **across settings** in the immediate term.

25 Core indicators - Development process

- We used a deductive methodology
  - Use of the WHO Standards for improving the QOC for children and young adolescents in health facilities as the organizing framework.
- The entire process involved 9 complementary steps which included:
  - A rapid literature review of available evidence
  - Application of a peer-reviewed systematic algorithm for indicator systematization and prioritization
  - Multiple iterative expert consultations to establish consensus on the proposed indicators and their metadata.

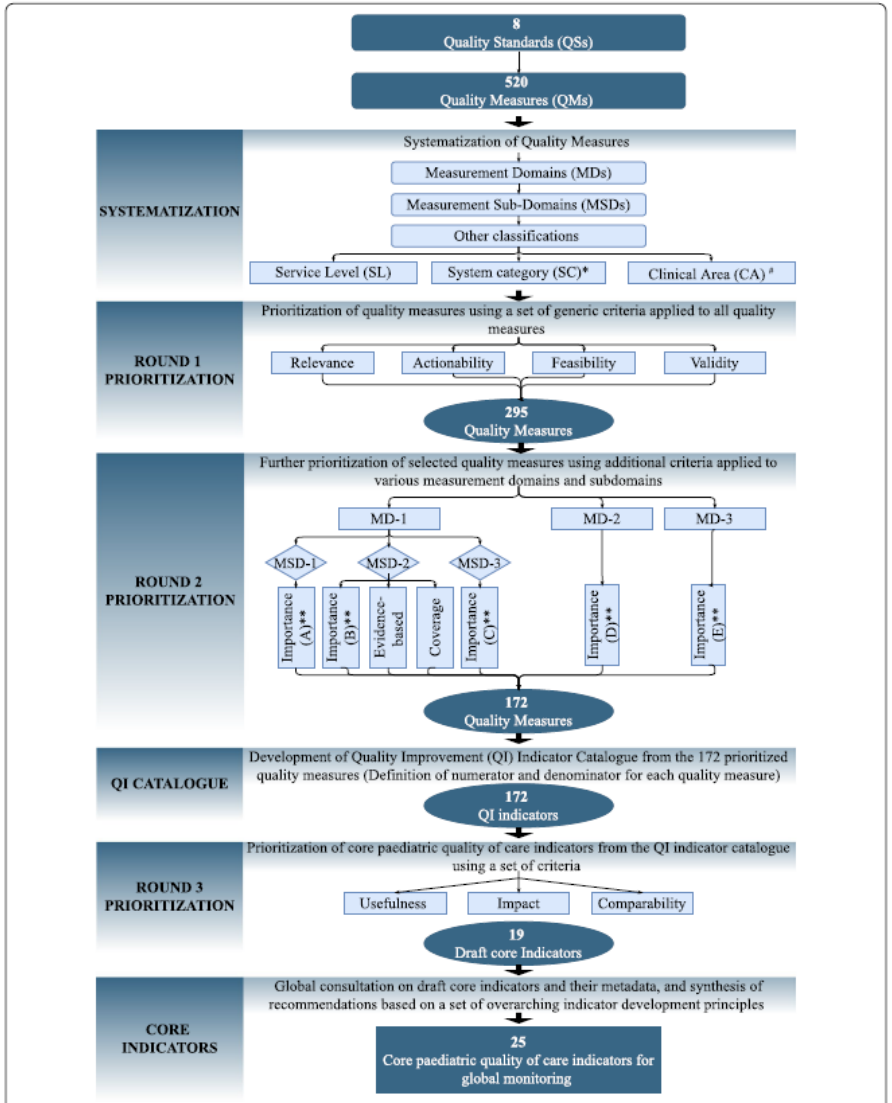


Fig. 3 (See legend on previous page.)

The list

Indicator No.	Indicator Name
1	Institutional child mortality rate
2	Institutional paediatric case fatality rate from common paediatric conditions
3	Essential IMNCI assessment of the sick child
4	Treatment of PSBI at outpatient level
5	KMC Initiation for infants weighing <, = 2000 grams
6	Pneumonia treatment with first choice antibiotics
7	Management of acute watery diarrhoea among children < 5 years old
8	Paediatric malaria diagnostics testing rate in malaria endemic areas
9	Treatment of uncomplicated severe acute malnutrition
10	Management of anaemia
11	HIV testing for the mother and/or the child (in high HIV prevalence settings)
12	TB evaluation for children with presumptive TB
13	Missed opportunity for vaccination
14	Inappropriate use of antibiotic for cough and cold
15	Completion of medical documentation
16	Paediatric quality of care indicator data review
17	Patient's knowledge and understanding of their condition and treatment plan
18	Satisfaction with decision-making process for care
19	Pre-discharge counselling of danger signs and feeding during illness
20	Awareness of child's rights during health care
21	Disrespectful care for the child or caregiver
22	Accompaniment during care
23	Access to play and educational materials during hospitalization
24	Clinical mentorship training
25	Stock out of essential child health medications

Initial effort

Pathfinder countries

- Since March 2023, WHO has worked with governments and partners in **Malawi, Kenya, Sierra Leone, and Uganda** to support the uptake of these indicators in the NHIS
- The work in 3 of these countries was funded by USAID which has also funded the development of the 25 indicators
- Countries selected based on their potential readiness for, and interest around paediatric and young ado QoC measurement and a solid agenda on QoC programming

Initial effort

Deliverables

1. The MoHs and partners in these countries are oriented on WHO's recommended 25 core paediatric and young adolescent quality of care indicators
2. The countries' readiness to collect and report on this core set is assessed jointly with MoH and partners to determine which indicators can be measured in the short, medium- and long-terms.
3. Countries are supported to devise and implement a strategy for operationalizing indicators currently not being collected in their national health information systems
4. Lessons learned from this activity are documented to guide WHO's future scale up in other countries, including learning on the relevance of some indicators.

Country support activities

- Landscape assessment of child health services and their linkages to the health management information system in a set of heterogenous health facilities around the country.
- Multi-stakeholder Indicator and metadata mapping exercise based on the data collected during the landscape analysis to determine the extent to which the country is ready to absorb the 25 indicators in its HIS in the short, medium, and long terms.
- Synthesis of mapping data and development of preliminary recommendations for MoH in the country.
- Multi-stakeholder briefing meeting to present the results from the mapping exercise, present preliminary recommendations for indicator uptake , and agree on action points in the immediate term

Site visit activities

Mapping service organization and data flow

Start with the sick child services

1. Identify the first point of contact for the patient (e.g., Registration)
2. At each service point, ask the healthcare worker to describe:
    - The scope of services they provide, The kind of information they collect about the patient, Where they record the information,
5. Ask for copy of the data recording tools if available. Otherwise, request a blank copy of the tool and take a photo of
6. Ask whether the tool was standardized by the MoH and when it was last updated
7. Ask if there are sporadic shortages of supply for the tool and whether sometimes improvised tools are developed
8. Ask for the next service delivery point where the child is sent for further care
9. Where the information collected at the current service point is sent, if at all?
10. Move to the next service points and repeat items 1-9 until you have gone through all service points (e.g., OPD, Emergency, In-patient ward, NBU, pharmacy, laboratory, etc.)

Continue to the well child service line and repeat steps 1-9 as applicable

Mapping process – post site visits

1. INSTITUTIONAL CHILD MORTALITY RATE	
Summary of mapping results	**Analysis**
The indicator is available in the Health Information System	Partially
The indicator is being collected	Partially
The indicator is being reported	Partially
Number of required data elements	4
% of data elements being collected	100%
Recommended timeline for adoption*	**Short term**

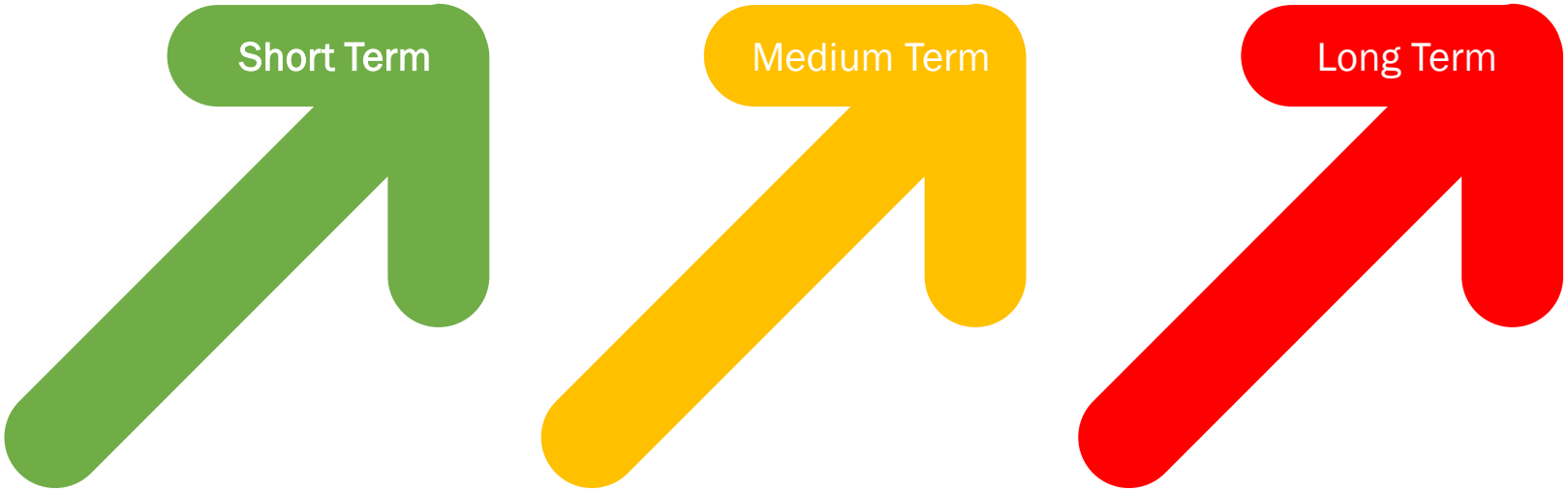
	Legend
5	Yes
4	Partially
3	No
2	Cannot be determined
1	Not Applicable

Comment related to the recommendation

			HIS assessment			
		Source				
Unit of analysis	**Definition**		**Available in data collection or reporting platforms**	**Is collected**	**Is reported**	**Notes**
Main Indicator	Number of pre-discharge child deaths per 1000 children who visited the health facility					
Numerator	Number of children who died in the health facility before discharge (Includes deaths in the emergency ward but does not include children who died upon arrival at the hospital, child deaths during outpatient visits, and institutional neonatal deaths)	HMIS FORM 108/				The age disaggregation doesnot conform to WHO definition. You can calculate the indicator by looking at the different variables within HMIS IPD 003
Denominator	Number of children who visited the health facility for medical care during reporting period	HMIS FORM 108				
Main data elements **						
1	Number of children (0-<15) admitted to inpatient ward	HMIS IPD 003				
2	Number of children (0-<15) seen in emergency area	HMIS IPD 003				
3	Number of children (0-<15) admitted to inpatient ward who died in the facility	HMIS IPD 003				
4	Number of children (0-<15) seen in emergency area who died in the facility	HMIS IPD 003				

- **25** indicator
- **317** data elements
- **951** assessments

Understanding mapping results – color codes



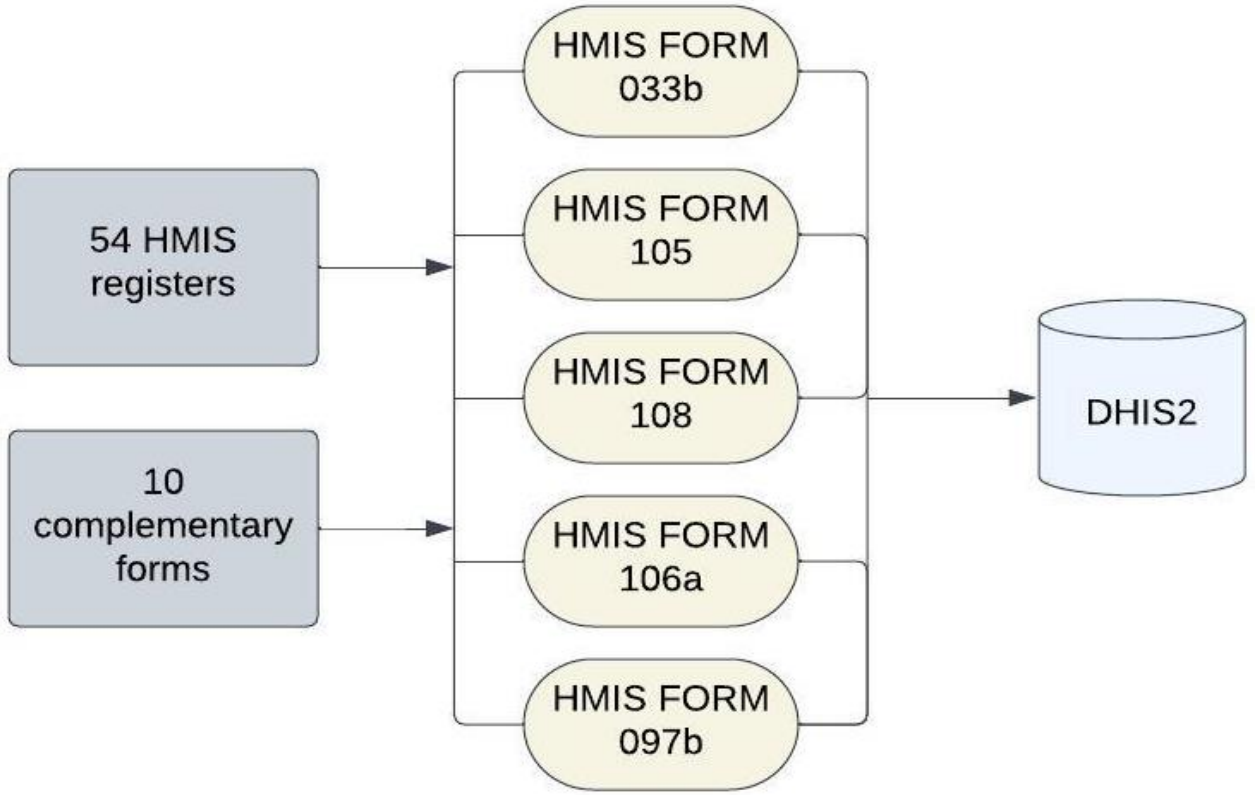
- **100% of the data elements** required to calculate these indicators are provided for in the HIS,
- **Minimal effort** would be required to start reporting on them, for example by pulling data from different HMIS tools to calculate the indicator and report upwards

- **<100% of data elements** required to calculate the indicator are provided for in the HIS
- **Moderate effort** would be required to add the required data elements to HMIS for the indicators to be calculated and reported upwards.

- **0% of the data elements** required to calculate these indicators are provided for in the HIS
- **Considerable effort** would be required to add the required data elements to HMIS for the indicators to be calculated and reported upwards.

Mapping results – summary

E.g. of a HIS landscape for Paediatric and young adolescent QoC indicators



Mapping results – summary of 4 countries

No.	Indicators	Kenya	Malawi	Sierra Leone	Uganda
1	Institutional child mortality rate				
2	Institutional paediatric case fatality rate from common paediatric conditions				
3	Essential IMNCI assessment of the sick child				
4	Treatment of PSBI at outpatient level				
5	KMC Inititation for infants weighing <, = 2000 grams				
6	Pneumonia treatment with first choice antibiotics				
7	Management of acute watery diarrhoea among children < 5 years old				
8	Paediatric malaria diagnostics testing rate in malaria endemic areas				
9	Treatment of uncomplicated severe acute malnutrition				
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11	HIV testing for the mother and/or the child (in high HIV prevalence settings)				
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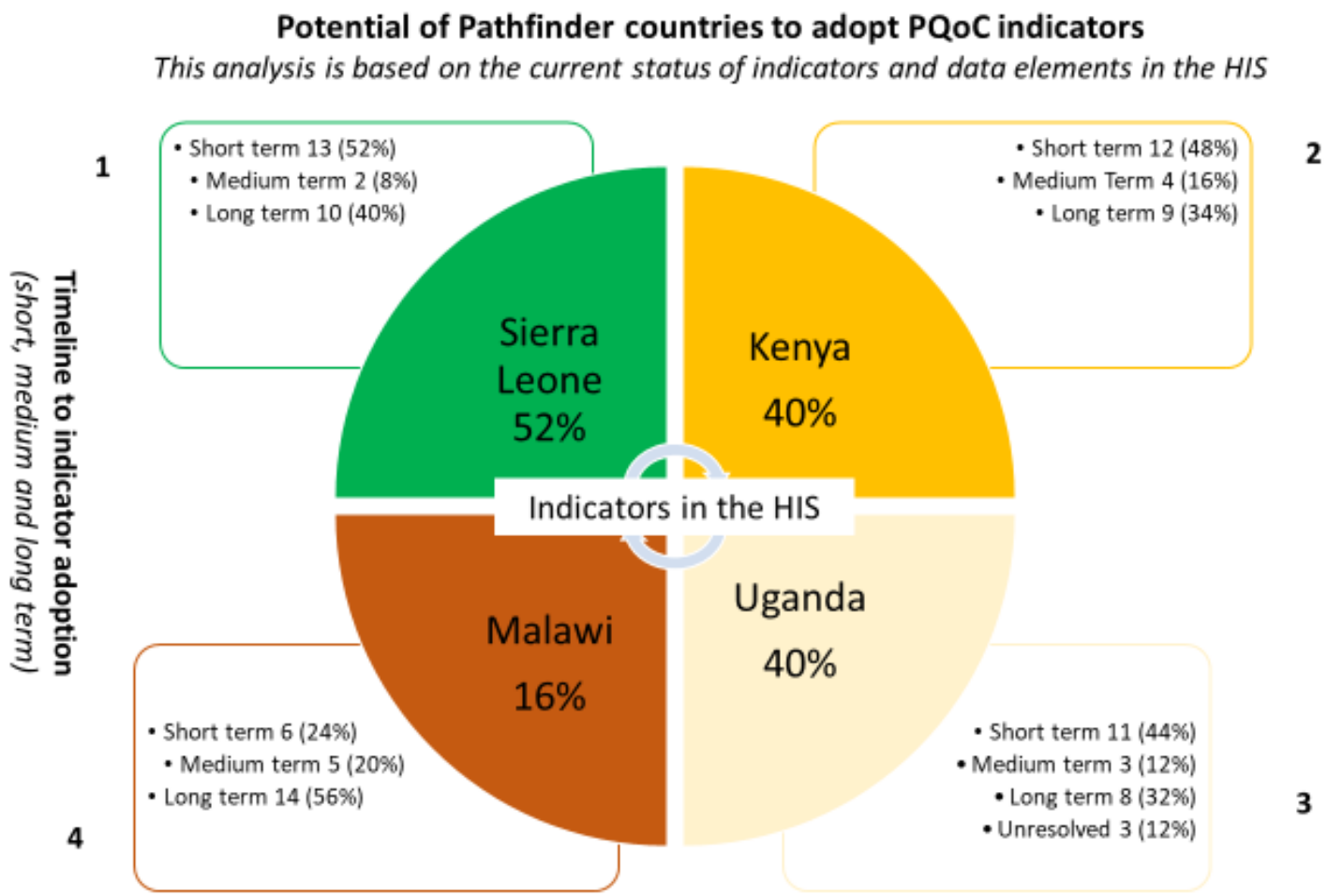
23	Access to play and educational materials during hospitalisation				
24	Clinical mentorship training				
25	Stock out of essential child health medications				

Mapping results – summary of 4 countries



General recommendations

HIS / M&E technical review meetings

- To discuss technical, structural, and operational requirements for integrating **all** the 25 indicators proposed by WHO into the country's HIS within specific timeframes.
- To unpack those material, human, time, and financial resources required to adopt the recommended indicators.
- The technical capacity and capabilities that exist or do not exist at country level to adopt the indicators should also be discussed.
    a. The technical capacity to collect, collate, manage, and analyze the data collected through the existing data system and,
    b. The technical capacity of the program personnel and other stakeholders to use PQoC data and evidence to drive action including proactive and reactive decision-making or for improvement purposes.
- Once the HIS/M&E divisions have considered these issues, they can then make recommendations to the program division for each indicator, highlighting the pros and cons of adopting them from the technical standpoint.

General recommendations

Child health and PQoC program review meetings

- The leadership of the child health and QoC programs in the MoH are key actors in deciding which indicators should be adopted
- They would need to convene with other relevant stakeholders (HIV, TB, Malaria, Nutrition, etc)
    - To review the recommendations from the HIS and M&E division around which indicators would be feasible to adopt and when from a technical perspective
    - To decide which of these indicators are in line with programmatic priorities.
- The list of priority indicators agreed upon during this consultation would then be sent back to the HIS and M&E divisions to develop a technical plan on how they will be integrated in the NHIS
    - Important to note that integration of new indicators is sometimes aligned with national HIS review cycles
    - National training programme may be required to orient subnational structures and health facilities on the new indicators (data collection methods, aggregation, analysis, analysis, etc)

General recommendations

Stakeholder planning meetings

- To develop work and operational plans for integrating the prioritised set of PQoC indicators within the country's HIS.
- Involve multiple stakeholder groups to identify areas in which they might be able to provide support. E.g.
    - National training of the health workforce on indicator definition and calculation, adaptation of the HMIS registers and summary/reporting forms, etc.

Part 2

Experience from Sierra Leone and Kenya & next steps

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Sierra Leone's experience:
Integrating Pediatric Quality of Care Indicators in the National Health Information System

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Contents

Key Health and Demographic Statistics

8+ Million
Population

51 Hospitals

1,550+
Primary Health Care Units

0.34/1000
Doctors/Nurse/Midwives Density

250,000+
Annual Deliveries

87%
Skilled Birth Attendant Rate

Key Impact Indicators

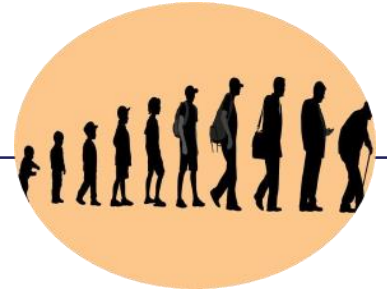
443/100,000
Maternal Mortality Rate

24/1000
Stillbirth Rate

30/1000
Neonatal Mortality Rate

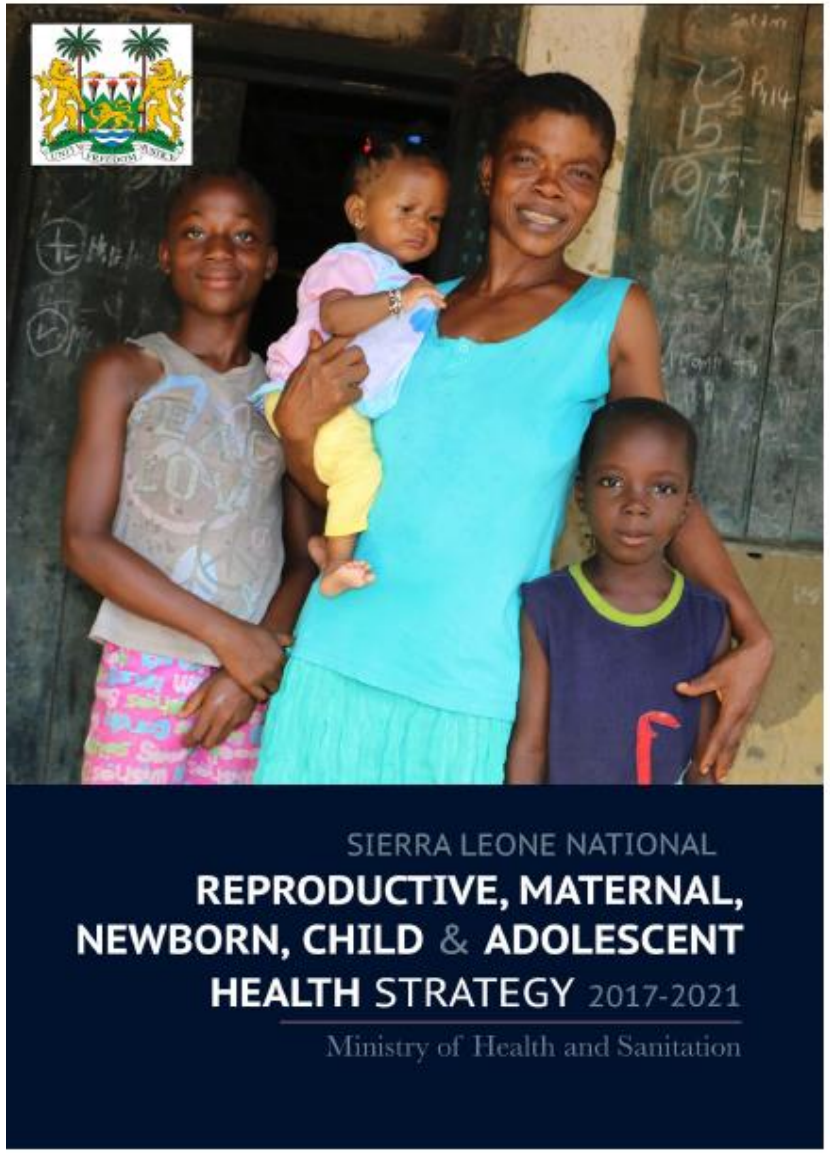
105/1000
Under-five Mortality Rate

106/1000
Adolescent Birth Rate



54.3
Life Expectancy at Birth

The RMNCAH Strategy 2017-2021 extended to 2025



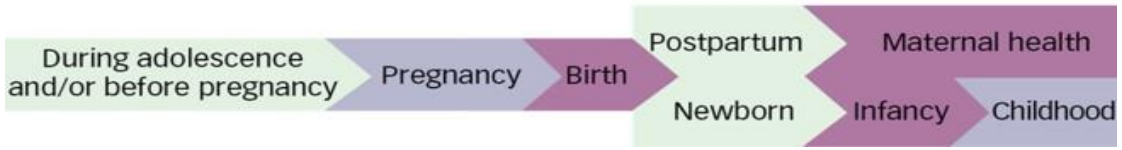
SO2: Improved quality of RMNCAH and nutrition services at all levels service delivery as per the national basic package of essential health services

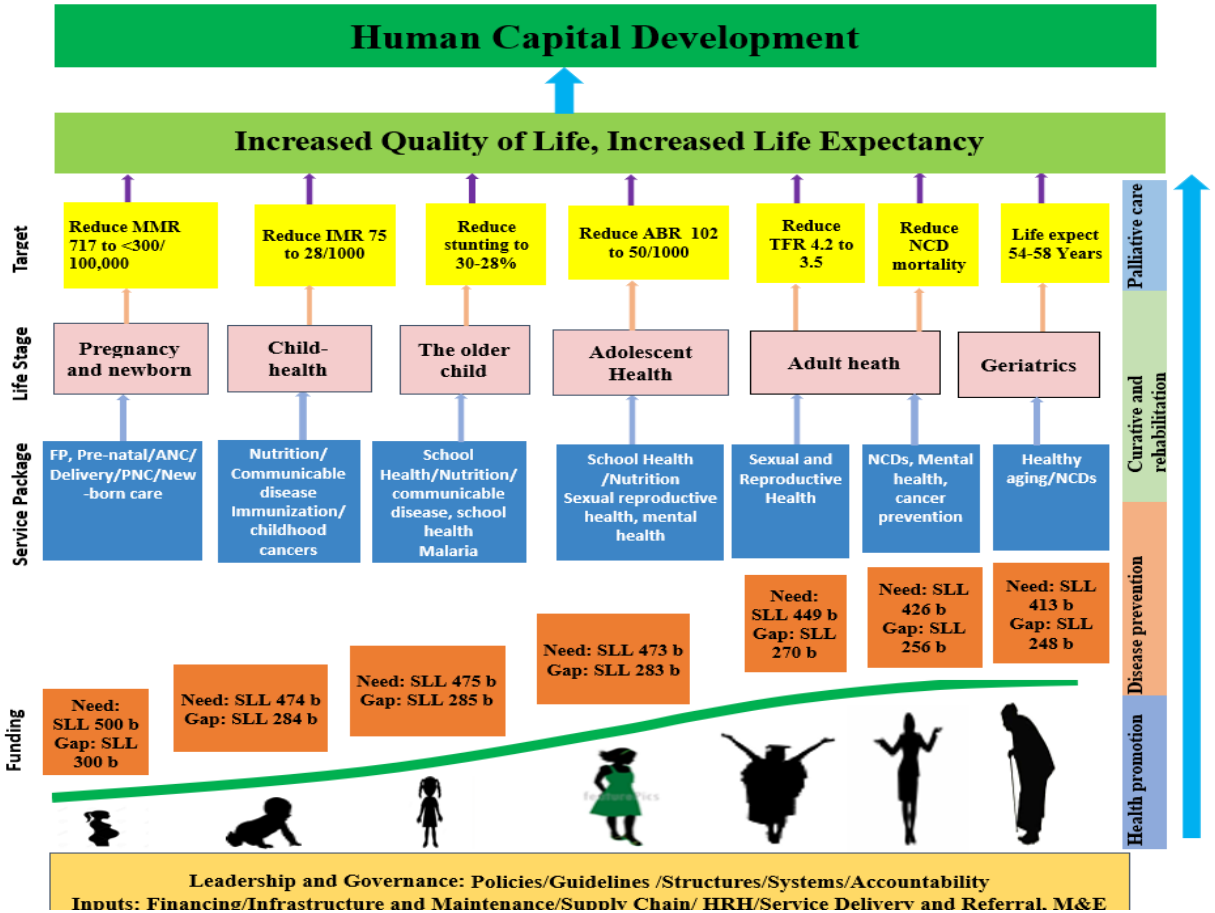
Developed National QoC Road Map: *to ensure that the components of the health systems building blocks in the country are synergistic in supporting the provision of healthcare that is* ***safe***, ***timely***, ***effective***, ***efficient***, ***equitable***, ***person-centred***, ***integrated*** *and* ***devoid of collusion and corruption***.

QOC Roadmap Goal in line with QED Network

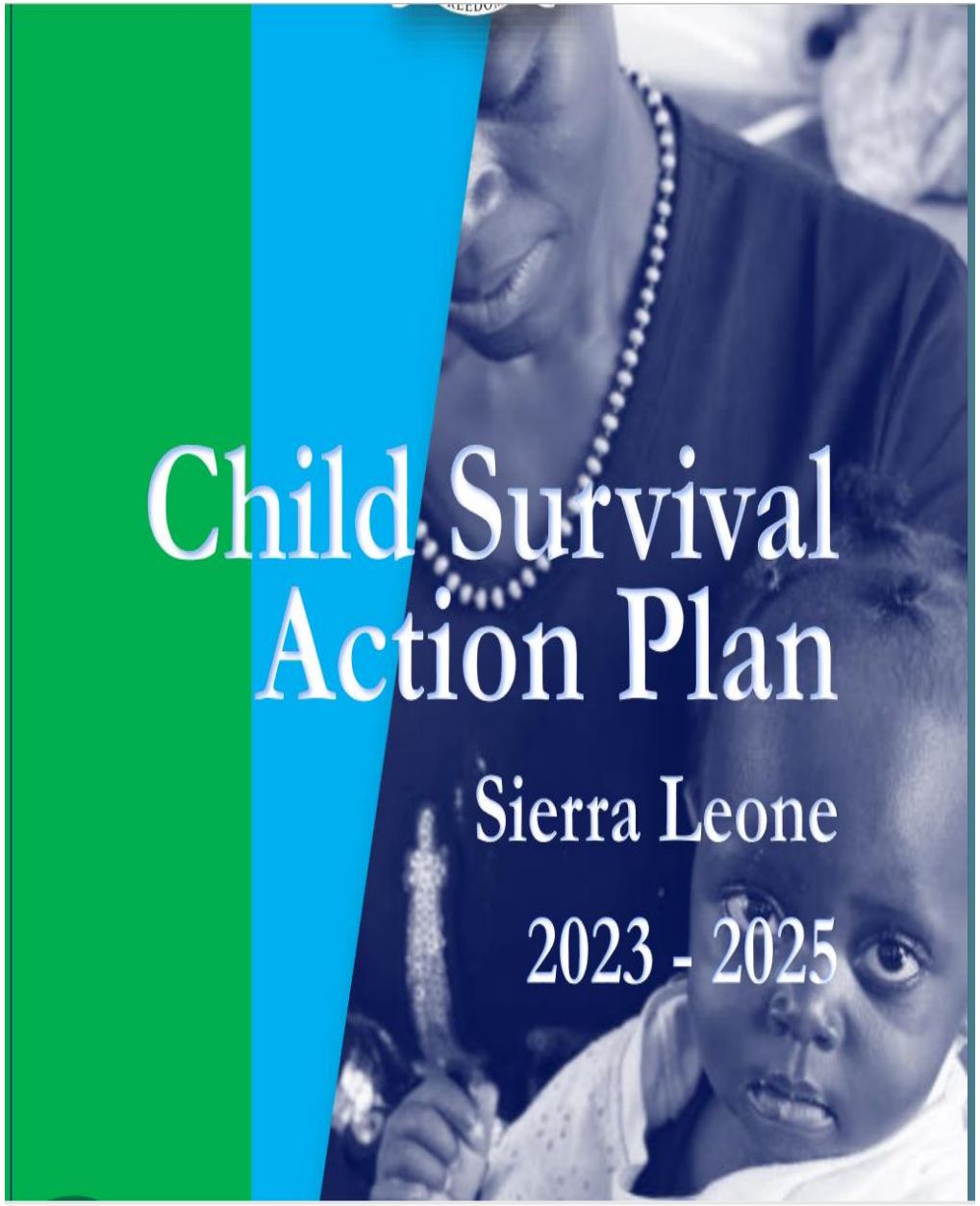
1	2	3	4
Reduce maternal mortality by 50% by 2024 from the baseline (2019) in participating facilities	Reduce newborn mortality by 50% by 2024 from the baseline (2019) in participating facilities	Reduce under-five mortality by 50% by 2024 from the baseline (2019) in participating facilities	Improve experience of care in participating facilities

Person centered life stage framework for service delivery





Sierra Leone Child Survival Action Plan (CSAP)



- The CSAP targets to rapidly accelerate mortality reduction by addressing the specific causes of illness and death including health system issues
- Elevate Child Survival Action to the highest level for visibility and accountability
- Improve the quality-of-service delivery, especially through building healthcare worker skills/competencies and quality improvement
- Ensure all children in hard-to-reach areas can access iCCM, and that preventive/promotive health and nutrition interventions are implemented by CHWs
- **Improve the collection, management, and use of Child Health data at all levels.**
- Refocus efforts, with a holistic approach, to end preventable child deaths in Sierra Leone.
- **Target:** By 2025,
  - **Reduce NMR to below 23**
  - **Reduce IMR to below 25**
  - **Reduce <5MR to below 71**

Progress towards the uptake of the Global Core Paediatric Quality of Care Indicators

Sierra Leone and The Network

Bangladesh, Côte d'Ivoire, Ethiopia, Ghana, India, Malawi, Nigeria, Uganda, Sierra Leone, Tanzania, Kenya

Partners: ASSIST, Bill and Melinda Gates Foundation, Council of International Neonatal Nurses (COINN), Institute for Healthcare Improvement (IHI), International Confederation of Midwives (ICM), International Council of Nurses (ICN), International Federation of Gynecology and Obstetrics (FIGO), International Pediatric Association (IPA), Jhpiego, Liverpool School of Tropical Medicine, Management Sciences for Health (MSH), Save the Children, The Partnership for Maternal, Newborn and Child Health (PMNCH), UNICEF, UNFPA, University College London, University Research Co., LLC – Center for Human Services (URC-CHS), USAID, WHO

Note:

- Sierra Leone joined in December 2017.
- More countries have expressed interest to join

http://qualityofcarenetwork.org/

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Key Milestones in the QOC Endeavor

- National, District, Hospital Quality Management Program Established
- National QOC and Patient Safety Policy, Roadmap, Guidelines and tools developed
- Paediatric Mortality Audit instituted in Hospitals – more than 500 HW trained
- Adapted/adopted the global MNH core indicators and developed national core indicators

Integration process, steps and mapping

Meeting with the leadership of the health facilities to introduce the project and understand service organization and workflow/patient care pathways

Observing service delivery pathways to determine which data are/can be collected at which service points & noting the data capturing/reporting forms/platforms at each point

Debriefing the health facility leadership on the completed site visit activity and making locally actionable recommendations to improve data pipelines and service delivery

Technical convening to map indicators and their data elements using the blank data forms collected from each service point during site visits at the health facilities

Mapping Results

25 indicators mapped against HIS in Sierra Leone

25 indicators and availability of **their data elements** assessed

Detailed mapping of data elements for each indicator completed

- Categorised as: **Available, Partially available, Not available, Cannot be determined, Not applicable**

Indicator-specific recommendations derived from mapping results

Timeline for adoption: individual recommendations provided for each indicator (**refer to Excel spreadsheet for details**)

Mapping Results: Data sources

		List of reporting systems/formats screened and included in review of indicators and data elements				
Reporting system	Source Abbreviation	Actual File/Module name	Reporting unit	Year format was introduced	Included in review (Y/N)	
DHIS2 (n-10)	PHUF1	Monthly Summary Outpatient Morbidity Module	Health facility (PHU)	2020	Yes	
	PHUF2	Monthly Summary Child Preventive Services Module	Health facility (PHU)	2020	Yes	
	PHUF3	Monthly Summary Reproductive Health Services Module	Health facility (PHU)	2020	Yes	
	PHUF4	Monthly Summary Community Interventions Module	Health facility (PHU)	2020	Yes	
	HF5	Monthly Summary Hospital Inpatient Module	Health facility (Hospitals)	2020	Yes	
	HF6	Monthly Summary Hospital Outpatient Module	Health facility (Hospitals)	2020	Yes	
	HF7	Monthly Summary PMTCT - HF7	PHUs and hospitals		Yes	
	HF10	Monthly Summary HCT, TB screening, & other preventative services - HF10			Yes	
	CHIS	Community Health Information System Module	Community	2022	Yes	
	Training database	Training database	District level		Yes	
HMIS (summary registers) (n-9)	HF 1	Monthly Summary Outpatient Morbidity - HF1	Health facility (PHU)		Yes	
	HF 2	Monthly Summary Child Preventive Services - HF2	Health facility (PHU)		Yes	
	HF 3	Monthly Summary Reproductive Health Services - HF3	Health facility (PHU)		Yes	
	HF 4	Monthly Summary Community Interventions - HF4	Health facility (PHU)		Yes	
	HF 5	Monthly Summary Hospital Inpatient - HF5	Health facility (Hospitals)		Yes	
	HF 6	Monthly Summary Hospital Outpatient - HF6	Health facility (Hospitals)		Yes	
	HF7	Monthly Summary PMTCT - HF7	PHUs and hospitals		Yes	
	HF10	Monthly Summary HCT, TB screening, and other preventative services - HF10	PHUs and hospitals		Yes	
	RRIV	Request report issue voucher	PHUs and hospitals		Yes	
					Yes	
HMIS (individual case registers) (n-10)	Triage form	Triage form	Hospital and PHU		Yes	
	Under 5 treatment register	Under 5 treatment register	Hospital and PHU		Yes	
	Above 5 general treatment register	Above 5 general treatment register	Hospital and PHU		Yes	
	Patient chart	Patient chart	Hospital		Yes	
	Hospital inpatient register	Hospital inpatient register	Hospital		Yes	
	Mother and Neonate health register	Mother and Neonate health register	Hospital and PHU		Yes	
	Under 5 register for PHUs/age 2 months to 5 years	Under 5 register for PHUs/age 2 months to 5 years			Yes	
	HIV register	HIV register			Yes	
	TB treatment register	TB treatment register			Yes	
	EPI Register	EPI Register	Hospital and PHU		Yes	

Mapping Results: Findings

5. KMC INITITATION FOR INFANTS WEIGHING <=2000 GRAMS	
Summary	**Analysis**
The indicator is available in the Health Information System	No
The indicator is being collected	No
The indicator is being reported	No
Number of required data elements	4
% of data elements being collected	100%
Recommended timeline for adoption*	**Short term**

Legend		
5	Yes	
4	Partially	
3	No	
2	Cannot be determined	
1	Not Applicable	

Comment related to the recommendation

Although the indicator is currently not being collected and reported as defined by WHO, there are enough data elements available in the HIS that can allow the computation of the indicator as defined by WHO. The recommendation would be to pull all the data elements from the different sources (including their disaggregations) into the individual patient and summary registers. The indicator could be adopted in the short term.

			HIS assessment			
		Source				
Unit of analysis	Definition		Available in data collection or reporting	Is collected	Is reported	Comments
Main Indicator	% of infants initiated on KMC	No source				not available anywhere as a calculated indicator
Numerator	Number of infants weighing 2000 g or less who were initiated on KMC	No source				not available anywhere as a calculated indicator
Denominator	Number of infants weighing 2000 g or less who were born in or presented to the health facility during the reporting period	Mother and Neonate health register				not available anywhere as a calculated indicator
Main data elements**						
1	Number of preterm and/or small infants <=2000g born in facility	Mother and Neonate health register				as individual records
2	Number of preterm and/or small infants <=2000g admitted to facility	Mother and Neonate health register				as individual records
3	Number of preterm and/or small infants <=2000g born in facility who were initiated on kangaroo mother care	Mother and Neonate health register				as individual records
4	Number of preterm and/or small infants <=2000g admitted to facility who were initiated on kangaroo mother care	Mother and Neonate health register				as individual records

*Definition of recommended timeline for adoption		
Short term	100% of data elements are included in the HIS	Within 6 months
Medium term	50 - 99% of data elements are included in the HIS	Within 1 year
Long term	< 50% of data elements are included in the HIS	1 - 3 years

** can be calculated from registers based on individual records

Mapping Results: Findings

The dashboard highlights indicators which are available in the relevant DHIS-2 modules as defined by WHO.

Indicator No.	Indicators	Availability
5	KMC Inititation for infants weighing <, = 2000 grams	
10	Management of anaemia	
14	Inappropriate use of antibiotic for cough and cold	
16	Paediatric quality of care indicator data review	
17	Patient's knowledge and understanding of their condition and treatment pla	
18	Satisfaction with decision-making process for care	
19	Pre-discharge counselling of danger signs and feeding during illness	
20	Awareness of child's rights during health care	
21	Disrespectful care for the child or caregiver	
22	Accompaniment during care	
23	Access to play and educational materials during hospitalisation	
25	Stock out of essential child health medications	
1	Institutional child mortality rate	
2	Institutional paediatric case fatality rate from common paediatric conditions	
4	Treatment of PSBI at outpatient level	
6	Pneumonia treatment with first choice antibiotics	
9	Treatment of uncomplicated severe acute malnutrition	
12	TB evaluation for children with presumptive TB	
13	Missed opportunity for vaccination	
15	Completion of medical documentation	
24	Clinical mentorship training	
3	Essential IMNCI assessment of the sick child	
7	Management of acute watery diarrhoea among children < 5 years old	
8	Paediatric malaria diagnostics testing rate in malaria endemic areas	
11	HIV testing for the mother and/or the child (in high HIV prevalence settings)	

12 (48%)

9 (36%)

4 (16%)

Mapping Results: Findings

*Definition of recommended timeline for adoption		
Short term	100% of data elements are included in the HIS	Within 6 months
Medium term	50 - 99% of data elements are included in the HIS	Within 1 year
Long term	< 50% of data elements are included in the HIS	1 - 3 years
** can be calculated from registers based on individual records		

- The recommended timelines for indicator adoption were derived from the availability of the data elements in the HIS (including from multiple sources) required to calculate each indicator.
- NB: The timelines (short-, medium-, long-term) are based on **the perceived capacity of the country to adopt new indicators given their unique context** and not necessarily whether the indicator is a priority for child health quality of care programming.

Proposed timeline	Number of indicators
Short term	13 (52%)
Medium term	2 (8%)
Long term	10 (40%

Specific indicators: Adaptation

Short term	Medium term	Long term
• Institutional child mortality rate (**Indicator 1**)	• Institutional paediatric case fatality rate from common paediatric conditions **(Indicator 2)**	• Management of anaemia **(Indicator 10)**
• Essential IMNCI assessment of the sick child **(Indicator 3)**	• Treatment of PSBI at outpatient level **(Indicator 4)**	• Paediatric quality of care indicator data review **(Indicator 16)**
• KMC Initiation for infants weighing <, = 2000 grams **(Indicator 5)**		• Patient's knowledge and understanding of their condition and treatment plan **(Indicator 17)**
• Pneumonia treatment with first choice antibiotics **(Indicator 6)**		• Satisfaction with decision-making process for care **(Indicator 18)**
• Management of acute watery diarrhoea among children < 5 years old **(Indicator 7)**		• Pre-discharge counselling of danger signs and feeding during illness **(Indicator 19)**
• Paediatric malaria diagnostics testing rate in malaria endemic areas **(Indicator 8)**		• Awareness of child's rights during health care **(Indicator 20)**
• Treatment of uncomplicated severe acute malnutrition **(Indicator 9)**		• Disrespectful care for the child or caregiver **(Indicator 21)**
• HIV testing for the mother and/or the child (in high HIV prevalence settings) **(Indicator 11)**		• Accompaniment during care **(Indicator 22)**
• TB evaluation for children with presumptive TB **(Indicator 12)**		• Access to play and educational materials during hospitalisation **(Indicator 23)**
• Missed opportunity for vaccination **(Indicator 13)**		• Clinical mentorship training **(Indicator 24)**
• Inappropriate use of antibiotic for cough and cold **(Indicator 14)**		
• Completion of medical documentation • **(Indicator 15)**		
• Stock out of essential child health medications **(Indicator 25)**		

Challenges & Opportunities

- Some hospitals have a well-developed data system with custom data analytics for decision support in service planning
- However, data systems in PHUs are less developed
- General data flow pathways in hospitals and PHUs:
  - Triage → (Surveillance) → Resuscitation/Doctor or CHO → Inpatient Department or Outpatient Department based on patient condition.
- Yet, Patient data are recorded in multiple forms or registers, not necessarily linked by unique identifiers.
- Multiple registers (individual case and summary registers) for different age groups which might increase reporting burden and compromise data quality (e.g., one register for <5 years and a separate register for > 5 years children could be combined, ensuring that age disaggregation is accounted for)
- Lack of standardized HMIS forms – use of improvised patient forms in the public hospital (KMCH).
- Strong desire and commitment to digitization of HMIS including EMR
- Interest to do national HMIS review for the health sector by MOH

General recommendations and next steps

- Share all indicator-specific mapping results and WHO recommendations to relevant CSAP stakeholders
- Development of a result framework for Child Survival Action Plan in line with the CSAP and Paediatric QOC indicator mapping result (ongoing)
- Review and harmonize the child health information sources (forms, patient charts, registers, DHIS2 module) to include essential data elements (including QoC) and eliminate redundancies (planned in November alongside HMIS for RCH review consultative meeting)
- Inclusion of child health indicators including the QOC indicators in the national indicator dictionary
- A nation-wide capacity building programme based on the new HMIS /DHIS2 adaptations, targeting all the relevant stakeholders (clinicians, data clerks, data managers, etc.)

Part 3

Questions & Answers

Please type your questions in the chatbox.

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