

# MNHQI Bundles for Improvement

Design, Development and Implementation

# Our time together today

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Settling in and Welcome	5 Mins
Q&A Responses	5 Mins
Introduction to QI and Bundles approach	20 Mins
Implementing Bundles – a case study from Bangladesh	20 Mins
Activity designing the components of a Bundle and Open Discussion	35 Mins
Wrap up and Close	5 Mins



# Settling in and Welcome



# Institute for Healthcare Improvement

Not-for-Profit operating for >30 years; Headquarters in Boston with staff/faculty located globally



Worked in 53 countries to support health system strengthening



Provided core design for WHO's 9-country QoC MNCH Network



Co-developed 12 National Quality Strategies



Implemented IHI's Improvement designs across the world



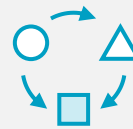
Facilitative role for true local ownership and sustainability



Results-oriented, data-driven methods



Co-creation is at the core of project designs



Adaptive design that builds on local knowledge



Tailored QI trainings for wide range of professionals across all levels of health system



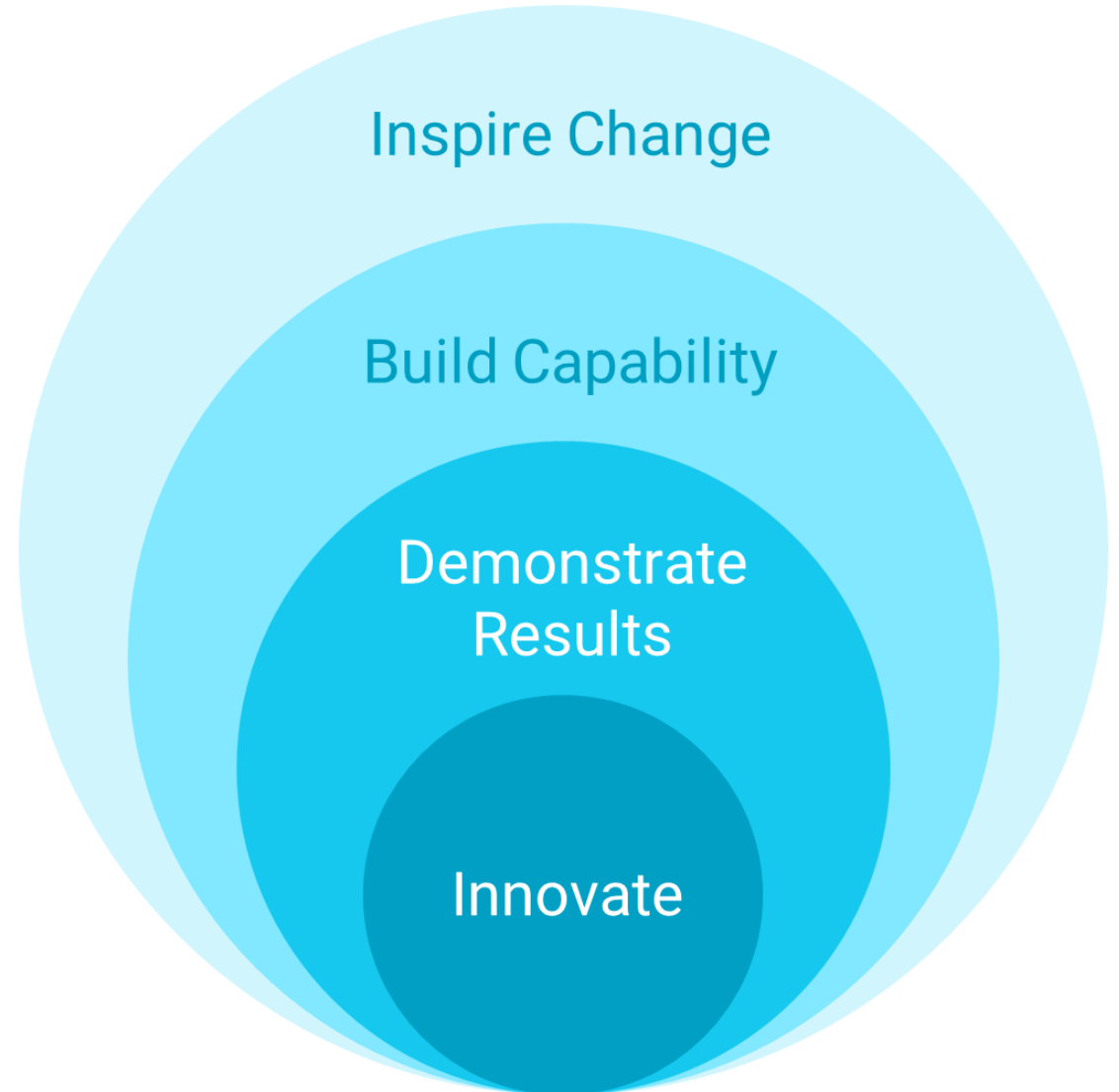
# Our Value Proposition

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## A Scientific Method for Improvement

IHI develops and applies practical, scientific improvement and management methods to improve and sustain performance in health and health systems across the world.

We spark and harvest fresh ideas, create real person-centered results, strengthen local capabilities, and generate optimism and will for change.



# Your Session Guides

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**Pierre Barker**

Chief Scientific Officer  
Institute for Healthcare  
Improvement, Boston MA USA

Clinical Professor, Maternal and Child  
Health  
Gillings School of Global Public Health  
University of North Carolina at  
Chapel Hill, NC, USA



**Minara Chowdhury**

Senior Director  
Global Project Delivery  
Institute for Healthcare  
Improvement, Boston MA USA

Sr Clinical Advisor Quality Assurance  
and Accreditation, USAID's MaMoni  
MNCSP



**Surajit Dutta**

Program Manager  
Hospital Services Management  
Directorate General of Health  
Services (DGHS)  
Ministry of Health and Family  
Welfare  
Bangladesh



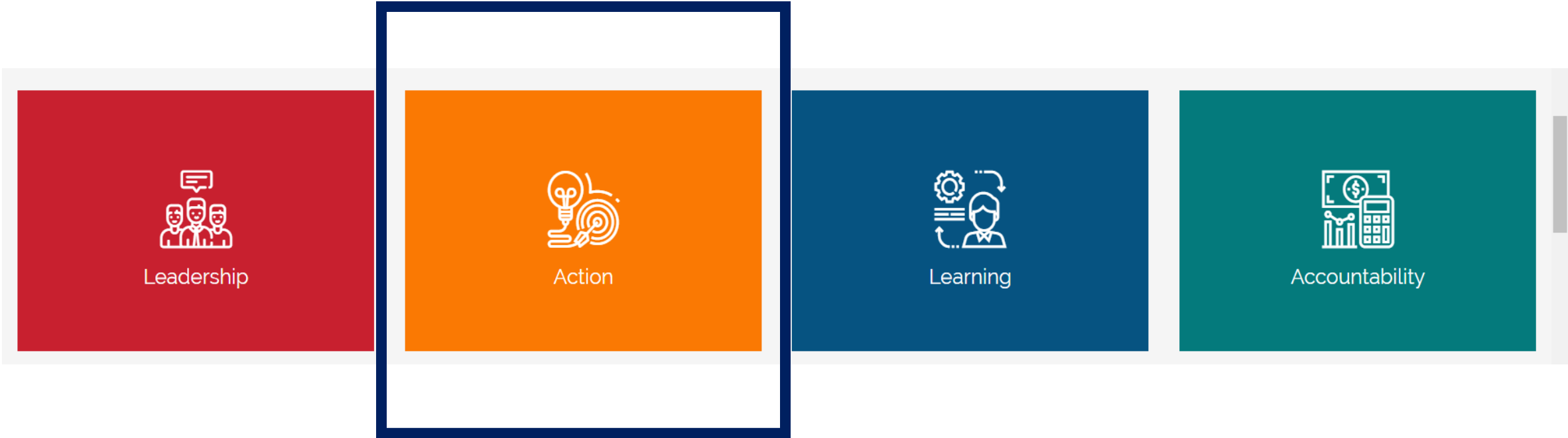
**Stephen Luna Muse**

Senior Project Manager  
Operations Manager – Africa  
Institute for Healthcare  
Improvement, Boston MA USA



# Alignment with Networks Strategic Objectives

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# Q&A Responses





# Your Collective Views

1. What do you need in place to when you design MNH intervention packages?
  - Word Cloud
2. Do you know how MNH Care Bundles work as QI Interventions?
  - Yes / No

Go to [www.menti.com](http://www.menti.com)

Use the Code 27963166



# Introduction to QI and Bundles approach



# Session Aim

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Definition of Bundles



Design and Development of initial bundles



Implementation considerations



Data Driven approach to improvement



Application of Bundles into different settings



Benefits of Implementing Bundles



# Definitions:

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## Definition of Bundles



A bundle is a structured way of improving the processes of care and patient outcomes

A small, straightforward set of evidence-based practices — generally three to five — that, when performed collectively and reliably, have been proven to improve patient outcomes.

A bundle ties the changes together into a package of interventions that people know must be followed for every patient, every single time (“all or none”)

It is distinct in several ways from just any checklist about patients' care. The elements in a bundle are best practices based on evidence



# Bundles : Background

- Developed in 2001 by IHI initially for ICU's to improve critical care in 13 hospitals
- Included Clinical Process improvements (evidence based)
- Teams came together to produce reliable change and excellent patient outcomes
- All or None Measurement
- Can be used in any setting



## IHI Ventilator Bundle

1. Elevation of the head of the bed to between 30 and 45 degrees
2. Daily "sedation vacations" and assessment of readiness to extubate
3. Peptic ulcer disease (PUD) prophylaxis
4. Deep venous thrombosis (DVT) prophylaxis
5. A fifth bundle element, "Daily oral care with chlorhexidine," was added in 2010.)

## IHI Central Line Bundle

1. Hand hygiene
2. Maximal barrier precautions
3. Chlorhexidine skin antisepsis
4. Optimal catheter site selection, with avoidance of using the femoral vein for central venous access in adult patients
5. Daily review of line necessity, with prompt removal of unnecessary lines

# Perceptions surrounding “Quality” and “Improvement”

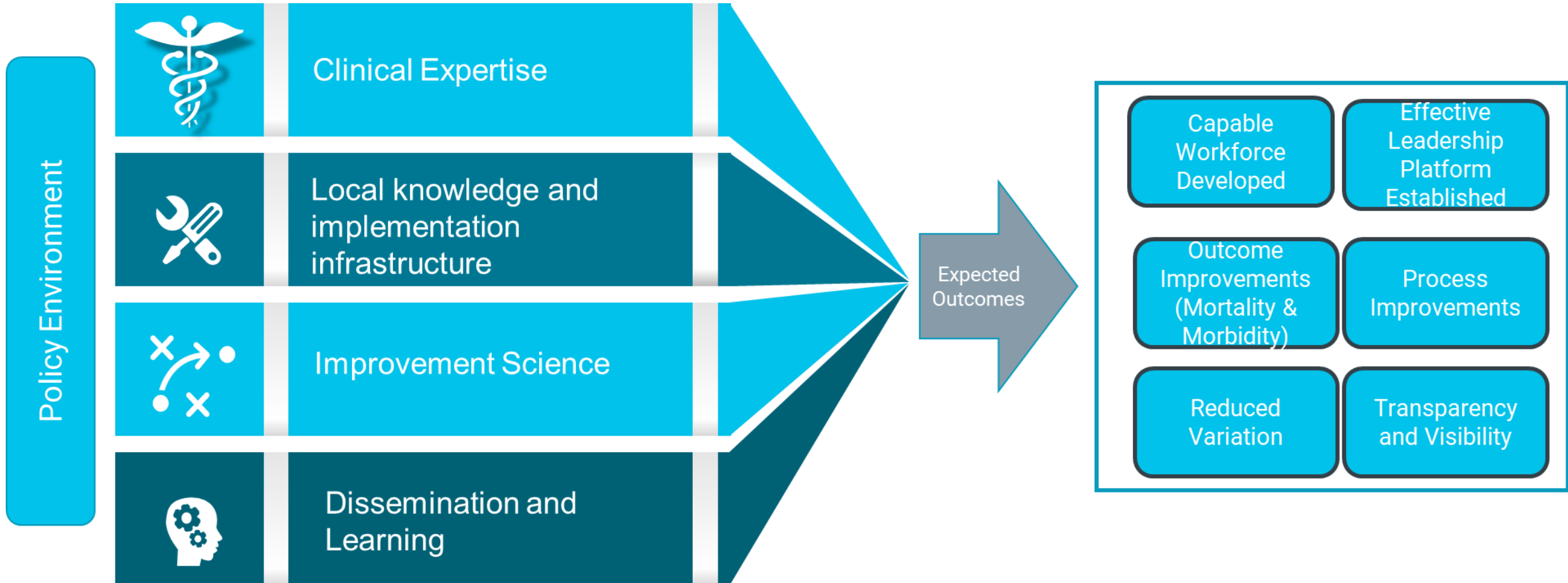
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Activities to implement improvement:

- Are separate from the main clinical care provision
- Are too expensive and dependent on resources
- Involves a lot of investment in training without having clear focus
- Primarily related to Infection control and cleanliness
- Seen as an additional separate activity for front line providers
- Sustainability and Scalability is rarely achieved and is often limited to point of care interventions
- Good to put them in proposals as everyone wants to see the words “quality” and “improvement”

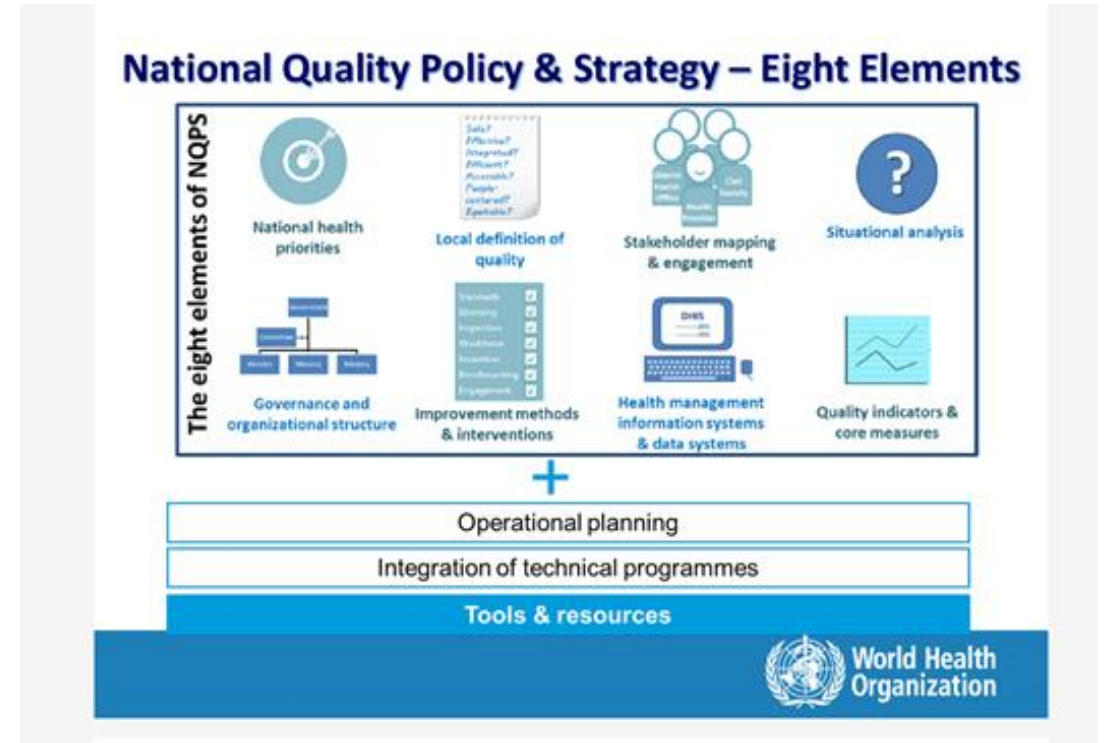


# Implementation Considerations



# Creating the Policy Environment

- National Quality Policy and Strategy (NQPS)
- Local Healthcare Standards
- Local Clinical and Technical Guidelines
- International Best Practices
- Professional Associations inputs





# Implementation Infrastructure

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## Creating the Enabling Environment

Developing a  
capable  
workforce

Readiness

Local Knowledge

Clinical,  
Technical and  
Leadership

Documentation  
and Data

Accountability  
and  
Governance

Provision of  
Logistics

Patient Flow  
and Access

Stakeholder  
Engagement

Subject Matter  
Experts



# Improvement Science

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Identify areas of improvement



Develop QI Skills



Establish monitoring framework



Introduce local coaching and mentoring

# Dissemination

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Monitoring and  
Evaluation



Learning and  
Sharing



Establishing  
evidence-based  
models



Academic Panels



Publications

# Data Driven Approach to Improvement

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## Why is it important ?

- Know how we are doing now – if we don't then how do we know we have to improve ?
- Understanding where we are where we plan to go and what's been our journey over time
- Considering trends and variation
- How do we know that a change we are implementing is actually working ?
- Guide for identifying areas for improvement
- Benchmarking and Performance Management

## Challenges

- Data Availability
- Data accuracy and Quality
- Information Systems
- Manual v electronic
- Documentation Standards
- Availability of data recording tools
- Keeping up with technological advancements
- Knowing what's best in resource constrained environment



# Application of Bundles

- Bundles have already been developed and applied into numerous healthcare settings
- Implemented with different levels of the healthcare workforce
- Testing has been undertaken in different resource settings
- Applied different tiers of the healthcare delivery structure



# Benefits of Implementing Bundles

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HOLISTIC APPROACH -  
MOVES AWAY FROM  
INDIVIDUAL APPROACH  
TO THE COLLECTIVE



ALL OR NOTHING HELPS  
PUT A SPOTLIGHT ON  
PERFORMANCE



INTEGRATED  
IMPROVEMENT AND  
CLINICAL CARE  
PROVISION



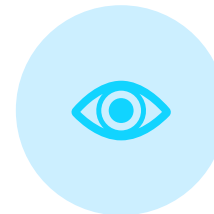
ENABLES STANDARDIZED  
PRACTICES AND  
REDUCES VARIATION



FACILITATES AN  
ENABLING  
ENVIRONMENT



EASIER FOR SERVICE  
PROVIDERS TO  
UNDERSTAND THE  
IMPACT OF  
IMPROVEMENT



GREATER VISIBILITY OF  
IMPACT AND RESULTS



Well, that's the theory... How does it work in practice ?





**USAID**

আমেরিকার জনগণের পক্ষ থেকে



**Save the Children**

# Case Study: Bangladesh

USAID's MaMoni Maternal and Newborn Care  
Strengthening project (USAID's MaMoni MNCSP)







**USAID**

আমেরিকার জনগণের পক্ষ থেকে



**Save the Children**

# Implementing Maternal and Newborn Health Quality Improvement (MNHQI) Bundle

## Experience and Learnings

Dr. Mohammad Aktheruzzaman

Dr Surajit Dutta

Minara Chowdhury

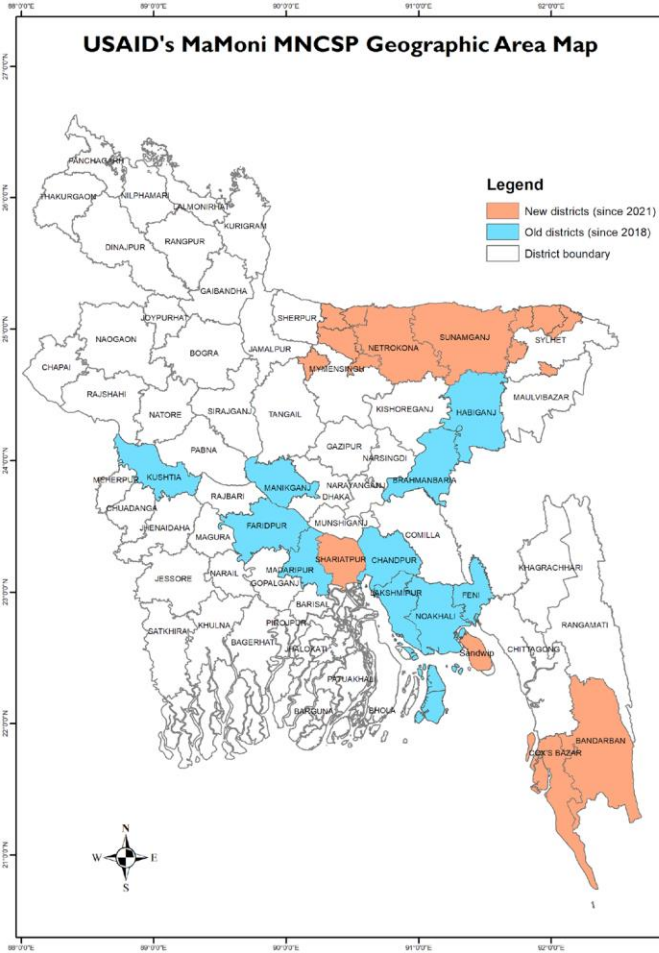


# Session Aim

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- Case study from Bangladesh
- Sharing the design and development phase of bundles
- Implementation Process
- Results
- Short Video testimony
- Ownership from DGHS and Sustainability

# Project Overview – USAID’s MaMoni MNCSP



17 project districts:  
**10 original districts**  
**7 new districts – expanded in FY 2021**



Sandwip Island



35 million population

**Project Duration:**  
**April 2018 to April 2023**

**Reducing neonatal mortality rate below 18 (per 1,000 livebirths) by 2022**

**Maternal mortality ratio below 121 (per 100,000 livebirths) by 2022**



Improved responsiveness of district health systems to deliver patient-centered MNC services

Improved quality of MNC services and governance of quality of care

Sustained improvement in access and demand for MNC services and household practices

Increased Equitable Utilization of Quality Maternal and Newborn Care Services

Improved national capacity to deliver quality MNC services at scale



# Interventions for Mother & Newborn

## Pregnancy

## Labor & Delivery

## Newborn Care

## Postpartum Care



ANC screening & complications management



Availability of 24/7 services with routine, BEmONC & CEmONC



Essential care for all newborns, including resuscitation



Quality postnatal care for mother & newborn



Care of women with potential preterm births



Early identification of complication & timely referral



Application of 7.1% chlorhexidine (CHX)



Postpartum family planning (PPFP)



Screening and management of pre-eclampsia/eclampsia (PE/E)



Postpartum hemorrhage (PPH) prevention & management

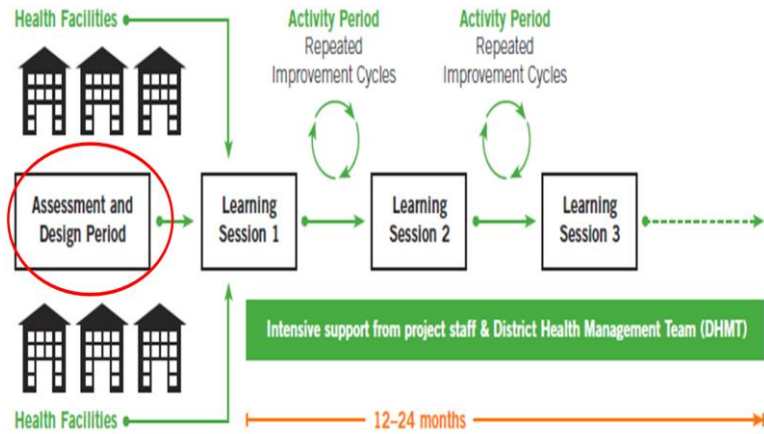


Care for low-birth-weight baby & sick newborn in KMC & SCANU

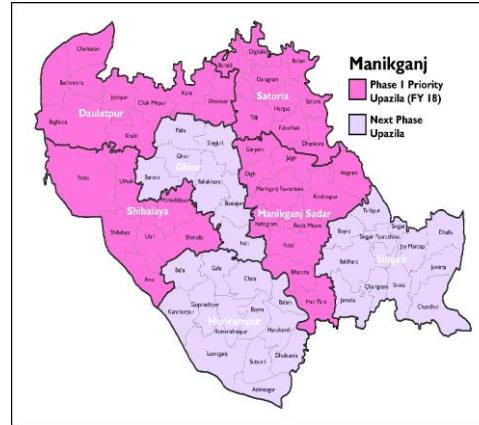


Management of newborn sepsis

# Approach: Delivery through a Collaborative Model



Learning Network Design



Prototype District Selected



Technical Meeting



Technical Content

We, service providers of Saturia Upazilla Health Complex, have decided to increase percentage of **Early Initiation of Breastfeeding** of the newborn from 18% to 30%. We will do this from 5<sup>th</sup> February'19 to 15<sup>th</sup> March'19, in order to improve maternal and newborn quality health service.

Practice PDCA Projects

Maternal Health	
SL#	Priority Areas
1	Effective Communication/Counseling during ANC Increase ANC2 and subsequent ANC visits Providing quality ANC services
2	Promoting Institutional delivery Correct use of Partograph Skilled Labor Management as per SOP
3	Capacity Building of nurses on rapid initial management and on other Maternal Health, INC & ENC Management of Maternal Complications as per SOP
4	Data quality (Recording & Reporting)
5	Ensuring PPH kit at labor room

Maternal Health	
SL#	Priority Areas
6	Supply logistics (PPH Kit, MgSO4, etc)
7	Regular Monitoring & Sharing
8	Building Trust among patient & provider
9	Task distribution to make free clinician from managerial work
10	Counseling on PNC during discharge, Quality PNC
11	Counseling on PPHP
12	Strengthening Referral System

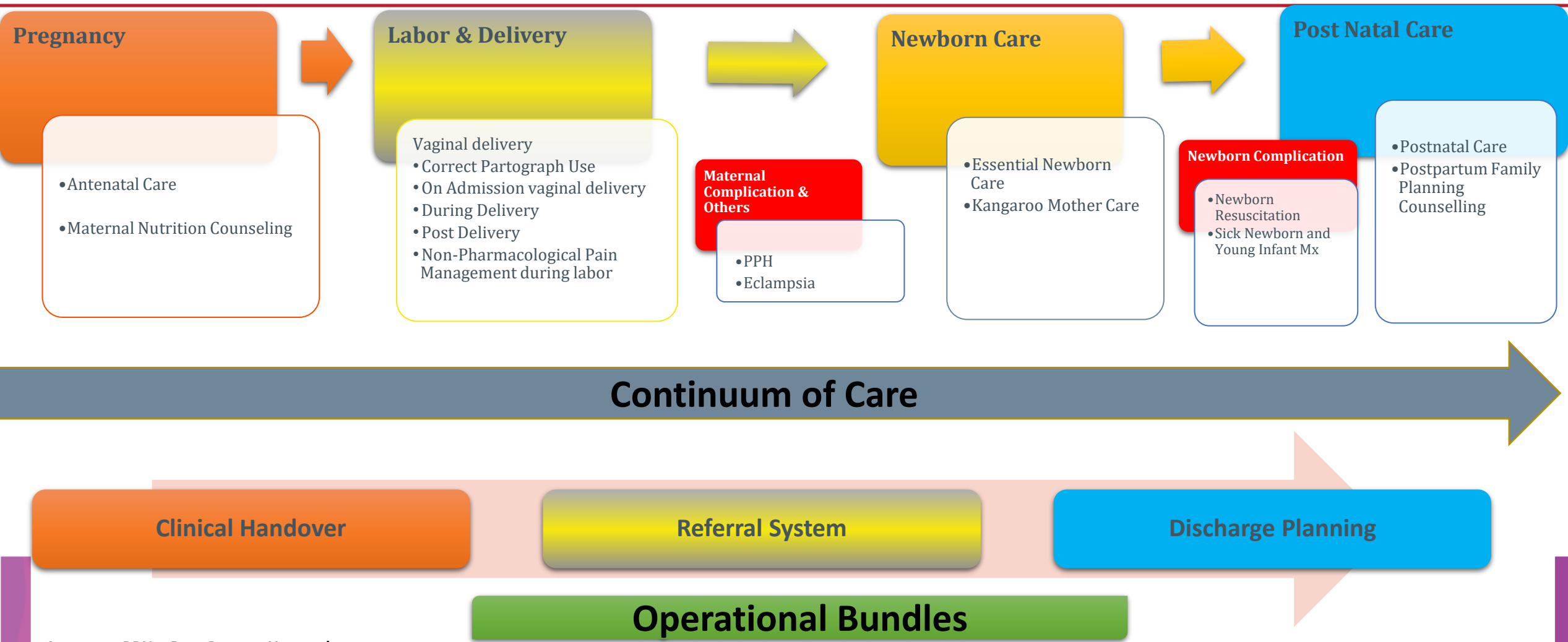
Prioritized Areas

# Bundle Development Process

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# MNHQI Clinical & Operational Bundles



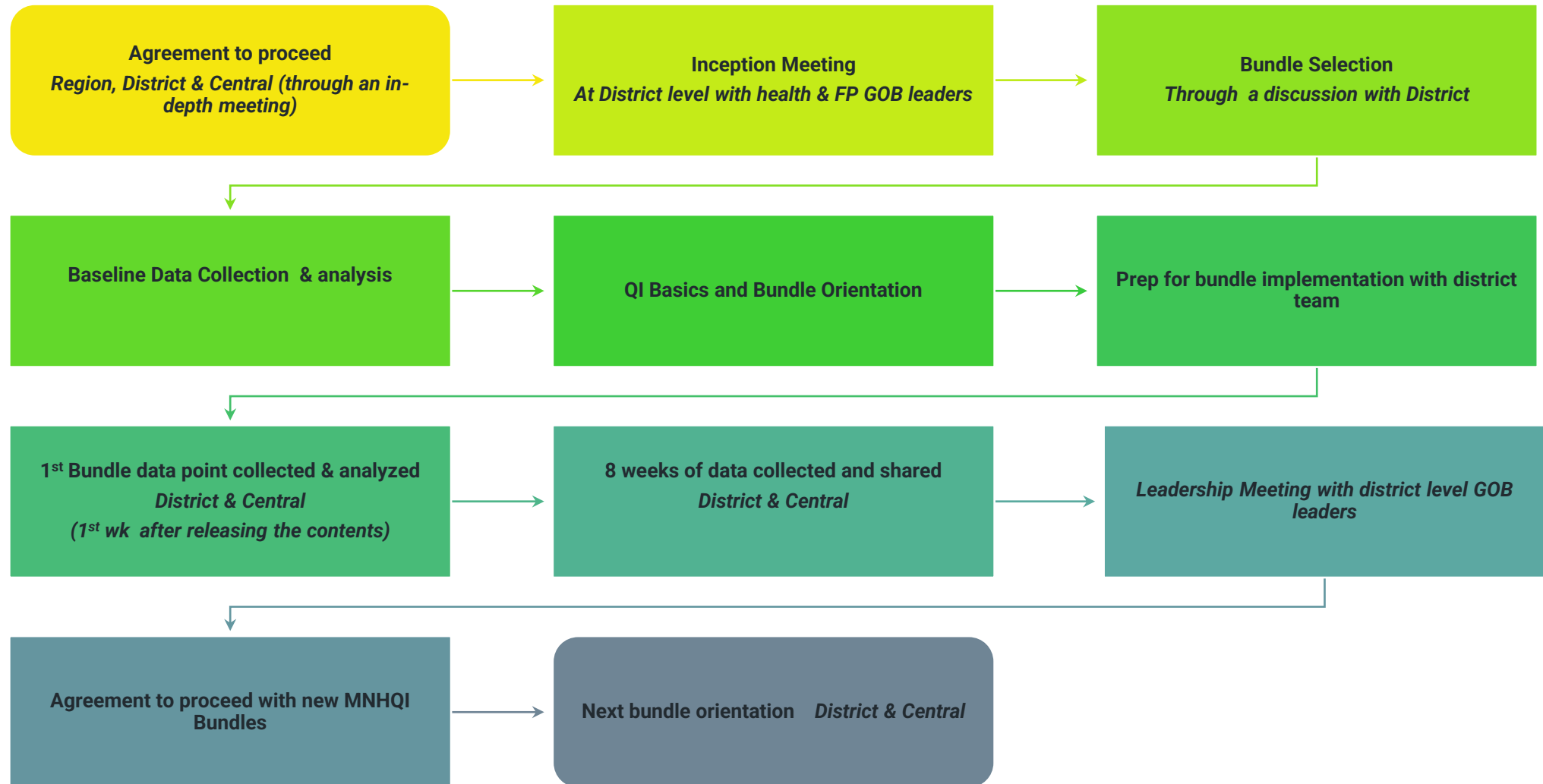
Acronym: PPH – Post Partum Hemorrhage

# Implementing Interventions

- Staff implementing bundles needed to have the clinical training to be able to deliver the services as per the standards in Bangladesh.
- USAID's MaMoni trained service providers on a Minimum package to ensure that skills and knowledge were present
- USAID's MaMoni also ensured that the required logistics and the environment were present to improve service provision eg registers in place, logistics available
- Leaders were engaged and briefed on the process and ensured that they understood their part in QI
- Coaching and Mentoring support through the RTI's, Senior Clinicians and USAID's MaMoni



# MNHQI Bundle Implementation



# Support during bundle implementation

## **Prep for bundle implementation**

*District & Central*

- Coaching Support (In Person or by phone)
- Collecting data on time and sharing for inclusion on QMIS

## **1<sup>st</sup> Bundle data point collected**

*District & Central*

- Ensuring that QI Boards are updated all the time
- Issue resolution at the local level and also through the central team

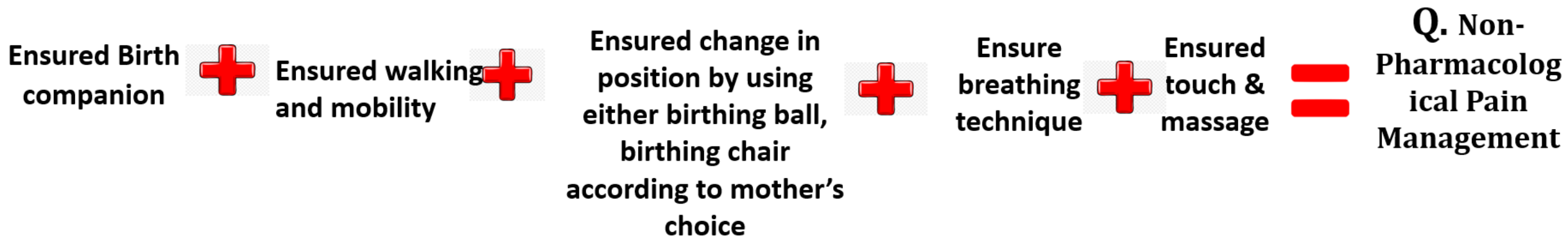
## **8 weeks of data collected and shared**

*District & Central*

- Being a network within the MaMoni Team – learning from others
- Sharing experiences so that we can improve for others

# Non-Pharmacological Pain Management Bundle : How to Measure and Analyze?

- ▶ **Outcome Measures** : The World Health Organization defines an outcome measure as a “change in the health of an individual, group of people, or population that is attributable to an intervention or series of interventions.” Outcome measures (mortality, readmission, quality of care, patient experience, etc.)



## Composite Indicator:

**Indicator:** Percentage of pregnant women receiving quality non-pharmacological pain management during vaginal delivery (normal and assisted)

**Numerator:** Number of Delivery case sheets audited with all 5 components of non-pharmacological pain management bundle adhered

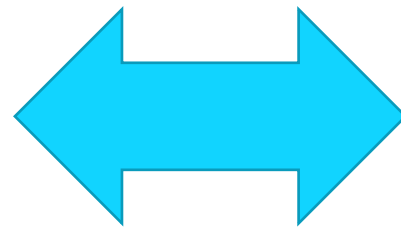
**Denominator:** Total No. of Delivery case sheets audited

**Unit:** Per 100

# Balancing opportunities and challenges



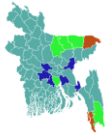
Implementing MNHQI Bundles supports care providers to ensure each patient receives the appropriate Quality of Care that they seek all of the time



Implementing MNHQI Bundles can be complex and involves additional work processes. QoC Benefits cannot be seen without implementing all bundles

# What's happened so far?

## Scale up of MNHQI activities in USAID's MaMoni districts (13 districts)



01 District



13 Districts & 1 Island



12 Facilities



232 Facilities

01 MNHQI Bundle



17 MNHQI Bundles

**1600 MNHQI Projects have been implementing across the districts**

## Embedding quality improvement approach at national level (beyond MaMoni districts)

- ❑ Through MaMoni MNCSP QoC is being addressed at the National, District, Sub District and Union Level
- ❑ **Support to Quality Improvement Secretariat** - Development of the National Quality Strategy - endorsed. Work on implementation plan and monitoring indicators underway
- ❑ **Support to DGHS** – Formation of a Quality Cell led and managed by DGHS HSM and Director Hospitals and Clinics portfolio. Implementation of bundles in 6 Non MaMoni Districts, Training on 5S-CQI-TQM- 6 batches– one year plan established with activities in different domains of QoC
- ❑ **Support to DGFP** – QI Focused activities implementation of MNH bundles in MCWC and Union Facilities in non MaMoni Districts, District Assessments underway

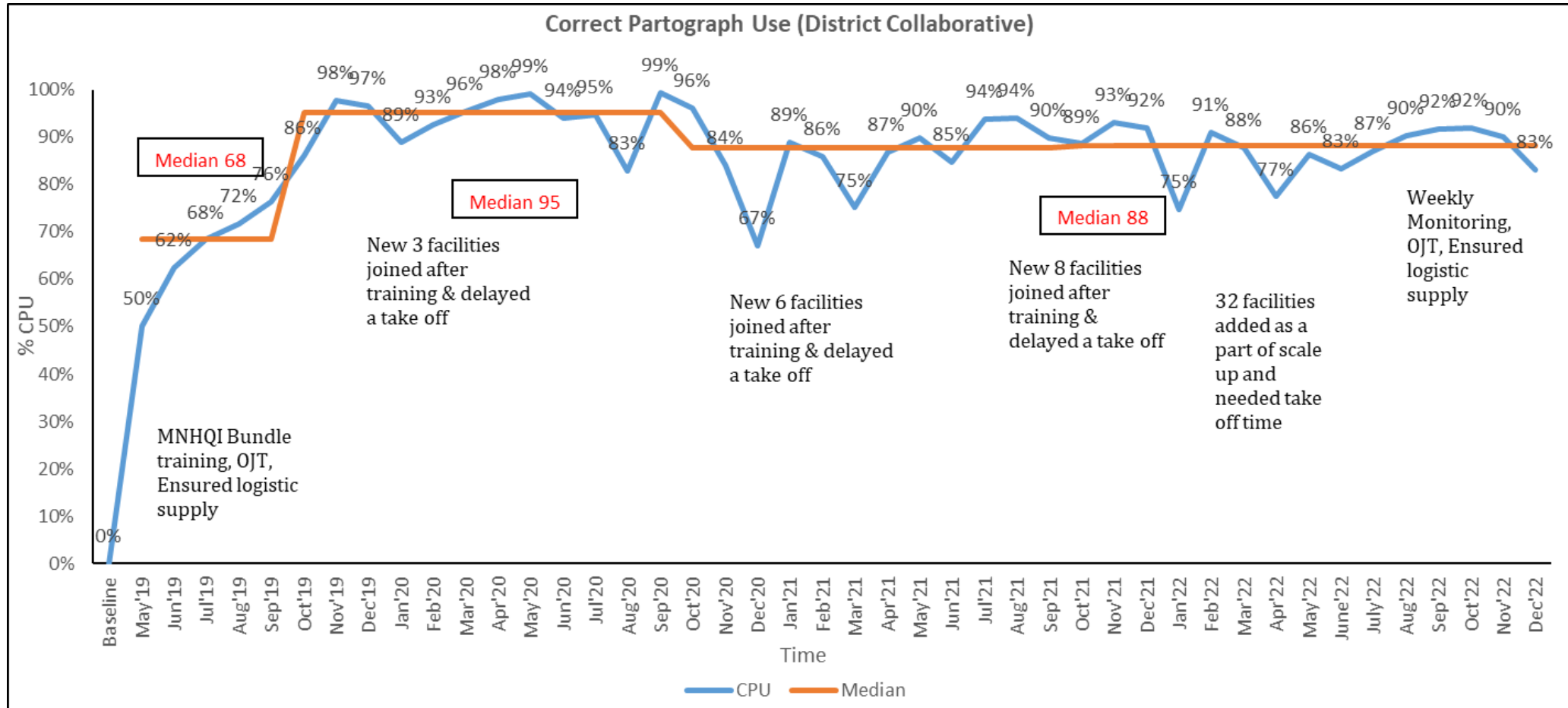
## MNH Service Accreditation

- ❑ Design of an MNH Service Accreditation system specifically for District Hospitals and Private Facilities in Bangladesh – led by DGHS QI Cell with Professional Bodies determining standards and checklists
- ❑ 23 facilities identified in the initial phase Improvement Plan provided as a part of feedback process
- ❑ Support from QI Cell with additional training and logistics as required
- ❑ 3 levels, 5-star process enables improvement to take place in a structured approach
- ❑ Links to Operational Plan and embedded with Accreditation activities

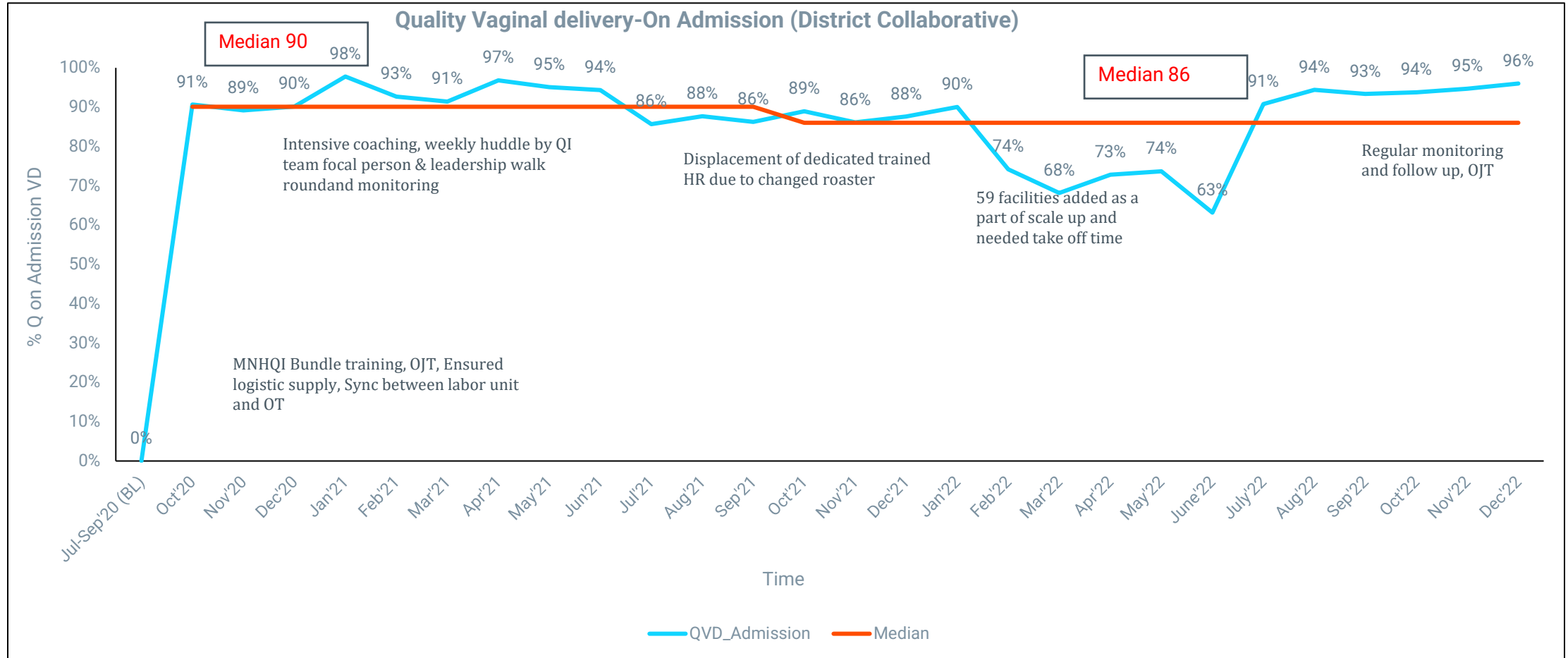
## Private Facility Engagement

- ❑ Approach for improving QoC in Private Facilities designed for District and Dhaka Facilities
- ❑ Support to report onto DHIS2 system
- ❑ Implementing MNHQI Bundles
- ❑ Link to MNH Service Accreditation

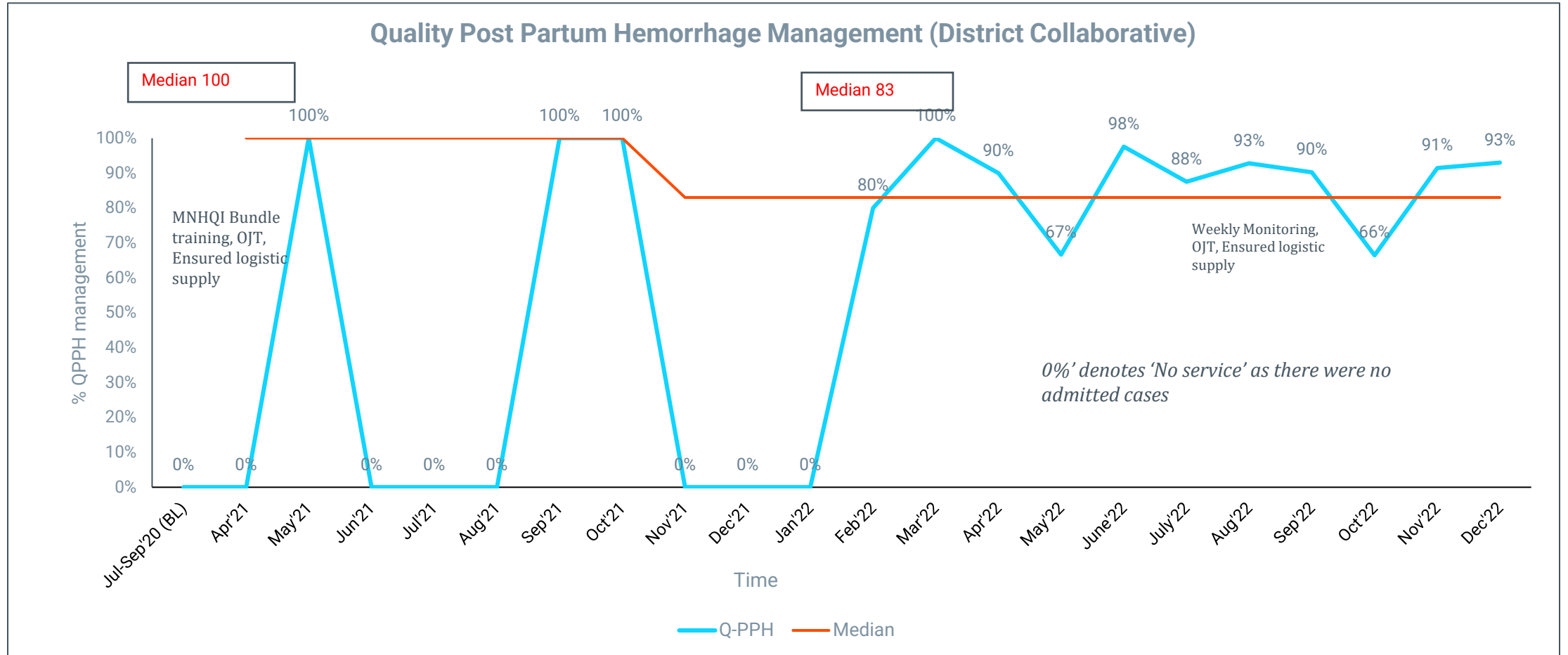
# Correct Partograph Use Bundle



# Delivery on Admission Bundle

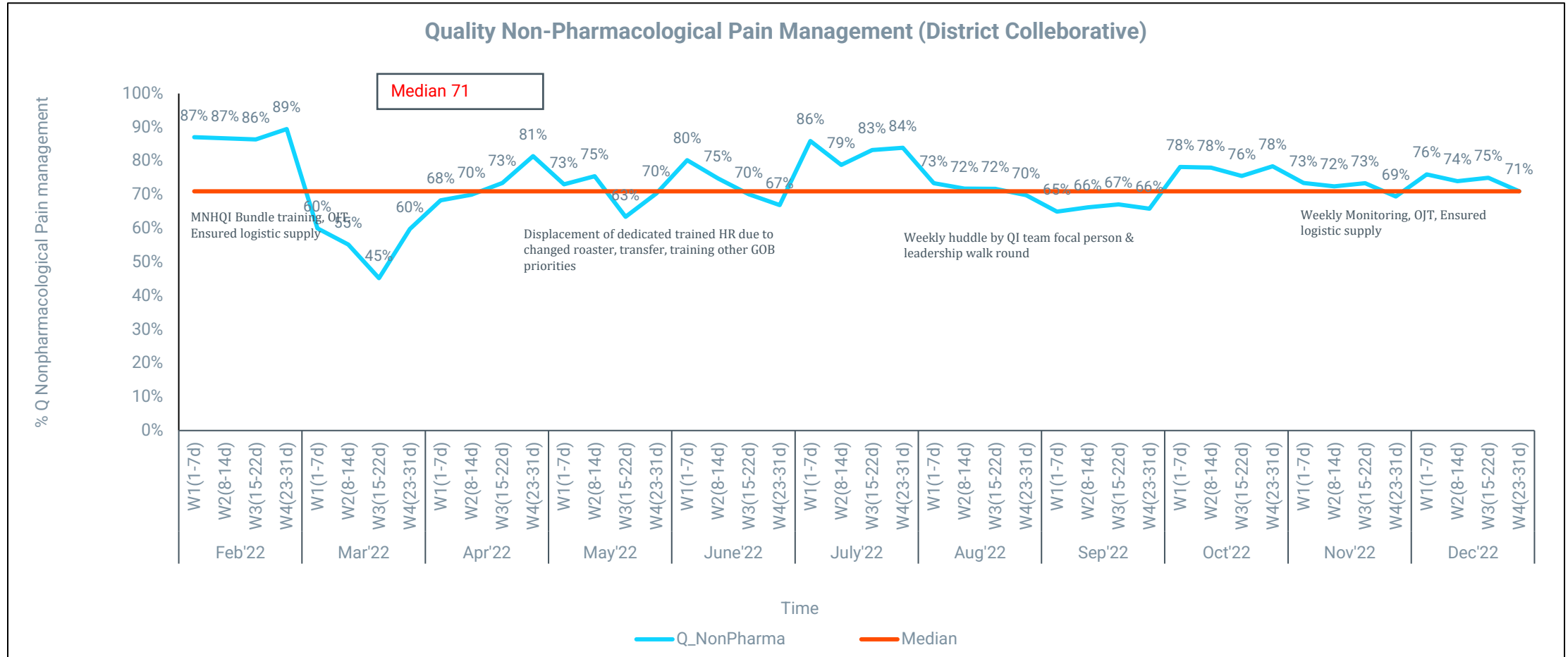


# PPH Bundle

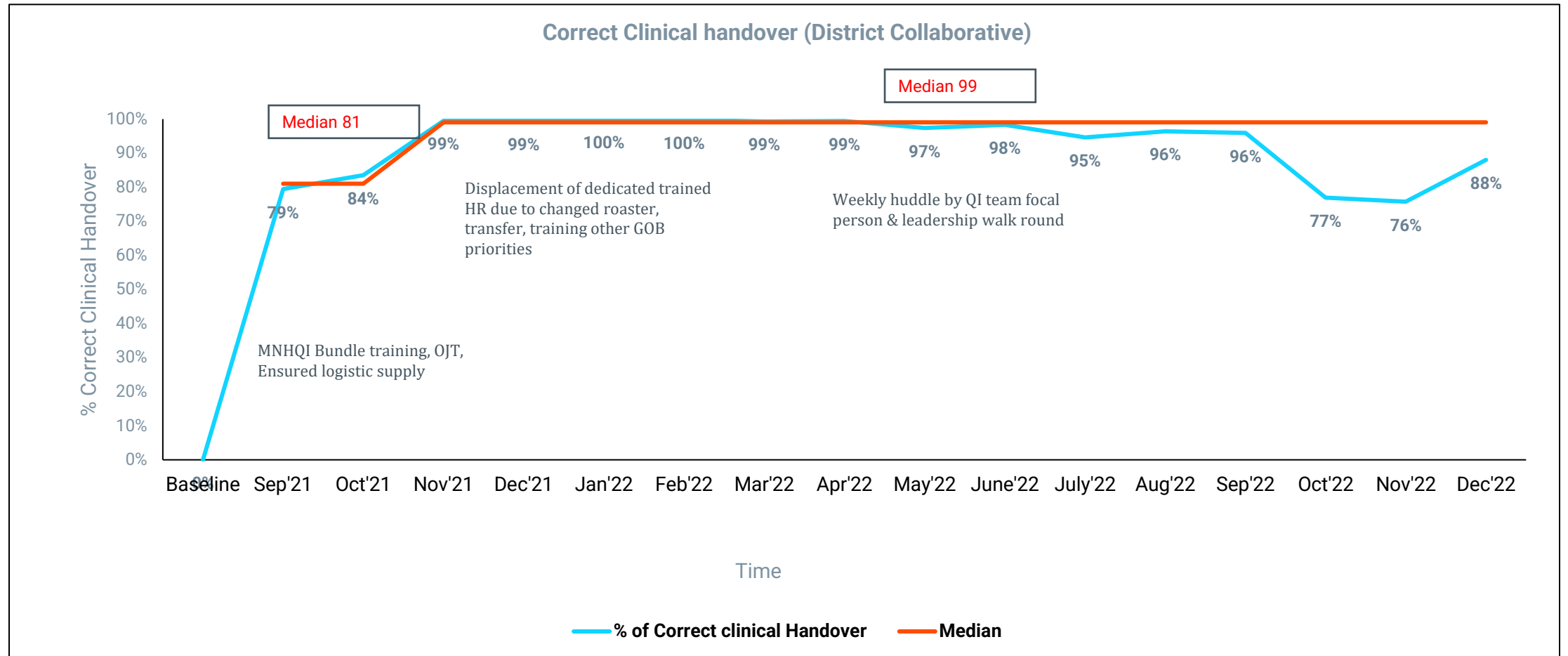


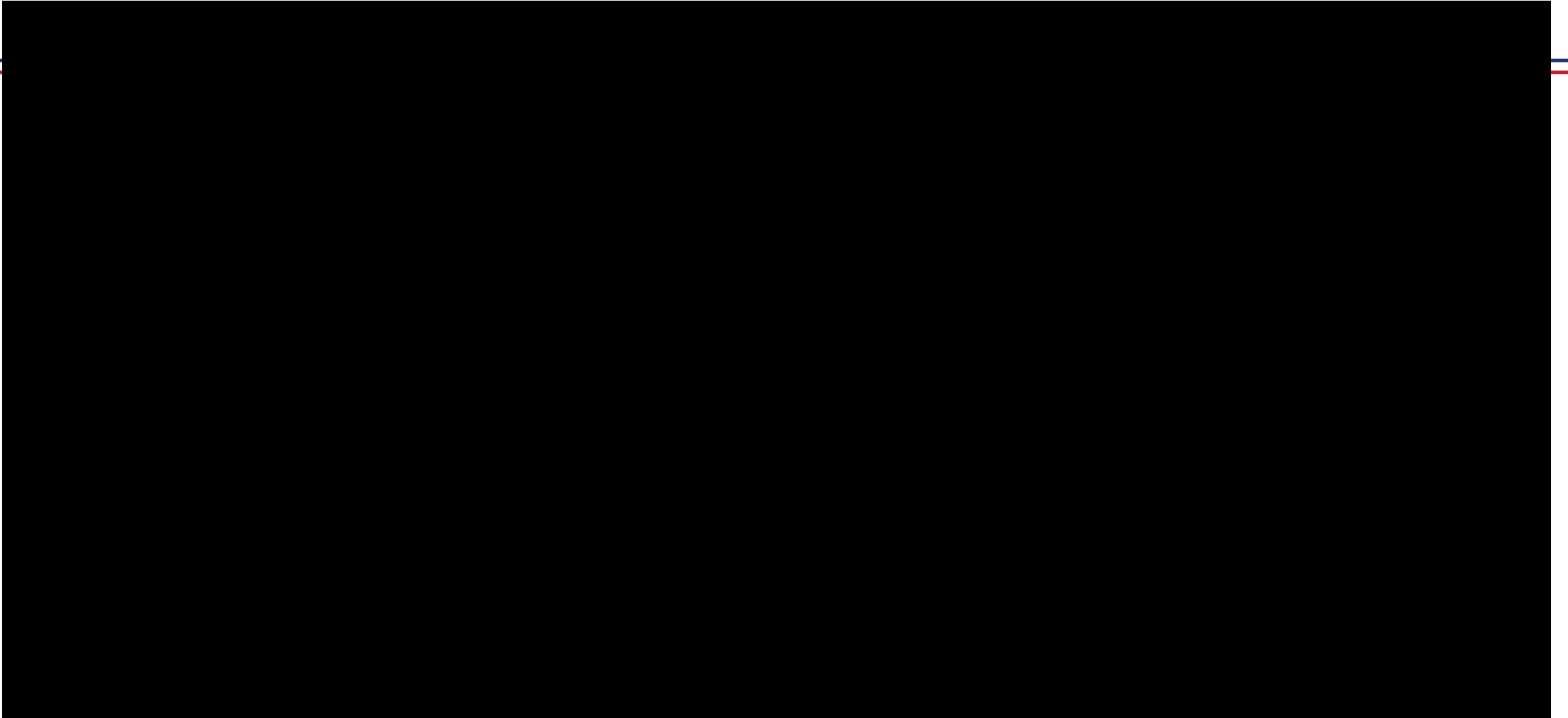


# Non-Pharmacological Pain Management

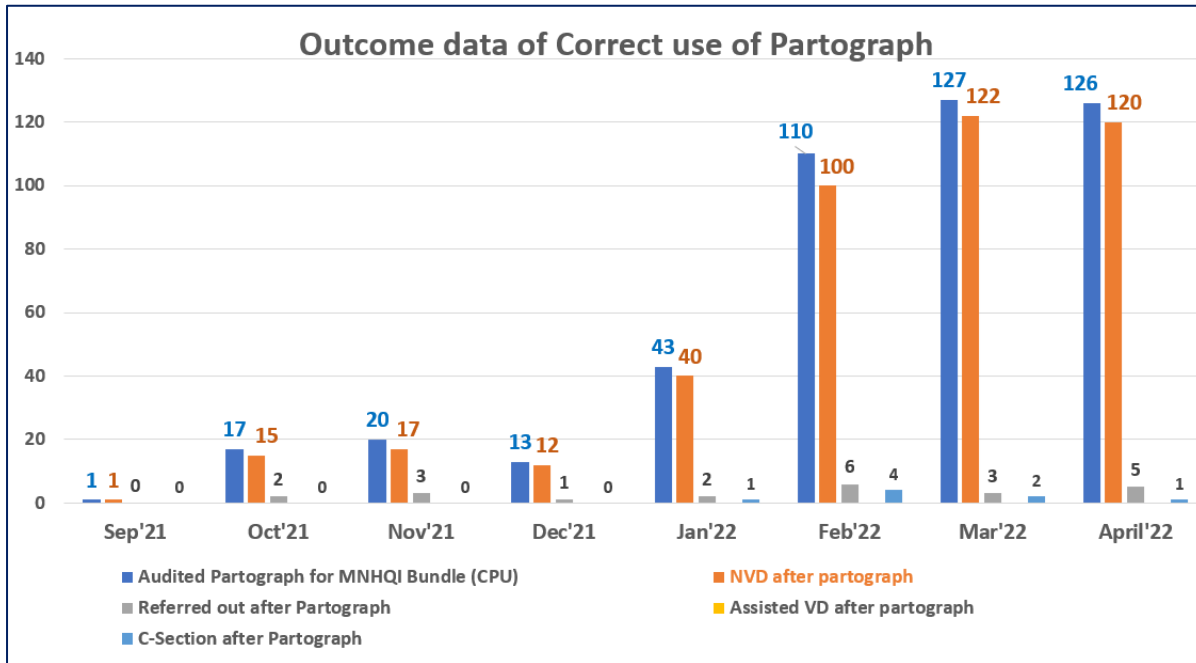
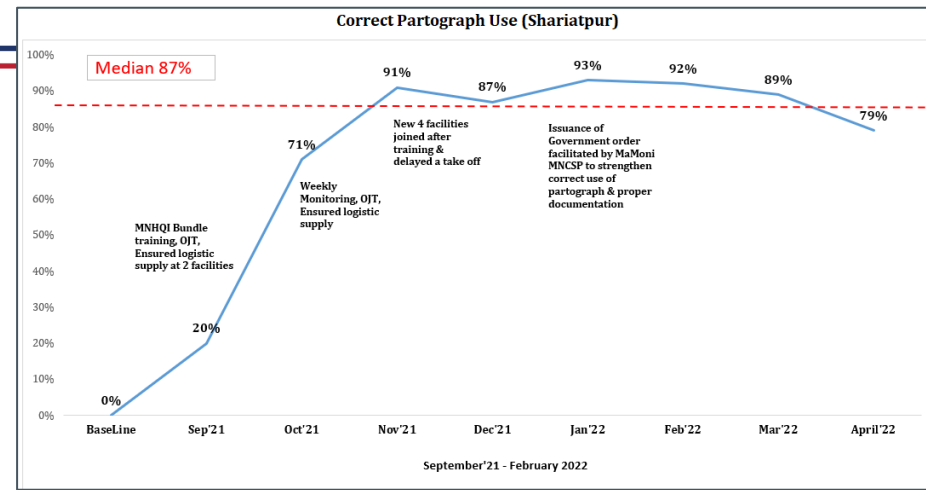
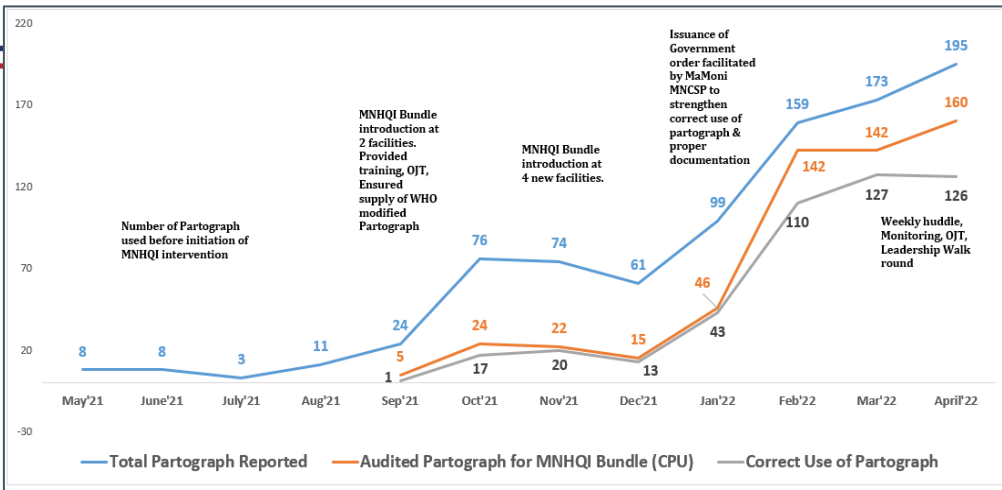


# Clinical Handover





# QI Approach strengthening quality MNH service delivery, documentation and reporting at Shariatpur District



How QI Approach increasing number of Normal Vaginal Delivery (NVD) followed by Correct use of Partograph at Shariatpur District

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার  
 বিভিন্ন সার্ভিসের কার্যালয়  
 শরীয়তপুর।  
[shariatpur@cs.dgbs.gov.bd](mailto:shariatpur@cs.dgbs.gov.bd)

স্মারক নং- সি.এস (শরীয়তপুর)/১০২/ ৭/ ২  
 তারিখ- ২৪/০৩/২০২২ ইং

বিষয়: KMC, SAM and Use of Partograph Reporting করণ।  
 সূত্র: বিজ্ঞাপিত সনদস্বয়ং সাজ (০৪/০৩/২০২২)

উপর্যুক্ত বিষয় ও সূত্র মোতাবেক আপনার অবগতি করা যাচ্ছে যে, বিজ্ঞাপিত সনদস্বয়ং সাজের মাধ্যমে যেভাবে পশ্চিমতপুর জেলায় একটি উপজেলা স্বাস্থ্য কমপ্লেক্সে KMC ও SAM Corner স্থাপন করা হয়েছে। সেগুলি সফলভাবে উক্ত সেবা যথাযথভাবে প্রদানস্বরূপ নিয়মিতভাবে প্রতিবেদন প্রেরণ ও তা অনলাইনে (DHIS-2) এন্ট্রি নিশ্চিত করার জন্য নির্দেশনা প্রদান করা হলো।

পাশাপাশি অনলাইন প্রতিবেদন অনুমোদিত সফটওয়্যার ব্যবহার করে প্রদানের বিপরীতে পাঠ্যক্রমিক ব্যবহারের সংখ্যা ক্রমাগত হ্রাস হতে পারে। এ বিষয়ে সফটওয়্যার প্রস্তুতকারককে সতর্ক করে দেওয়া হয়েছে।

উপরোক্ত কার্যক্রমে যোগ্য কর্মীদের সফটওয়্যার অপারেশন/ইন্সটলেশন/সেবার প্রতিবেদন প্রেরণ ও তা অনলাইনে এন্ট্রি করার ক্ষেত্রে প্রয়োজনীয় সহায়তা প্রদান করা হবে।

(ডায়. এম. এম. আব্দুল্লাহ আল তুলাস)  
 চেয়ারম্যান- ১০৩৯২৬  
 বিভিন্ন সার্ভিস, শরীয়তপুর।  
 ফোনঃ ০১৩৩-৩১৩৬০।

স্মারক নং- সি.এস/শরীয়তপুর/১০২/২/ ১/ ২  
 তারিখ- ২৪/০৩/২০২২ ইং

অনুলিপি: সমস্ত অবগতি/অবগতি ও প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য প্রেরণ করা হলো-  
 ০১। পরিচালক (স্বাস্থ্য), ঢাকা বিভাগ, ঢাকা।  
 ০২। লসিক বিজ্ঞান, এমএলসি অ্যান্ড এএইচ, স্বাস্থ্য অধিদপ্তর, ঢাকা।  
 ০৩। অতিরিক্ত, ১০০ পনামা বিশিষ্ট সার হসপিটাল, পশ্চিমতপুর (প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য অনুরোধ করা হল)।  
 ০৪। উপজেলা স্বাস্থ্য ও পরিবার পরিকল্পনা কর্মকর্তা (সেকার), পশ্চিমতপুর (প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য অনুরোধ করা হল)।  
 ০৫। মেমো প্রতিক্রিয়া, যোগ্য এমএনসিএস কর্মকর্তা, পশ্চিমতপুর।  
 ০৬। অতিরিক্ত কপি।

Government order facilitated by MaMoni MNCSPP with the directions of ensuring Correct Use of Partograph for each eligible Normal vaginal delivery and reporting to DHIS2

# Implementation Considerations

- Capability Developed in clinical area where bundle is being implemented
- Environment is assessed – required logistics/ equipment/ space needs to be allocated prior to starting on an improvement approach
- The Bundle approach is about improving current practice and increasing standardization hence an appreciation of what happens now is required (Baseline), why improvement is required and what improvement is required (Improvement Science )
- Having a clear data management strategy and building local capability in interpreting data is advisable



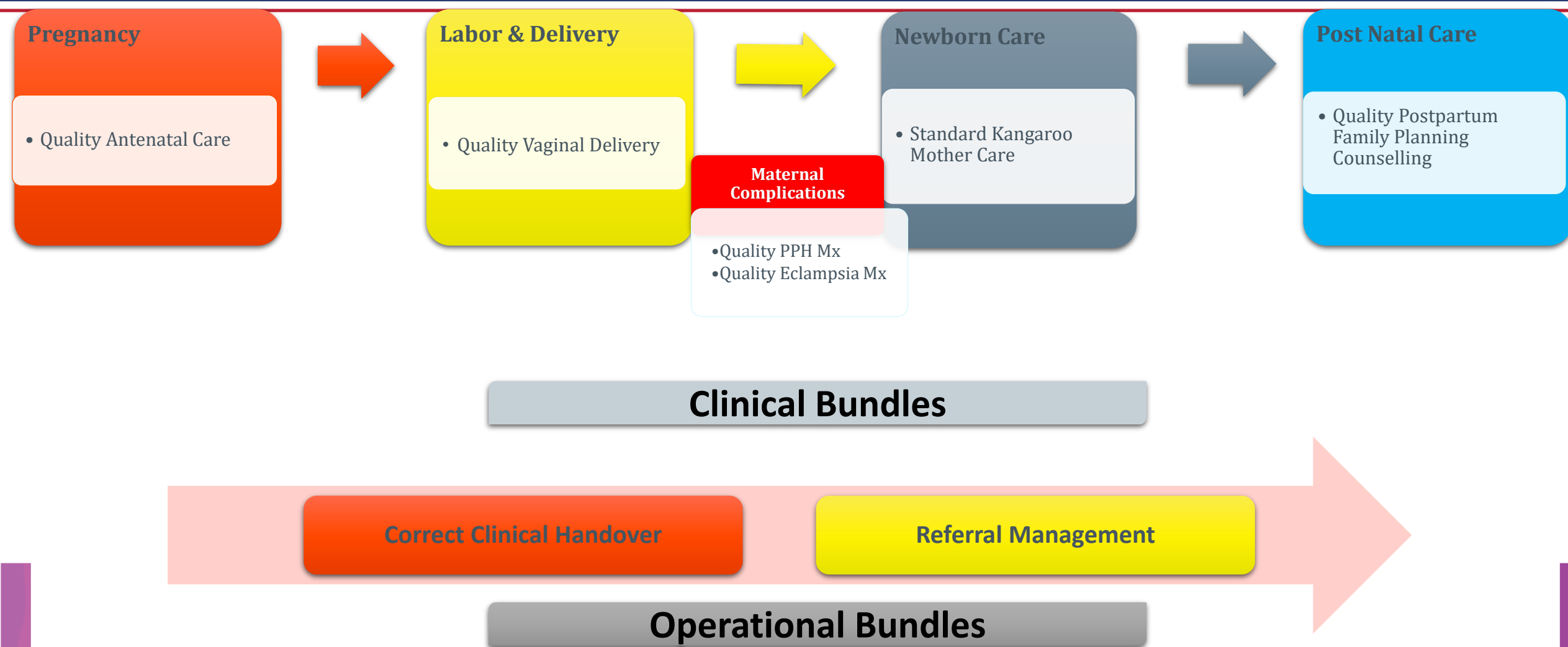


# Coaching and Data Deep Dives



- Trained improvement coaches are required to support activities – coaching can be in person or by phone
- Data plotting by providers is required so that they can see the impact of their actions (bundles are being implemented in non-MaMoni districts without project resources)
- All project personnel need to understand data
- Usually, improvement data is collected weekly to understand variation and implement new change concepts
- Aggregated monthly data should be reviewed by project team for the first 12 months
- Quarterly data deep dives are recommended - use of most appropriate Data display methods

# Project Handover and Sustainability







# Results from implementation of Quality Antenatal Care Bundle in two Non-MaMoni Districts

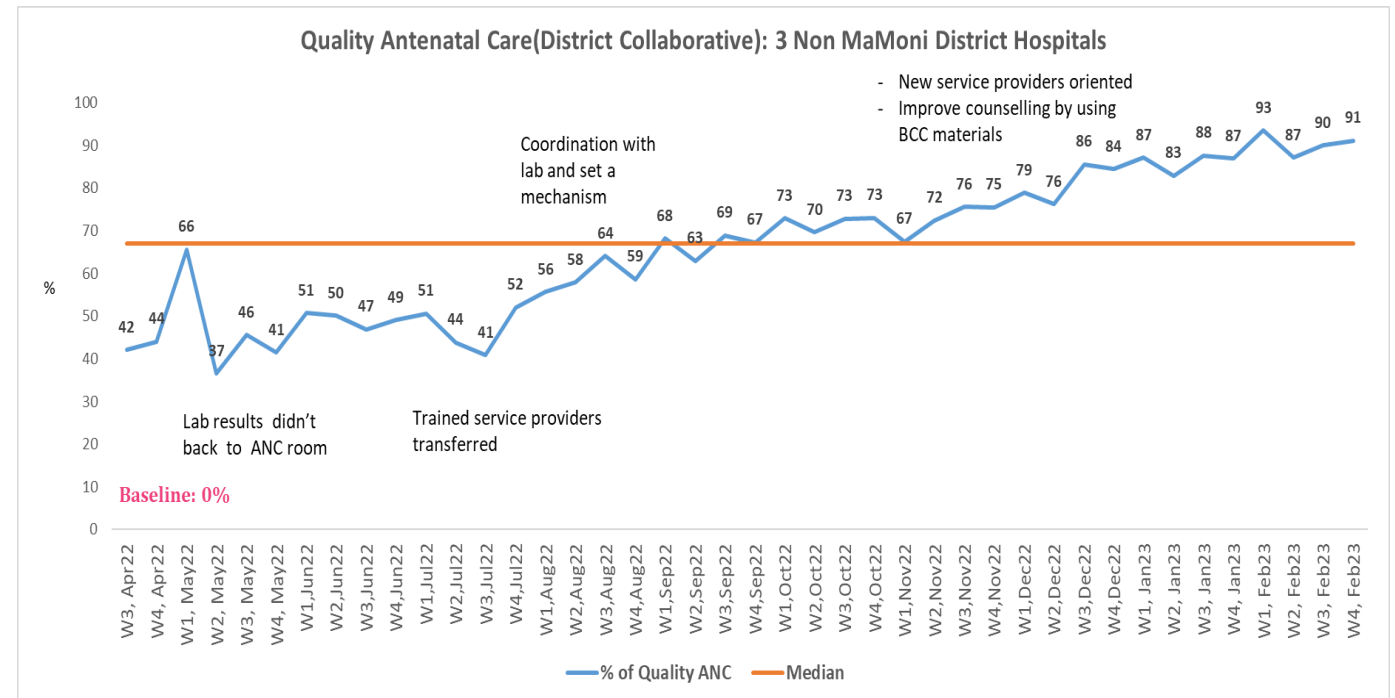
Approved led and funded by HSM, DGHS  
Baseline data collected on quality ANC.

During baseline data analysis, major lacking found-

- Information recording in the register
- Counselling
- Laboratory investigation
- General examination

Aim statement to improve QANC service delivery rate from 15<sup>th</sup> April to 15<sup>th</sup> June 2022

**Low intensity approach without project dependency and funded through HSM. Data flows also managed through the system and reported on whats app to HSM**



# Learnings

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- Bundles are an intervention package – its success comes when it is combined with Improvement Science
- Bundles need some form of QI framework in order to be effectively implemented
- Once designed the bundle /intervention package needs to be tested – measurement or data piece is most contentious .. Be prepared for noise
- Follow on coaching is required – which is beyond mentoring and supporting learning by doing – determine the ‘dosing formula’
- Culture change is important – its ok to get it wrong – we can't expect 100% from the beginning
- Its important to have an aim, understand change concepts and understand data

# Activity Designing the components of an MNHQI Bundle and Open Discussion Session

# Session Aim

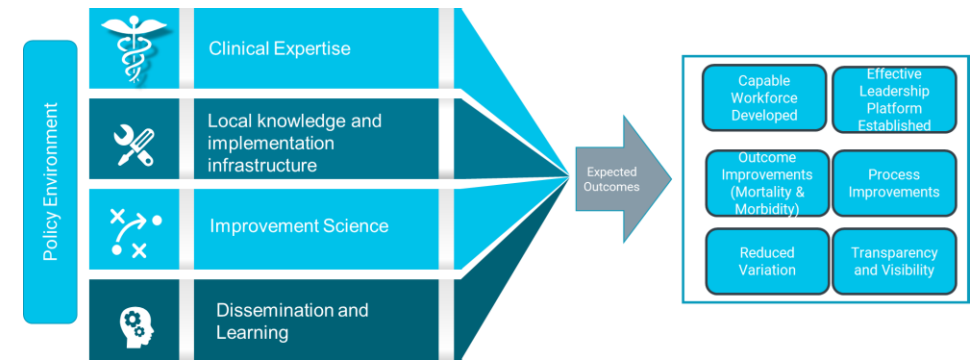
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- To better understand the opportunities and barriers in using Bundles as an approach for interventions
- Open Discussion on the practical considerations when using these types of interventions



# How do we get started ?

## Recap: what are the considerations



1. Creating the Policy Environment
2. Clinical Expertise
3. Local Knowledge and Implementation Infrastructure
4. Improvement Science
5. Dissemination and Learning

# Recap: why do we want to do this and what are the benefits

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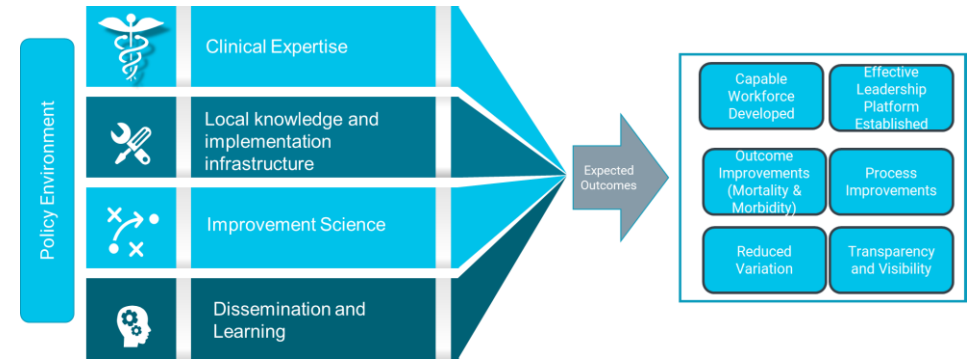
- One of the implementable interventions to see results and real and tangible improvements to care
- Drives improvement across clinical intervention areas
- Engages team in QoC
- Easy for service providers to see impact of their QI actions
- Create a learning system for improvement
- Facilitate sustainability beyond projects



# Planning your own Bundle

## Activity Instruction:

1. Take a flip chart Sheet
2. Go through each of the five areas and for your own context please list down the **opportunities** that are present to implement bundles into your setting
3. Go through each of the five areas and for your own context please list down the **barriers** that are present to implement bundles into your setting
4. What do you think needs to be in place to sustain interventions such as Bundles in your countries



1. Creating the Policy Environment
2. Clinical Expertise
3. Local Knowledge and Implementation Infrastructure
4. Improvement Science
5. Dissemination and Learning

# Wrap up and Close





# Some Final Considerations

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- Keep it simple
- Use own country examples and contexts
- Use clinical guidelines already established
- The implementation of bundles is not extra work it is the usual work with an improvement agenda built into it
- Measure before and after effect of bundles – sometimes measuring the impact of QoC interventions can be challenging.
- Think about spread and scale beyond learning districts



**Thank you  
Any Questions ?**

