What Data Do National Health Management Information Systems Include?
Findings for Maternal Newborn Health and Family Planning

Wednesday, September 26, 2018
9:00-10:30 a.m. EDT

Introduction

- MCSP works at the country and global levels to improve reproductive, maternal, newborn and child health (RMNCH) and nutrition services

- *Measurement and Data Use for Action and Accountability* is a key MCSP learning theme

- MCSP undertook this review to better understand maternal and newborn health (MNH) and family planning (FP)-related content (data elements) of routine HMIS across USAID-supported countries

- In SDG era, importance of routine health information systems emphasized*

Photo credit: Karen Kasmauski/MCSP. Wandi Village, Nigeria 2018

*The Roadmap for Health Measurement and Accountability, 2015
(http://www.who.int/hrh/documents/roadmap4health_measurent_account/en/)

Why a multi-country HMIS review?

➢ Global actors can use it to understand:

- Which countries already collect data elements recommended by WHO to track progress towards global RMNCAH health objectives?

- What other data on content/quality of care and health outcomes do countries collect that could potentially be used for global tracking in the future (as new global indicator recommendations are forthcoming)?

➢ Country actors can use it to understand:

- Which MNH/FP data elements are health facilities collecting and aggregating and how does this align with WHO recommendations?

- What data elements should be added (or removed/revised) during the next round of HMIS revisions?

- What data are available for assessing service delivery and tracking progress towards subnational and national RMNCAH goals?

Presentation Outline

- Methods
- MNH Findings
- FP Findings
- Q&A

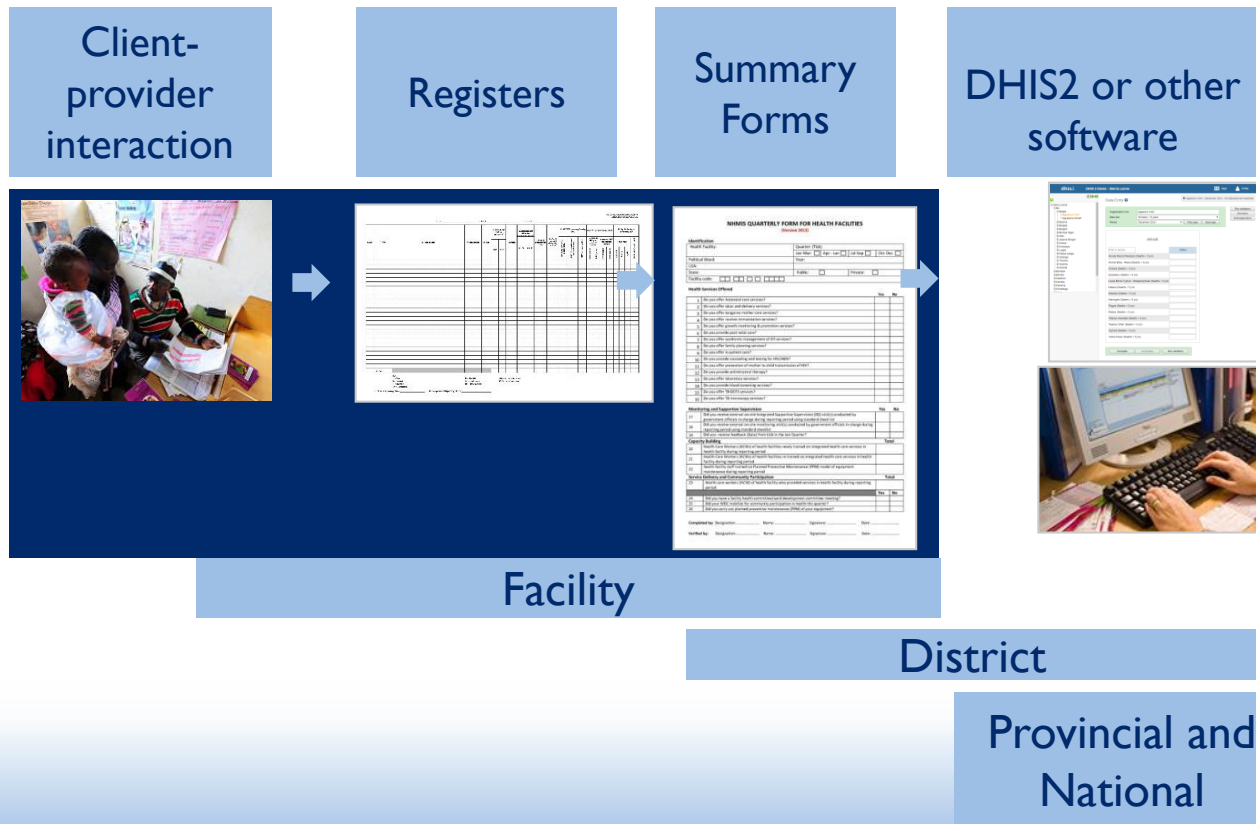*Photo credit: Karen Kasmauski/MCSP. Anjro, Madagascar 2018*
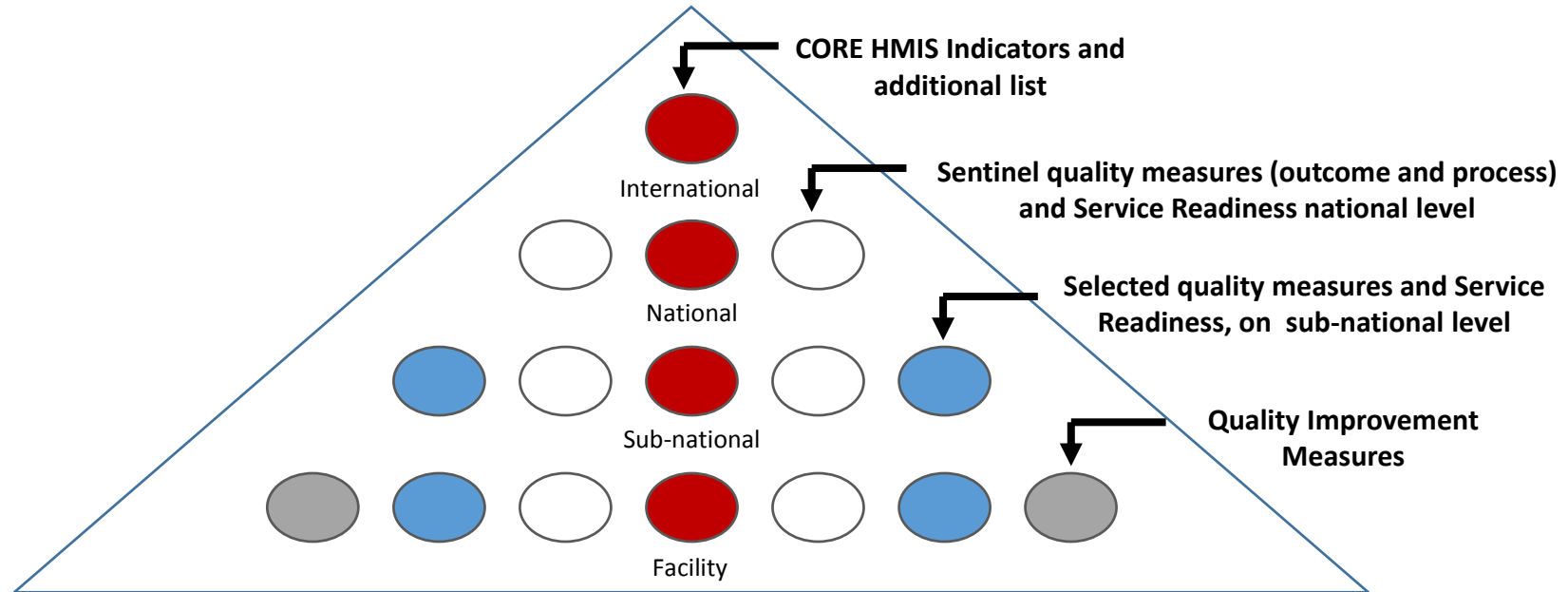
Methods

Subnational HMIS:
Common data flow from facility to district level

Health Systems Data Flow and Data Needs

Source: DHIS2 training materials/UNICEF/WHO

Countries included in the review

	MNH	FP		MNH	FP
Afghanistan	◆	◆	Mozambique	◆	◆
Bangladesh	◆	◆*	Myanmar	◆	
DRC	◆	◆	Namibia		
Ethiopia	◆	◆	Nepal	◆	
Ghana	◆		Nigeria	◆	◆
Haiti	◆	◆	Pakistan	◆	◆
India	◆	◆	Rwanda	◆	◆
Indonesia	◆		Senegal	◆	
Kenya	◆	◆	South Sudan	◆	
Liberia	◆	◆	Tanzania	◆	◆
Madagascar	◆	◆	Uganda	◆	◆
Malawi	◆	◆	Zambia	◆	◆
Mali	◆	◆	Zimbabwe		

MNH review:

24 countries

FP review:

18 countries

included in review, but still undergoing analysis

Methods, Part 1

1. Developed list of data elements of interest based on global indicator recommendations and clinical algorithms

2. Collected standardized HMIS facility registers and monthly facility summary forms from countries

Health facility forms and registers included in the review

MNH

FP

Patient Forms

Partograph

Registers

ANC
Labor & delivery
PNC

ANC
PNC
Labor & delivery
FP

Summary forms

Facility

Facility
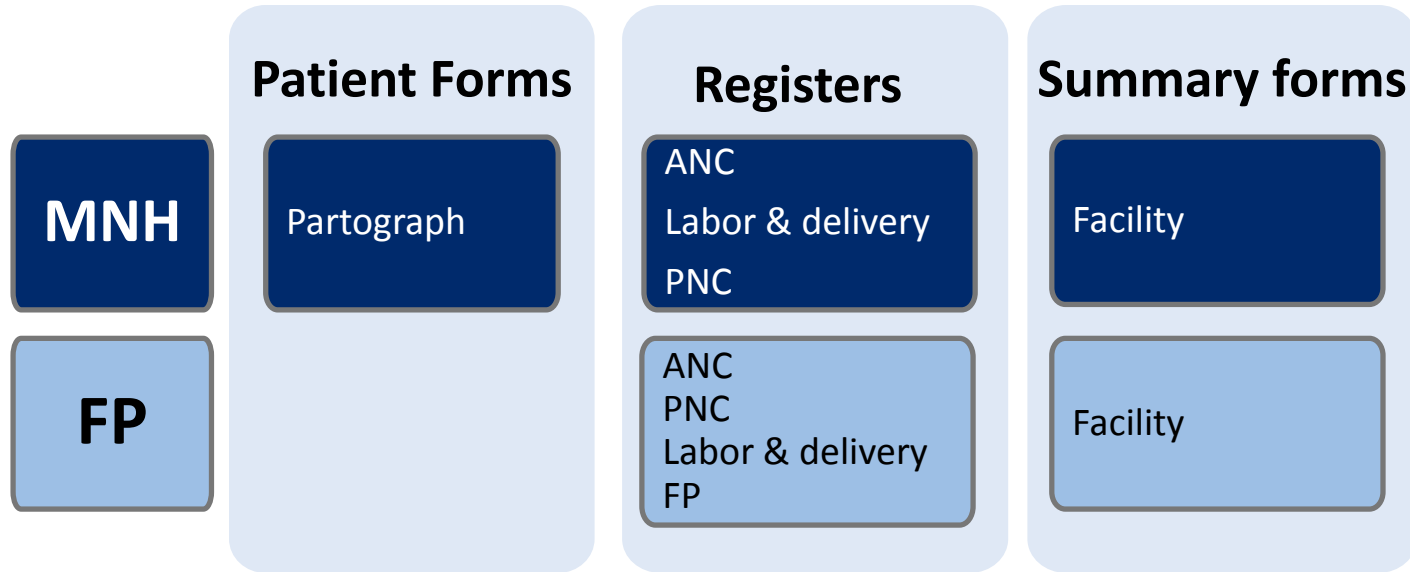
Methods, Part 2

3) Used standardized data abstraction template to conduct review

4) Multiple rounds of data quality assurance

5) Analysis in Excel pivot tables

Maternal and Newborn Health Findings

Ministry of Health-Level Needs

- Are recommended MNH screening/diagnostic tests and high impact interventions being provided consistently for every woman and newborn?

- What complications are women and babies having and how well are they being managed?

- Are health outcomes getting better?

Photo credit: Karen Kasmauski/MCSP. Lokoja, Nigeria 2018

Antenatal care: availability of data elements on screening and high-impact interventions varies

	Summary Form		ANC Register	
Syphilis screening	58%		75%	
Tetanus toxoid 2	71%		83%	
Iron + folate	63%		83%	
Hemoglobin-anemia	33%		71%	
IPTp 1*	64%		93%	
IPTp 2*	78%		86%	
IPTp 3*	43%		64%	
IPTp 4*	21%		21%	
HIV test result**	93%		86%	
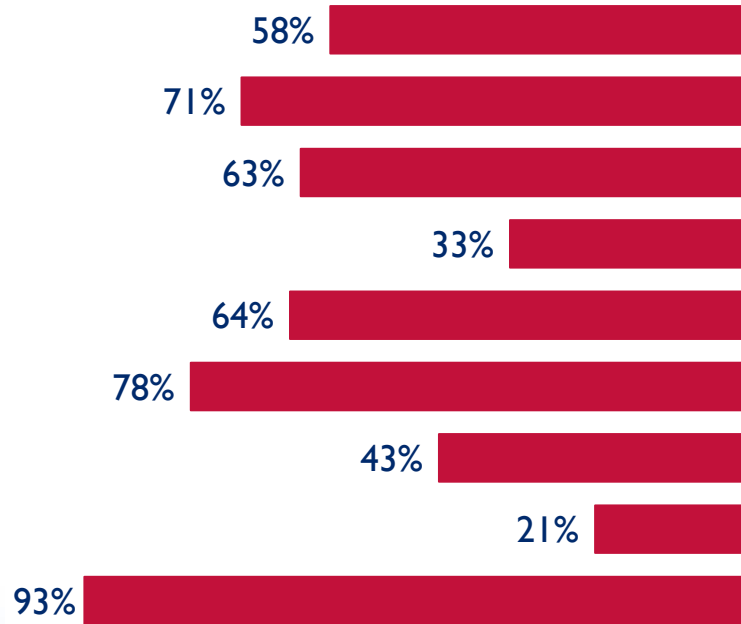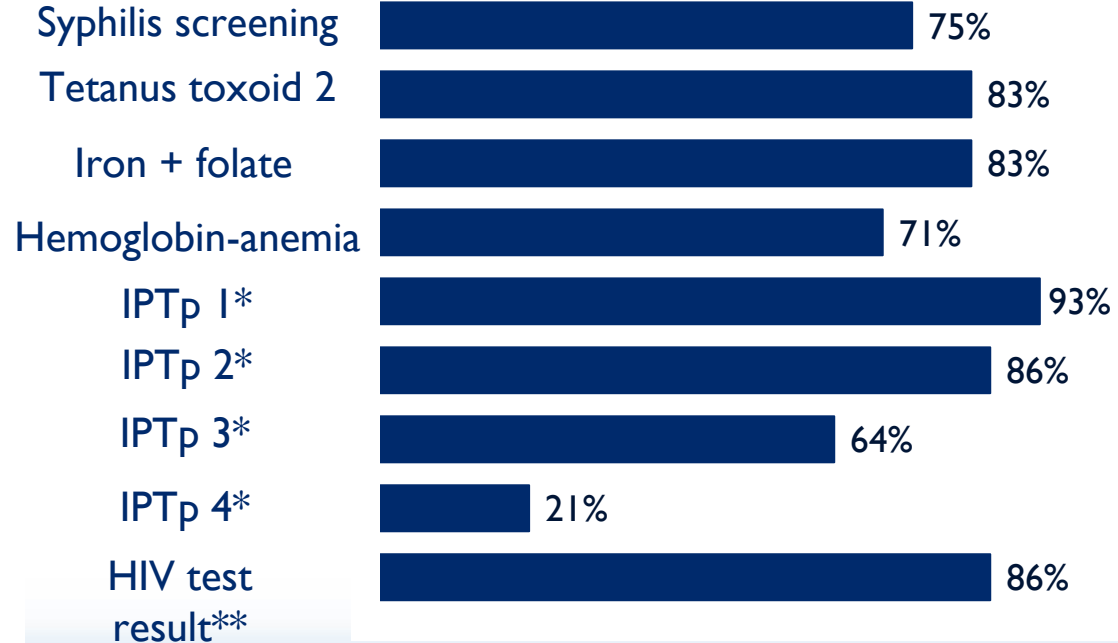
*Among 14 countries with IPTp as policy

**Among 14 countries with HIV prevalence ≥1%

Labor and delivery: Availability of birth and immediate postnatal care data elements

Summary Form

L&D Register

	Summary Form	L&D Register
Immediate postpartum uterotonic	29%	58%
Breastfeeding within one hour	54%	63%
Chlorhexidine for cord care	8%	13%
Skin-to-skin care	13%	17%
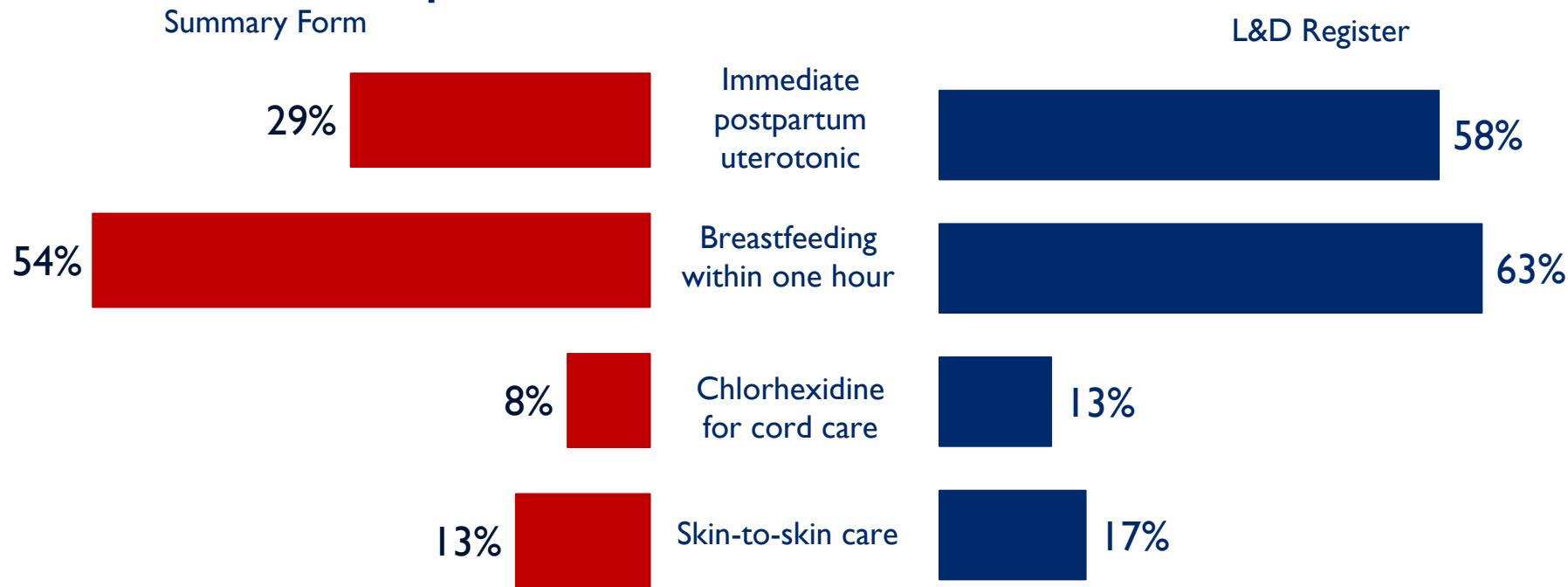
Note: The Healthy Newborn Network states 13 of the countries in this review provide CHX in facilities—https://www.healthynewbornnetwork.org/chlorhexidine-location/

Information on complications was sometimes complicated to extract from registers

Complications
after Delivery
(None/ Specify)

33

Mothers condition at discharge (See key C6)	Baby's condition at discharge (1=Alive 2=Referred for Postnatal)	Date for Postnatal Care visit	Comments
38	39	40	41

Diagnostic	Observations***
32	33

Aggregated data on complications are usually missing

Summary Form

Complication	% of countries
Abortion	46%
Antepartum hemorrhage	25%
Convulsion	0%
Ectopic pregnancy	13%
Obstructed/ prolonged labor	38%
PPH	38%
PE/E	42%
Retained placenta	13%
Ruptured uterus	25%
Sepsis	33%
Other	25%

% of countries
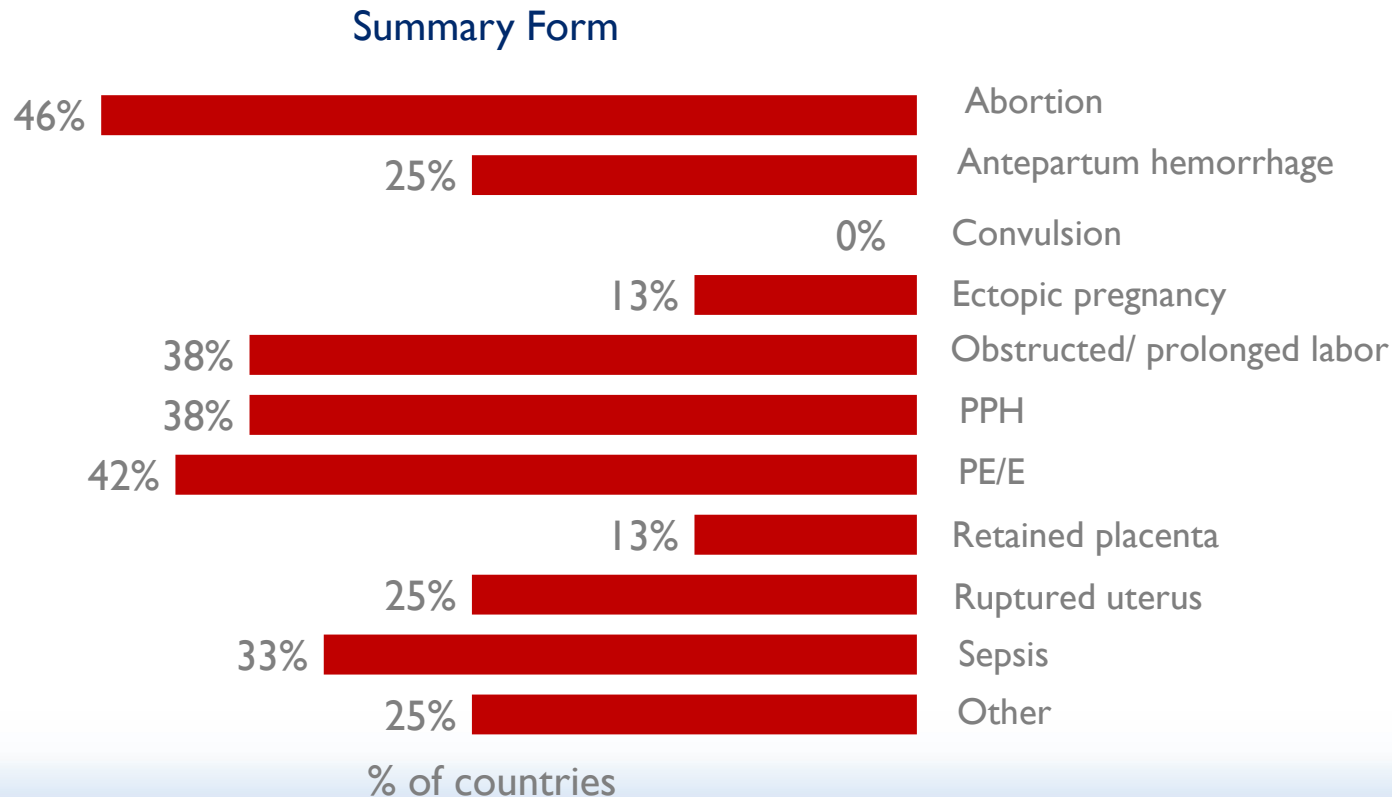
Lack of data on treatment of maternal complications other than C-section

	Antibiotic	Anti-convulsant	Blood transfusion	Manual removal of placenta	Uterotonic	Other
Afghanistan				R		
Bangladesh						R
DRC	R S	S				R
Ethiopia						R
India		S			S	
Liberia						R
Malawi	R	RS	RS	RS	S	S
Mozambique		RS	RS		RS	R
Pakistan					S	S
Rwanda	S		S	S		
Tanzania	S	RS	R	R	R	
Zambia		S				

Lack of data on treatment of newborn complications

Summary Form | L&D Register

Resuscitation: 25% (Summary Form) / 38% (L&D Register)

KMC: 8% (Summary Form) / 13% (L&D Register)

IV/IM antibiotics: 8% (Summary Form) / 8% (L&D Register)
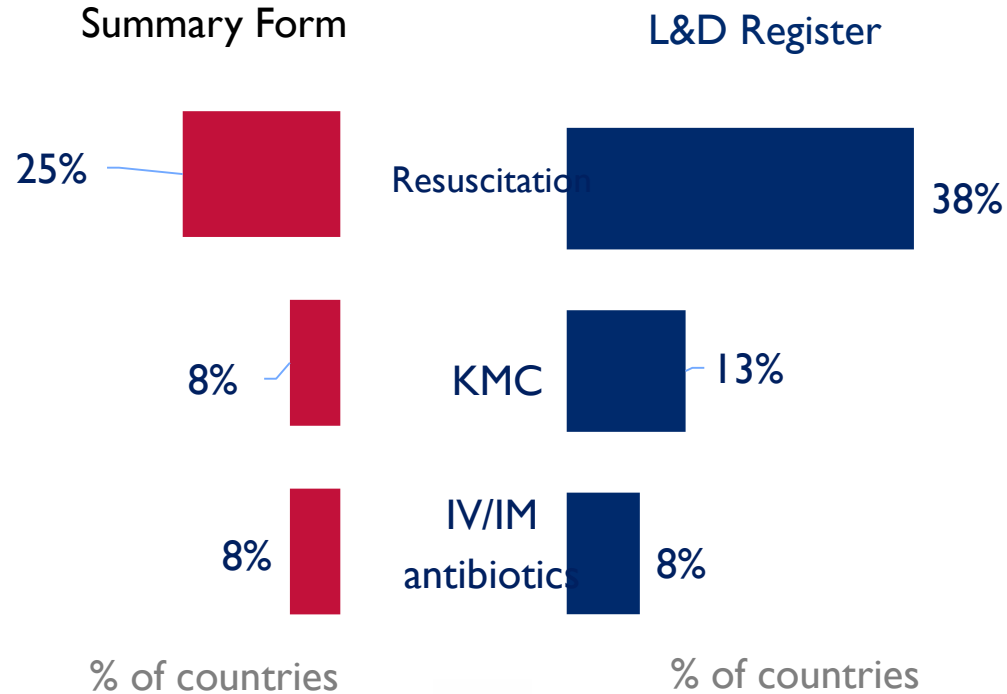
% of countries

Institutional maternal deaths are tracked by most countries, but aggregated data on timing and cause data are lacking

Summary Form

96% Maternal Deaths 96%

54% Cause of Death 67%

25% Death Audit Conducted 29%

Register

% of countries   % of countries
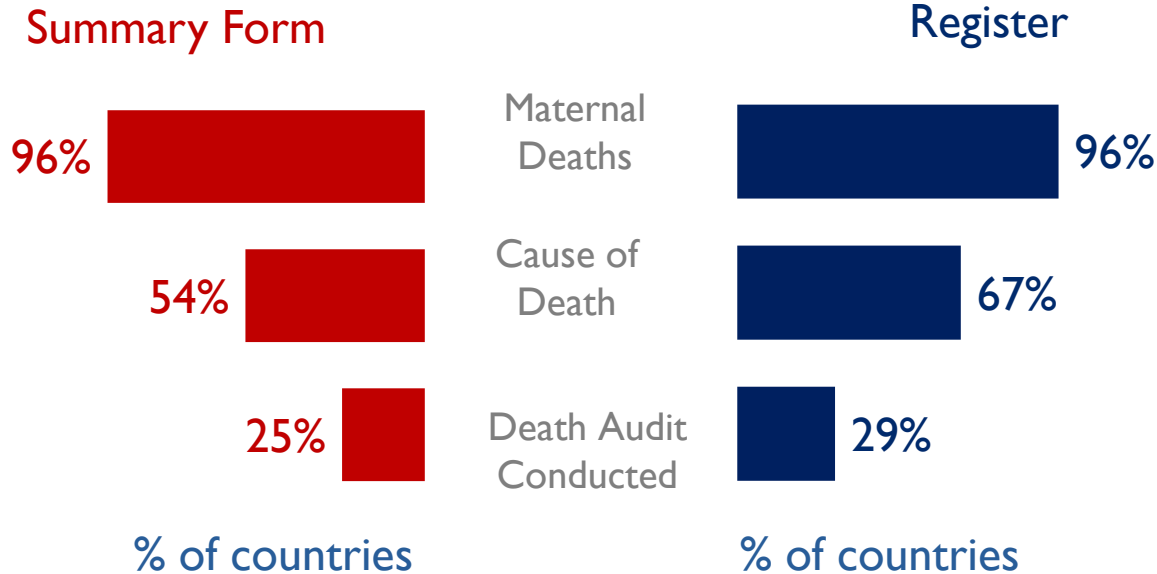
- *No summary forms tracking "pre-discharge" maternal deaths specifically.*

Stillbirth and Institutional Neonatal Mortality Data

Stillbirth Reporting (Summary Forms)

Fresh/Macerated, 58%

Combined, 42%
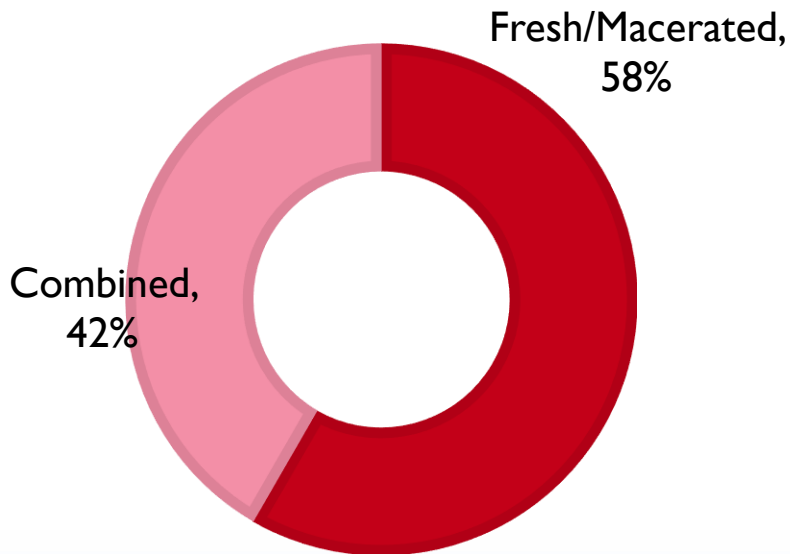
Neonatal Mortality Reporting (Summary Forms)

≤7 days, 19%

Both, 33%

≤28 days, 48%
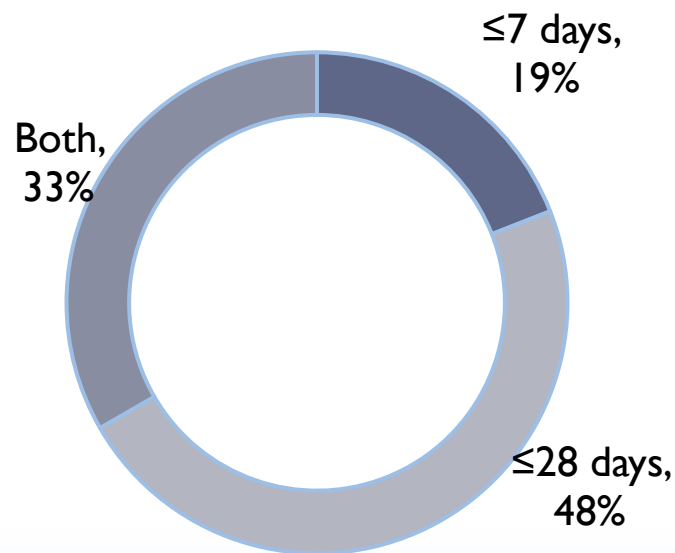
See also: Plotkin et al., Tracking facility-based perinatal deaths in Tanzania: Results from an indicator validation assessment. Plos One.

Global Information Needs

Strategies toward ending preventable maternal mortality (EPMM) — Executive Summary. World Health Organization.

2018 Progress Report: Reaching Every Newborn National 2020 Milestones. March 2018. World Health Organization, unicef.

Standards for Improving Quality of Maternal and Newborn Care in Health Facilities. World Health Organization.
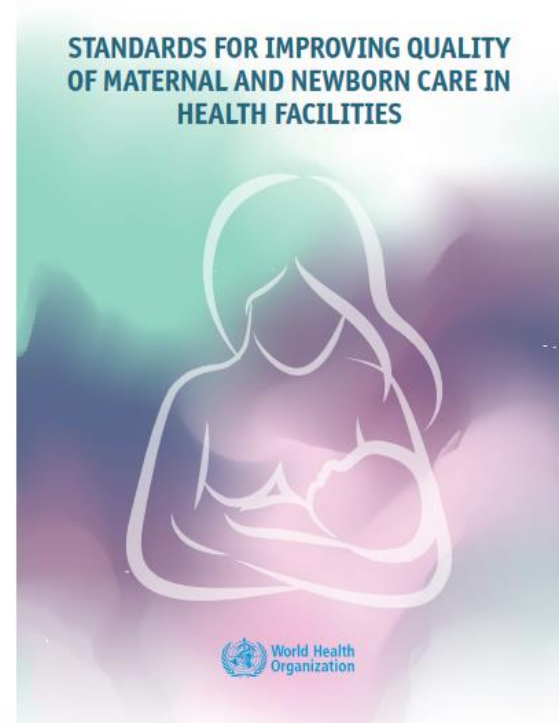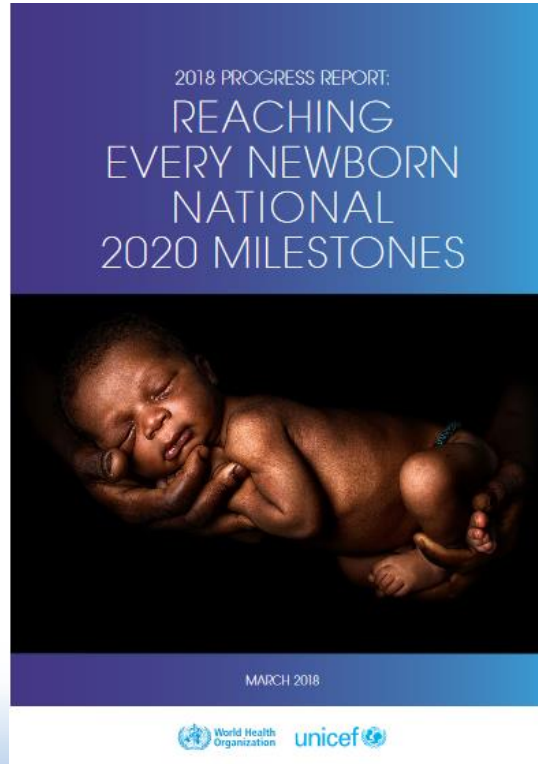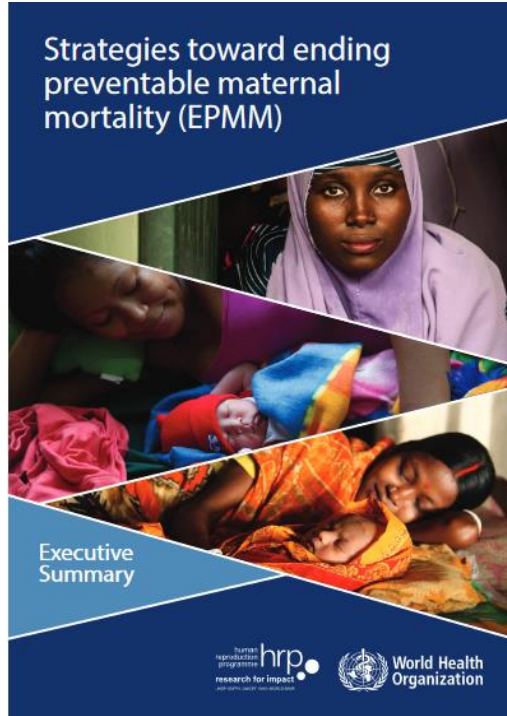
Obstetric case fatality rate challenging to report, LBW already widely available

- Obstetric case fatality (CFR) can be obtained from registers in nearly all countries, but deaths prior to discharge (numerator) and complications (denominator) are not yet included in most summary forms

- Tracking birthweight and incidence of low and very low birth weight is common
  - 80% of countries include birth weight in register.
  - 75% of countries track low birth weight (<2500 g) in summary forms.
  - Only 4 countries track very low birth weight (<2000) in summary forms.

https://www.mcsprogram.org/resource/hmis-review/

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Review of the Maternal and Newborn Health Content of National Health Management Information Systems in 24 Countries

Publish Date: May 2018
Author: MCSP

Routine Health Management Information Systems (HMIS) are the backbone of monitoring service delivery programs at the national level in low- and middle-income countries. Several global initiatives, such as Ending Preventable Maternal Mortality, Every Newborn Action Plan, and Every Woman Every Child, have issued recommendations for core maternal and newborn health (MNH) indicators, including some that should be tracked at the global and national levels via routine HMIS. However, it is not well understood which countries are already collecting this information and which ones would need to revise their HMIS to track these indicators.

With this in mind, MCSP conducted a desk review of HMIS data collection and reporting forms in 24* USAID priority countries. The review aims to document the status of national HMIS capacity to track indicators on the content and quality of MNH services. Covering

What Data on Maternal and Newborn Health Do National Health Management Information Systems Include?

Please see: https://www.mcsprogram.org/resource/hmis-review/

MNH Conclusions

- ANC registers have the most information on the content/quality of care.

- Many countries still primarily track data on service utilization rather than content/quality of care for L&D and PNC. Additional indicators needed to help monitor quality of care for program management.

- Need to improve and standardize tracking of incidence, management and outcomes of maternal and newborn complications.

- Key information on both district and global MNH measurement priorities is often missing.

- Newer forms and registers seem to be tracking better information – progress toward collecting global indicators and incorporating new interventions.

Family Planning Findings

Half of countries report post-partum FP (PPFP);
few report post-abortion FP (PAFP)

- PPFP usually a recent addition
- Few disaggregate all PPFP methods
- Some countries collect but don't report PPFP and PAFP

	Postpartum FP		Postabortion FP	
	# Clients	Disaggregate by method	# Clients	Disaggregate by method
Afghanistan	○			
Bangladesh DGFP				
Bangladesh DGHS				
DR Congo	✔	none	✔	none
Ethiopia	✔	all methods	○	
Haiti				
India	✔	IUD, TL	○	
Kenya	○			
Liberia				
Madagascar				
Malawi	✔	none		
Mali				
Mozambique	✔	IUD, other	○	
Nigeria	soon			
Pakistan DOH	✔	IUD, implants		
Pakistan PWD				
Rwanda	✔	all methods		
Tanzania	✔	jadelle, implanon, other	✔	jadelle, implanon, other
Uganda	○		○	
Zambia	✔	none	○	
Total	**9**		**2**	

✔   In register & summary form

○   In register only

*India only reports postpartum IUD and TL. Pakistan only reports postpartum IUD and implants. Therefore, no other methods can be disaggregated.

Variation in what/how/where PPFP recorded

- Register:
  - 5 use L&D register
  - 8 use FP register
  - 9 use PNC register

- Differences in:
  - Y/N, ✓, method
  - Methods (if any)
  - Timing of PPFP (if specified)
  - Counseling recorded (in addition to method provision)

	Register		
	L&D Register	FP Register	PNC Register
Afghanistan			Postnatal FP (Y/N)
DR Congo		New PP acceptor (√)	FP Counseling (√)
			Method (specify)
Ethiopia	New or Repeat (√)		FP Counseling (√)
	Method (code)		New or Repeat (√)
			Method (code)
India	PPIUCD inserted (Y/N)	Separate registers	PPIUD ≤48 hrs (Y/N)
			PPS ≤7days (Y/N)
Kenya			Method (code)
Malawi		Immediate, interval, c-section	FP Counseling (Y/N)
		BTL (√)	BTL or IUCD (√)
Mozambique	PPIUD or other (√)		
Pakistan DOH		PPIUD, PPimplants (√)	
Rwanda	FP Counseling	Pre-discharge FP (Y/N)	PPFP ≤6 weeks (Y/N)
	Method (code)		
Tanzania		Method (code)	IEC materials given (√)
			Method (code)
Uganda	Write in PP-BTL or PP-IUD	Write in PP-IUD (if ≤48hrs)	Method (code)
Zambia		PP **or** PA (Y/N)	

FP2020 CAPs: more countries want PPFP in their HMIS

↳MCSP convened a PPFP Measurement Committee in May 2018 to develop recommendations

Recommendation 1: add 2 priority indicators to HMIS

	Indicator	Denominator	Source	Disaggregation
1	Proportion of postpartum women delivering at a facility initiating a contraceptive method before discharge	Facility deliveries	Delivery Register or Postnatal Care Register for pre-discharge care	Critical: • Method (including LAM) Optional: • Age (<20 & 20+)
2	Number of FP clients who are within 6 (or 8) weeks postpartum	-	Family Planning register (+ community data collection tool, if available)	Optional: • Method • Service location (facility vs community)

Recommendation 2: consider 3rd indicator to capture pre-discharge PPFP counseling

	Indicator	Denominator	Source	Disaggregation
3	Proportion of women delivering at facility counseled on PPFP prior to discharge	Facility deliveries	Same as #1	-

"New users" are confusing our counting: Recent paper described terminology issues

- "New User" and "Acceptor" are often used terms but not clearly defined

- May refer to:
  - First-time user
  - New to provider
  - New to method
  - Lapsed user

Source: Dasgupta, A., Weinberger, M., Bellows, B., Brown, W. (2017). *"New Users" Are Confusing Our Counting: Reaching Consensus on How to Measure "Additional Users" of Family Planning.* Global Health: Science and Practice, 5(1):6-14

Paper proposed standard terms

Adopter		Provider-Continuer	Provider-Changer
Not using a modern contraceptive method at the time of her visit			
First-time User	**Lapsed User**		
Starts using modern contraception for the first time in her life	Has used a modern method at any time in the past, but is not currently using one at time of visit	Already using a modern method- returns to same provider for another FP service (resupply or switch methods)	Already using a modern method - new to the provider

Source: Dasgupta, A., Weinberger, M., Bellows, B., Brown, W. (2017). *"New Users" Are Confusing Our Counting: Reaching Consensus on How to Measure "Additional Users" of Family Planning.* Global Health: Science and Practice, 5(1):6-14

Most countries still use variation of new user/ acceptor

	New	Old
Afghanistan	New case	Re-attendance
Bangladesh DGFP	New	Old
Bangladesh DGHS		
DRC	New acceptors	Renewals
Ethiopia	New acceptors	Repeat acceptors
Haiti	Acceptors	
India		
Kenya	New	Re-visit
Liberia	New acceptors	
Madagascar	New users	Regular users
Malawi	New clients	Restarting & Subsequent
Mali	New users	
Mozambique	New users	Continuers
Nigeria	New acceptors	
Pakistan DOH	New clients	Follow-up clients
Pakistan PWD	New case	Old case
Rwanda	New acceptors & New users	
Tanzania	New clients	Revisit
Uganda	New user	Revisit
Zambia	New acceptors	Continuing & Restart

Are countries *effectively* using proposed categories, even if not using those terms?

- Hard to tell

- We looked for indicator definitions in summary report instructions, FP register instructions, and/or country HMIS manuals

- If still ambiguous, we then asked MCSP staff in country for common understanding of definition for "New" and "Old" user

Before reviewing definitions

Country	New User	Old User
Afghanistan	🟥	🟥
Bangladesh DGFP	🟥	🟥
Bangladesh DGHS		
DRC	🟥	🟥
Ethiopia	🟥	🟥
Haiti	🟥	
India		
Kenya	🟥	🟥
Liberia	🟥	🟥
Madagascar	🟥	🟥
Malawi	🟥	🟥
Mali	🟥	
Mozambique	🟥	🟥
Nigeria	🟥	
Pakistan DOH	🟥	🟥
Pakistan PWD	🟥	🟥
Rwanda	🟥	
Tanzania	🟥	🟥
Uganda	🟥	🟥
Zambia	🟥	🟥

After reviewing definitions

Legend:
- 🟩 Defined, matches proposed category
- 🟧 Defined, encompasses multiple categories
- 🟥 Definition unavailable or ambiguous
- ▨ (green hatched) Consulted Jhpiego staff
- ⬜ (gray) Other definition
- ▨ (hatched) Consulted Jhpiego staff

Country	New User	Old User	First-time User	Lapsed User	Provider-Continuer	Provider-Changer	Other user definition
Afghanistan			🟩 **Adopter** (First-time User + Lapsed User)		🟧 (Provider-Continuer + Provider-Changer)		
Bangladesh DGFP	🟥	🟥					
Bangladesh DGHS							
DRC	🟥	🟥					
Ethiopia			🟩	🟧 (Lapsed User + Provider-Continuer + Provider-Changer)			
Haiti			🟩				
India							
Kenya							▨
Liberia							⬜
Madagascar		🟥	▨ (green hatched)				
Malawi			▨ (green hatched)	🟩	🟩		
Mali	🟥						
Mozambique			🟩	🟧 (Lapsed User + Provider-Continuer + Provider-Changer)			
Nigeria							▨
Pakistan DOH							⬜
Pakistan PWD	🟥	🟥					
Rwanda			🟩				▨
Tanzania							⬜
Uganda			🟩	🟧 (Lapsed User + Provider-Continuer)			
Zambia			🟩	🟩	🟧 (Provider-Continuer + Provider-Changer)		

First-time users

6 countries specify "New" = first-time users

Examples:

- Using for the first time irrespective of method (Ethiopia)
- An individual who adopts an FP method for the first time in their life (Rwanda)
- Has never received a modern contraceptive before from any source (Uganda)

+2 countries report first-time users (according to country staff)

- Coming for the first time for an FP consultation (Madagascar)
- Seeking FP method for the first time (Malawi)

Adopters and Lapsed users

1 country reports Adopters (first-time + lapsed)

- A client who had never used an FP method before and starts using one; and a client who discontinued a method and starts a new one, or re-starts the same one (Afghanistan)

2 countries report Lapsed users

- If the client was already on FP but had discontinued and is now restarting (Malawi)
- Used a modern FP method before but stopped - now wants to resume, either on the same method or another (Zambia)

Provider-continuer

1 country reports clients continuing FP with same provider:

- Subsequent visits recorded in register by use of client registration number from previous visit (differentiated from lapsed users) (Malawi)

Provider-changer

0 countries report clients already using a modern method but new to the provider

Combined categories

Provider-continuer + provider-changer
- Afghanistan "re-attendance"

Provider-continuer + provider-changer + lapsed user
- Ethiopia "repeat acceptors"
- Mozambique "continuer"

Provider-continuer + lapsed user
- Uganda "revisit"

Provider-continuer + provider-changer
- Zambia "repeat"

Examples of other categories used

New to a particular method

- Kenya, Liberia, Nigeria, Rwanda

Resupply and/or clinical follow-up

- Similar to provider-continuer but does not include switching and may include follow-up check

- Kenya, Nigeria, Pakistan

Nearly half of countries report LARC removals

	Implant removals	IUD removals
Afghanistan		✔
Bangladesh DGFP		
Bangladesh DGHS		
DR Congo		
Ethiopia	✔	✔
Haiti	◯	◯
India		✔
Kenya	✔	✔
Liberia		
Madagascar		
Malawi	✔	✔
Mali	◯	◯
Mozambique	✔	✔
Nigeria	◯	◯
Pakistan DOH		
Pakistan PWD		
Rwanda	◯	◯
Tanzania	✔	✔
Uganda	✔	◯
Zambia	✔	✔
Total	**7**	**8**

✔	In register & summary form
◯	In register only

Nearly half of countries report adolescents/youth receiving FP services

	10-19 yrs*	20-24 yrs	< 25 yrs
Afghanistan			
Bangladesh DGFP			
Bangladesh DGHS			
DR Congo	✔		
Ethiopia	✔	✔	
Haiti			✔
India			
Kenya	✔		
Liberia			
Madagascar	✔	✔	
Malawi	✔	✔	
Mali			
Mozambique			
Nigeria			
Pakistan DOH			
Pakistan PWD			
Rwanda	✔	✔	
Tanzania	✔	✔	
Uganda	✔	✔	
Zambia			
Total	8	6	1

*Ethiopia, Madagascar, Tanzania separate 10-14 & 15-19; Rwanda only reports 15-19

Most countries cannot calculate CYP using HMIS data (without assumptions)

	Method-specific information reported					CYP can be calculated
	Type of IUD	Type of Injectable	Type of Implant	# pills distributed	# condoms distributed	
Afghanistan				✔	✔	
Bangladesh DGFP						
Bangladesh DGHS						
DR Congo	✔	✔	✔	✔	✔	✔
Ethiopia						
Haiti		✔		✔	✔	
India				✔	✔	
Kenya						
Liberia		✔	✔	✔	✔	
Madagascar	✔	✔	✔	✔		
Malawi		✔	✔		✔	
Mali				✔	✔	
Mozambique		✔	✔	✔	✔	
Nigeria				✔	✔	
Pakistan DOH	✔	✔				
Pakistan PWD				✔	✔	
Rwanda		✔	✔	✔	✔	
Tanzania				✔	✔	
Uganda			✔	✔	✔	
Zambia		✔		✔	✔	
Total	**3**	**9**	**7**	**15**	**14**	**1**

FP Conclusions

- PPFP data increasingly in national HMIS, showing countries want to track (even if not currently a FP2020 core indicator; QoC Network incl PPFP counseling)

- Definitions for FP client type should be standardized for easier interpretation and better decision-making/planning

- Some countries have data in their HMIS that can be used to ensure FP services fulfill human rights, eg:

  - Adolescents/youth accessing services

  - LARC removals

- Most countries must use assumptions to calculate CYP

- Countries collect and aggregate many FP indicators, so must consider burden of data collection and compilation

Acknowledgements

MCSP Washington, DC

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MCSP country staff who shared forms and answered questions

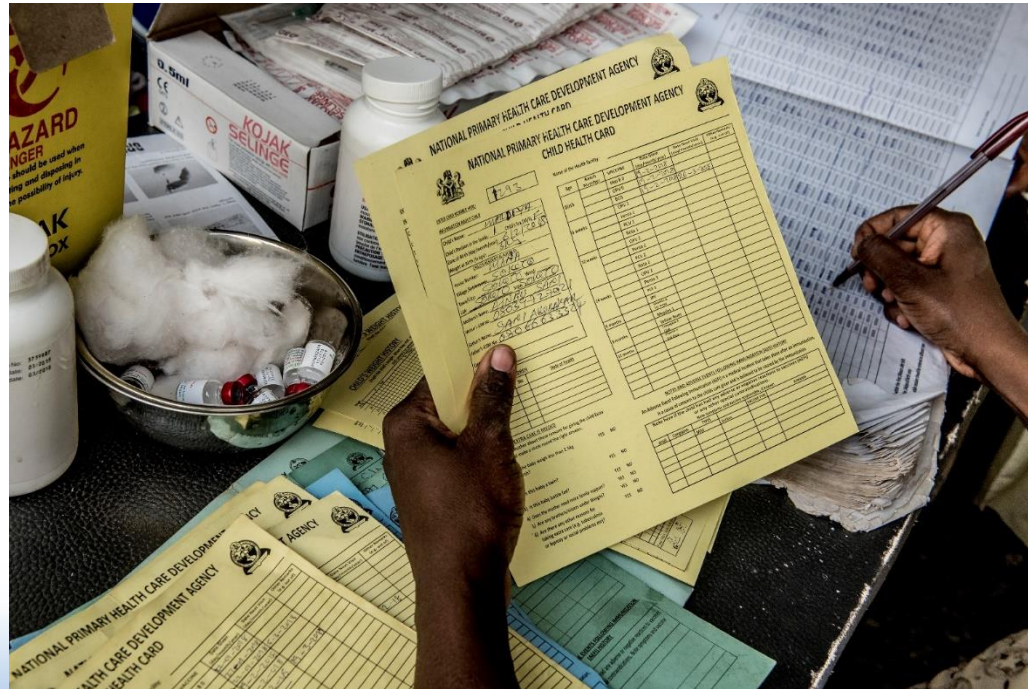**Ministry of Health and other partners who shared forms and answered questions**

Q&A

Final webinar in this series

Child Health and Nutrition
Wednesday, October 3, 2018 | 9:00 – 10:30 a.m. EDT

Photo credit: Karen Kasmauski/MCSP. Sokoto, Nigeria 2018

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