



បន្ទីរជាតិការពារមាតា និងទារក  
National Maternal and Child Health Center

# ទិវាសល្យសាស្ត្រ សម្ព័ន្ធ និងរោគស្រ្តី លើកទី៣

ប្រធានបទ៖ «ពង្រឹង និងបង្កើនសេវាកម្មថែទាំ សង្គ្រោះ ប្រកបដោយគុណភាព»

## UPDATE NATIONAL PROTOCOL ON MATERNAL PERINATAL DEATH SURVEILLANCE AND RESPONSE(MPDSR)



Presented by Dr. Ros Saphath, Vice director of NMCHC

ថ្ងៃទី៤-៥ ខែកញ្ញា ឆ្នាំ២០២៥  
សណ្ឋាគារភ្នំពេញ

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# **I- PROGRESS OF MPDSR**

# 1- Introduction

## What's MPDSR?

👉 Maternal and Perinatal Death Surveillance and Response: Is a form of continuous surveillance linking a health information system and QI process from local to national level for reducing preventable maternal death, stillbirth and neonatal death.

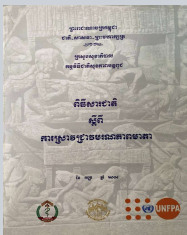
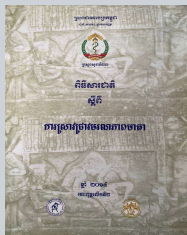
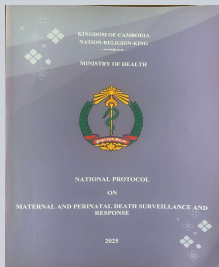

## Background:

**2004:** 1<sup>st</sup> Publish MDA protocol

**2014:** 2<sup>nd</sup> Publish MDA protocol

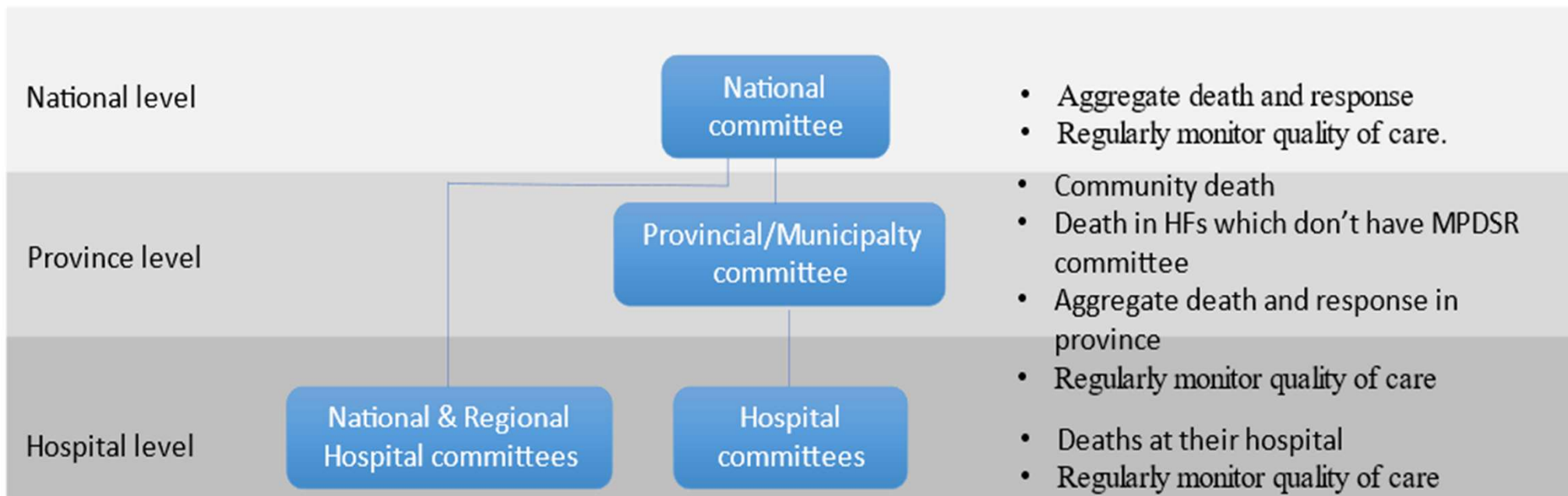
**2025:** New National protocol on MPDSR: Need to improve the quality of care to reduce preventable maternal death and reduce stillbirth and neonatal mortality.

## 2-Update MPDSR

2004, 2014	2021	2025
<p><b>MDA</b></p>   <p><b>Process:</b></p> <ol style="list-style-type: none"> <li>1- Identification of maternal death</li> <li>2- Investigation of maternal death(data collection by verbal autopsy)</li> <li>3- Review of maternal death by committee.</li> <li>4- Recommendation by committee.</li> </ol> <p><b>COMMITTEE:</b> National MDA Provincial MDA</p>	<p><b>MDSR</b></p> <p><b>Process:</b></p> <ol style="list-style-type: none"> <li>1- Identification maternal death</li> <li>2- Collect information</li> <li>3-Analyse result and make recommendation.</li> <li>4- Recommendation implementation</li> <li>5-Monitoring</li> </ol> <p><b>COMMITTEE:</b> National MDSAR Provincial MDSR</p>	<p><b>MPDSR</b></p>   <p><b>Process:</b></p> <ol style="list-style-type: none"> <li>1. រចនាសម្ព័ន្ធក្រុមការងារ : MPDSR ជាតិ MPDSR ថ្នាក់ខេត្ត និង MPDSR មន្ទីរពេទ្យ</li> <li>2. ពង្រីកវិសាលភាព: រួមបញ្ចូលការពិនិត្យមរណភាពទារកជុំវិញកំណើត</li> <li>3. បន្ថែមវិសាលភាពការពិនិត្យមរណភាពមាតានិងទារកជុំវិញកំណើត: រដ្ឋ និង ឯកជន</li> <li>4. ការកែលម្អគុណភាពសេវាថែទាំព្យាបាល មាតានិងទារក ផ្តល់អនុសាសន៍គាំទ្រ និងសកម្មភាពអនុវត្តនៅគ្រប់កម្រិតមូលដ្ឋានសុខាភិបាលខេត្ត និងនៅថ្នាក់ជាតិ</li> </ol> <p><b>COMMITTEE:</b> National MPDSR Provincial MPDSR Hospital MPDSR</p>
		5

### 3- MPDSR Organizational Structure

Responsibility to review:



— Lines indicate reporting and feedback relationships

## **4- DEFINITIONS**

### **Maternal death**

The death of a woman while pregnant or within 42 days of the termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

## 4- DEFINITIONS

**Stillbirth:** Is the complete expulsion or extraction from a woman of a fetus, following its death prior to the complete expulsion or extraction at 28Weeks of gestation.

**Neonatal death:** Death after birth and within the first 28 days of life.

**Perinatal mortality:** The number of fetal deaths of at least 28 weeks of gestation and/or 1000g in weight and newborn deaths (up to and including the first 7 days after birth).



## 5- PRINCIPAL of MPDSR

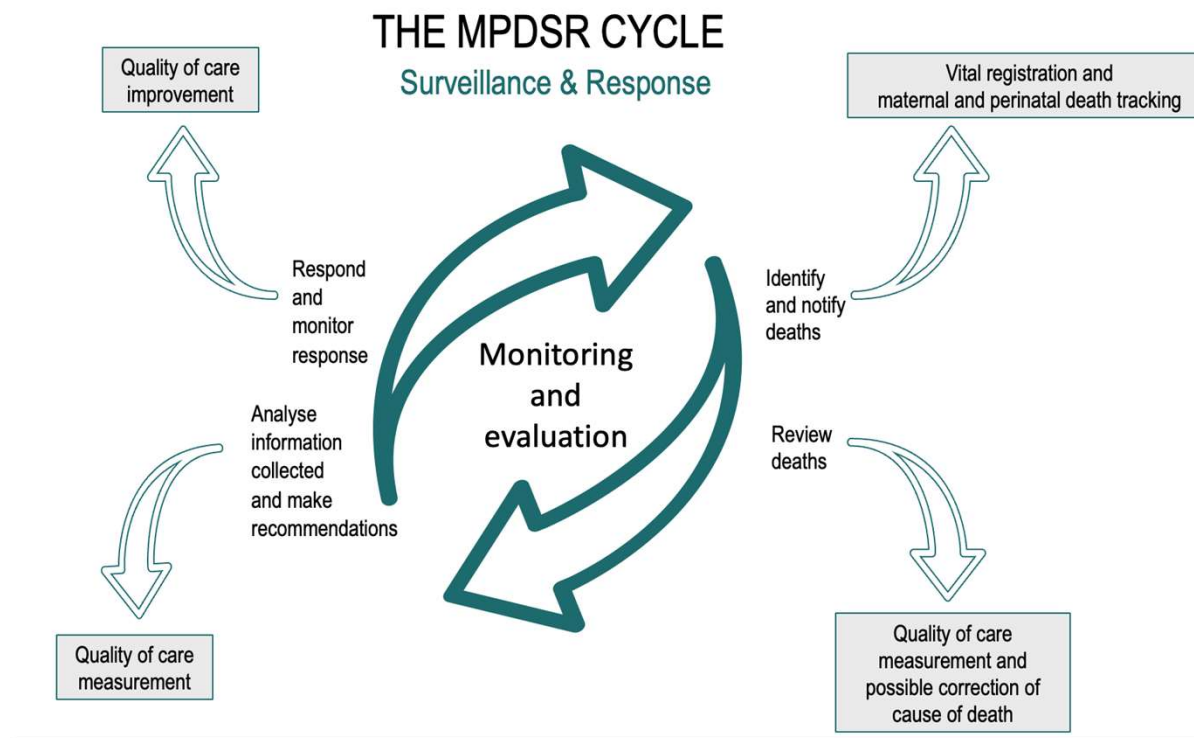
**“No Name, No blame”** environment

**No Name** = Protect confidentiality of client and providers.

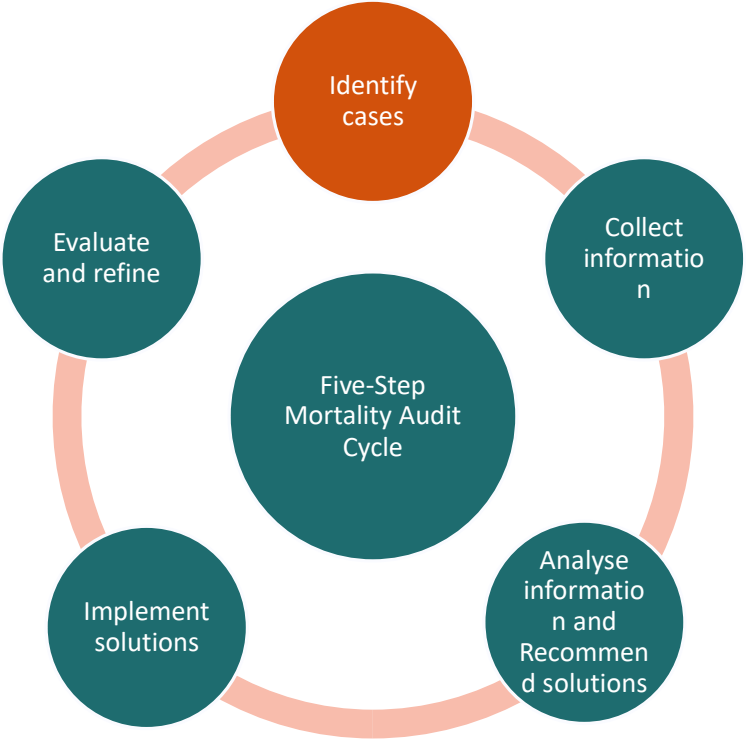
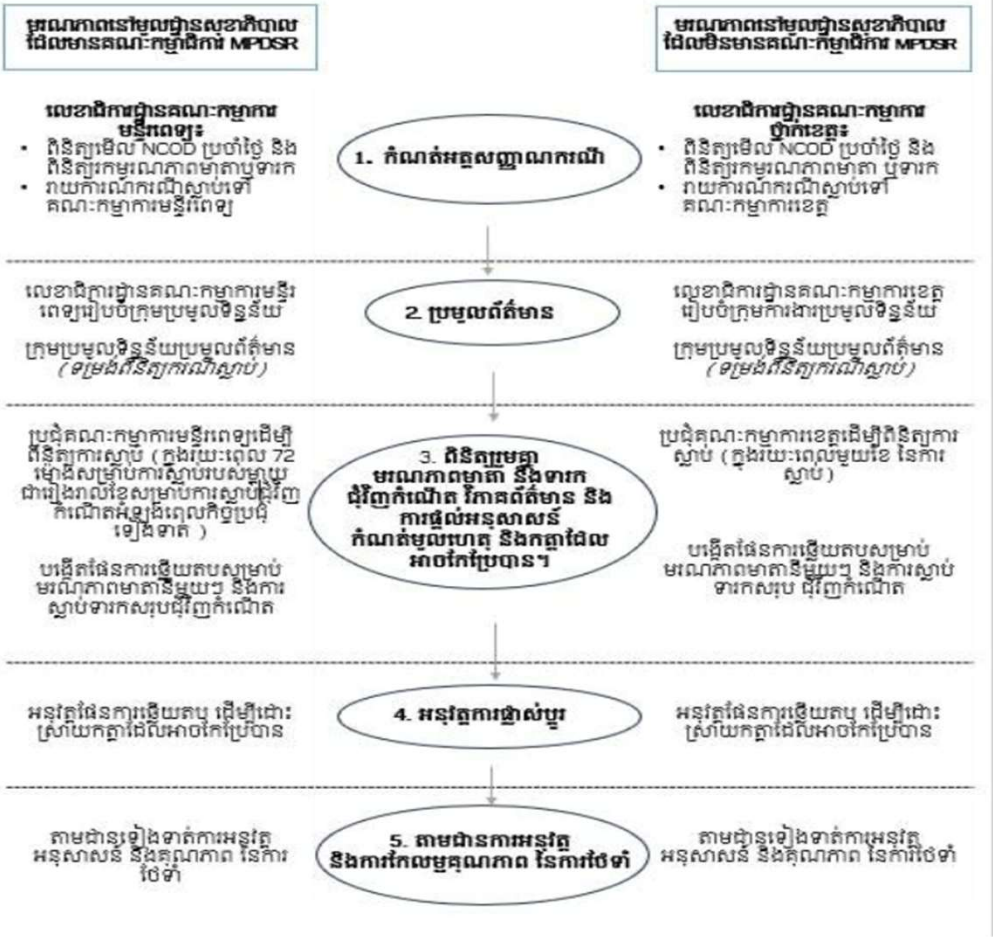
**No Blame** = Promote a constructive, non punitive response to maternal deaths.

**But accountability**

## 6- MPDSR CYCLE



# Five-Step Mortality Audit Cycle



## 7- System improvement for quality of care

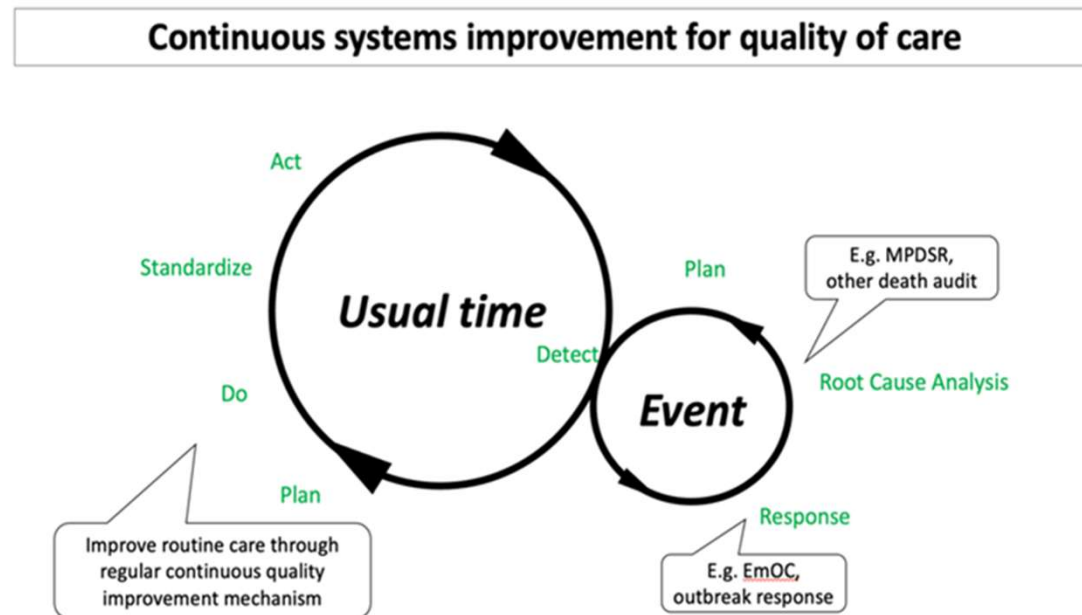
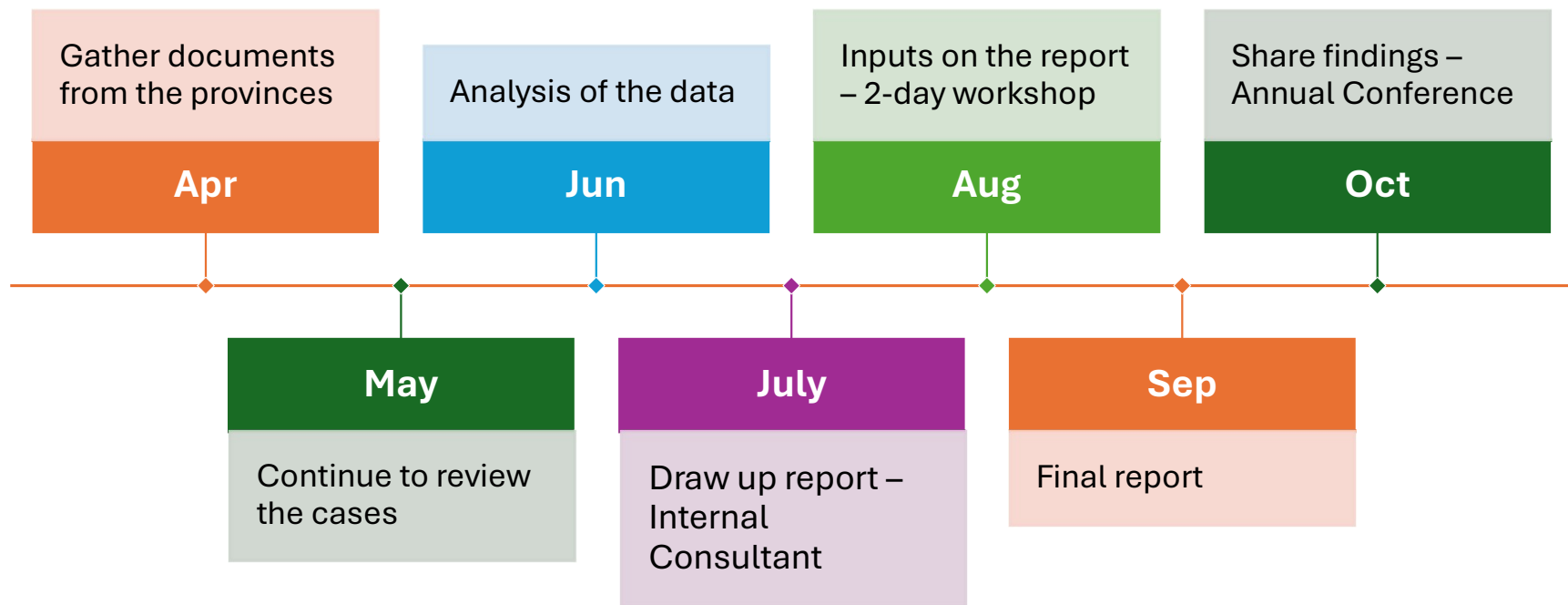


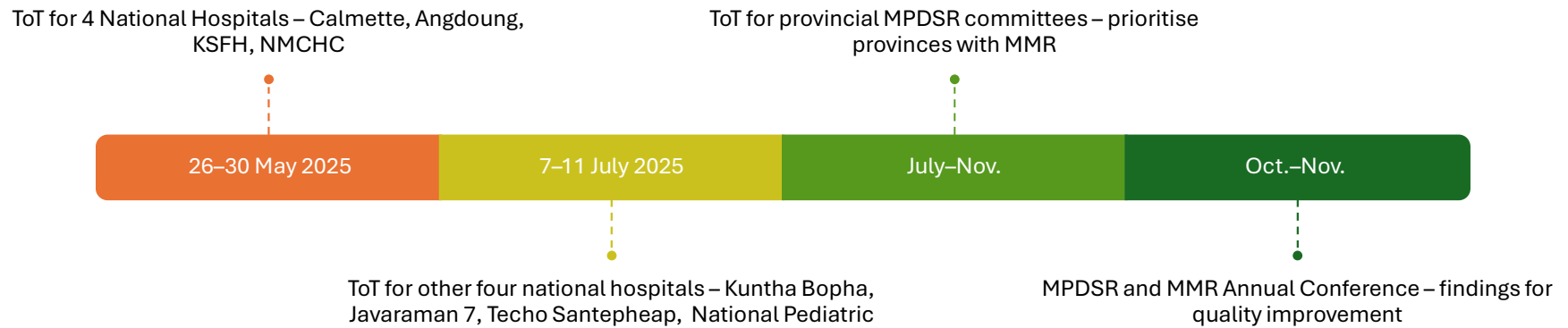
Figure 2. Continuous systems improvement for quality of care: double-loop model

## **II- RESULTS OF MATERNAL and PERINATAL DEATH CASE REVIEW**

# 1- PROGRESS AND NEXT STEPS



# MPDSR Cascade ToT



\* 1<sup>st</sup> MPDSR training for National committee : 17 participant ,  
10 Trainer MPDSR  
(12-14 March 2025 & 17-21 March 2025,  
Calmette Hospital)

\* 2<sup>nd</sup> MPDSR training for 4 National hospital: Participant=26  
(26-30 may 2025 Calmette hospital)

\* 3<sup>rd</sup> MPDSR training for 4 National hospital: participant=33  
(7-11 July 2025, Ang Duong hospital)

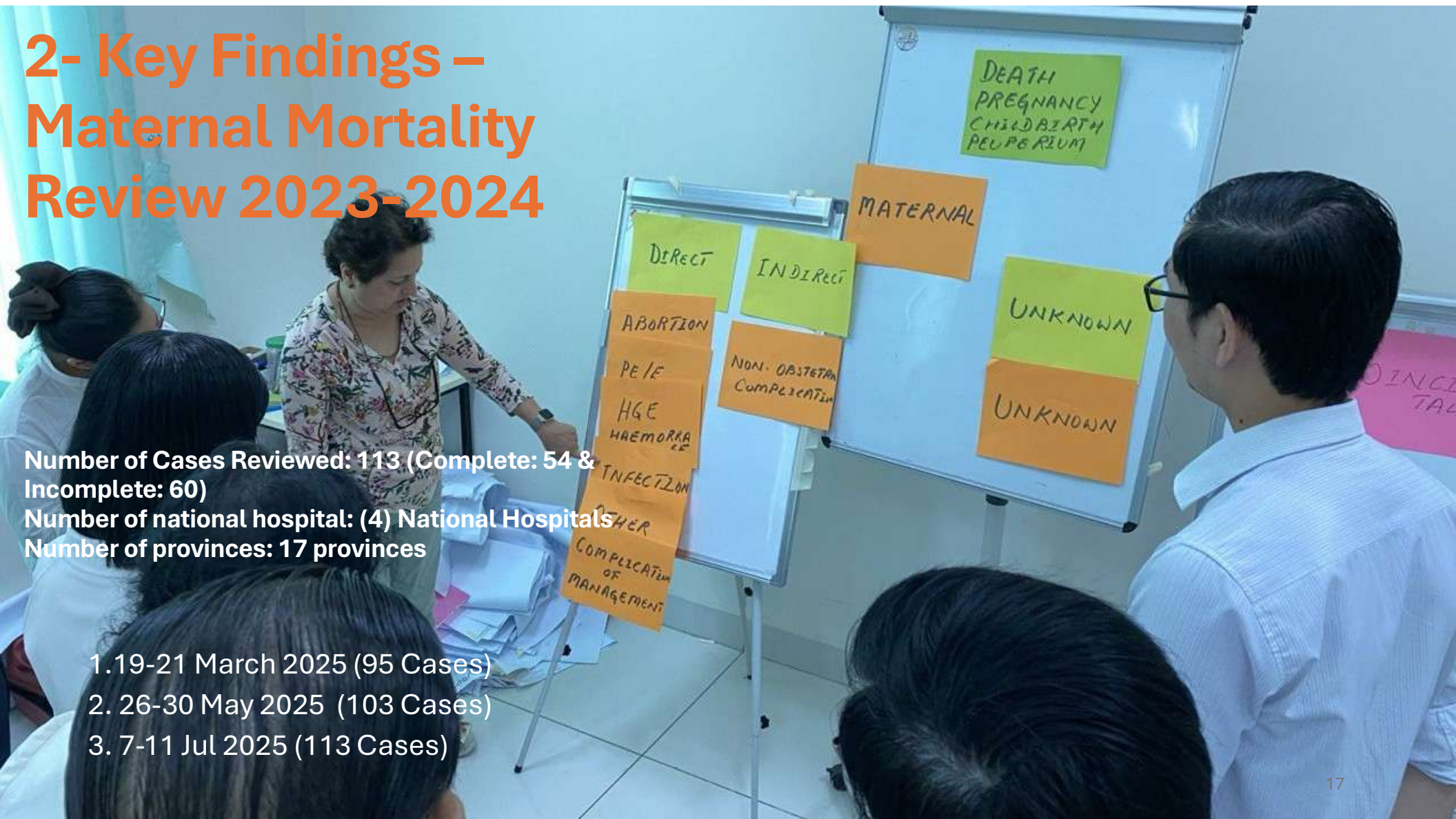




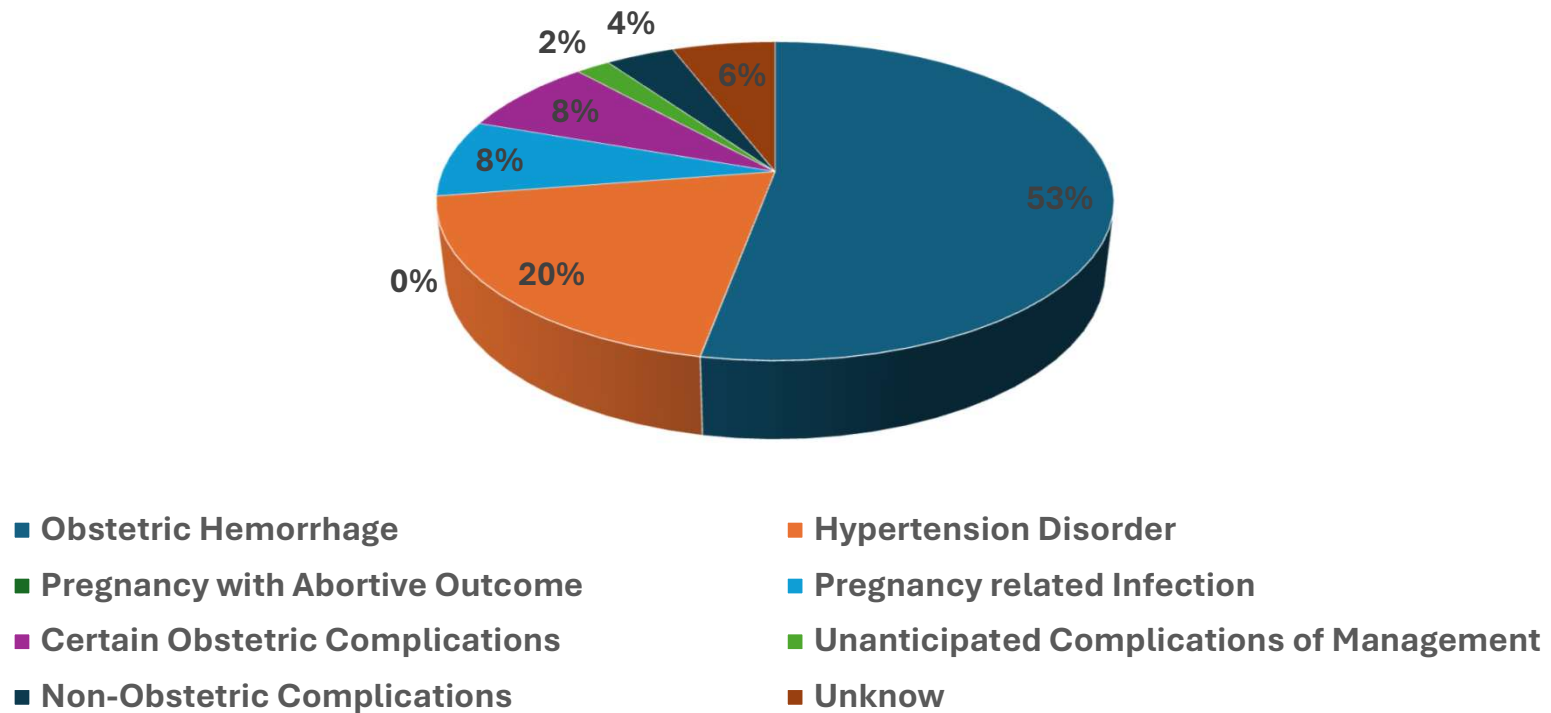
## 2- Key Findings – Maternal Mortality Review 2023-2024

Number of Cases Reviewed: 113 (Complete: 54 &  
Incomplete: 60)  
Number of national hospital: (4) National Hospitals  
Number of provinces: 17 provinces

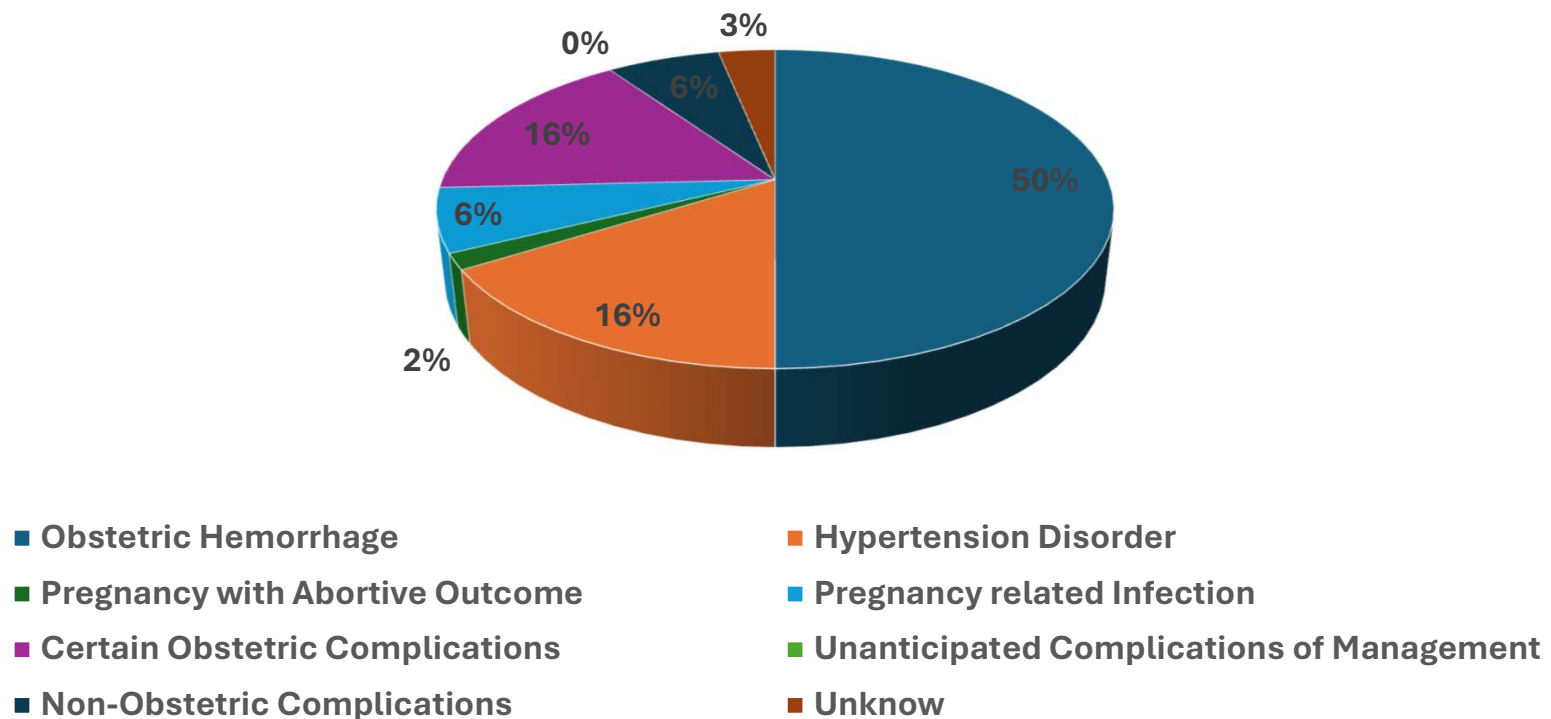
1. 19-21 March 2025 (95 Cases)
2. 26-30 May 2025 (103 Cases)
3. 7-11 Jul 2025 (113 Cases)



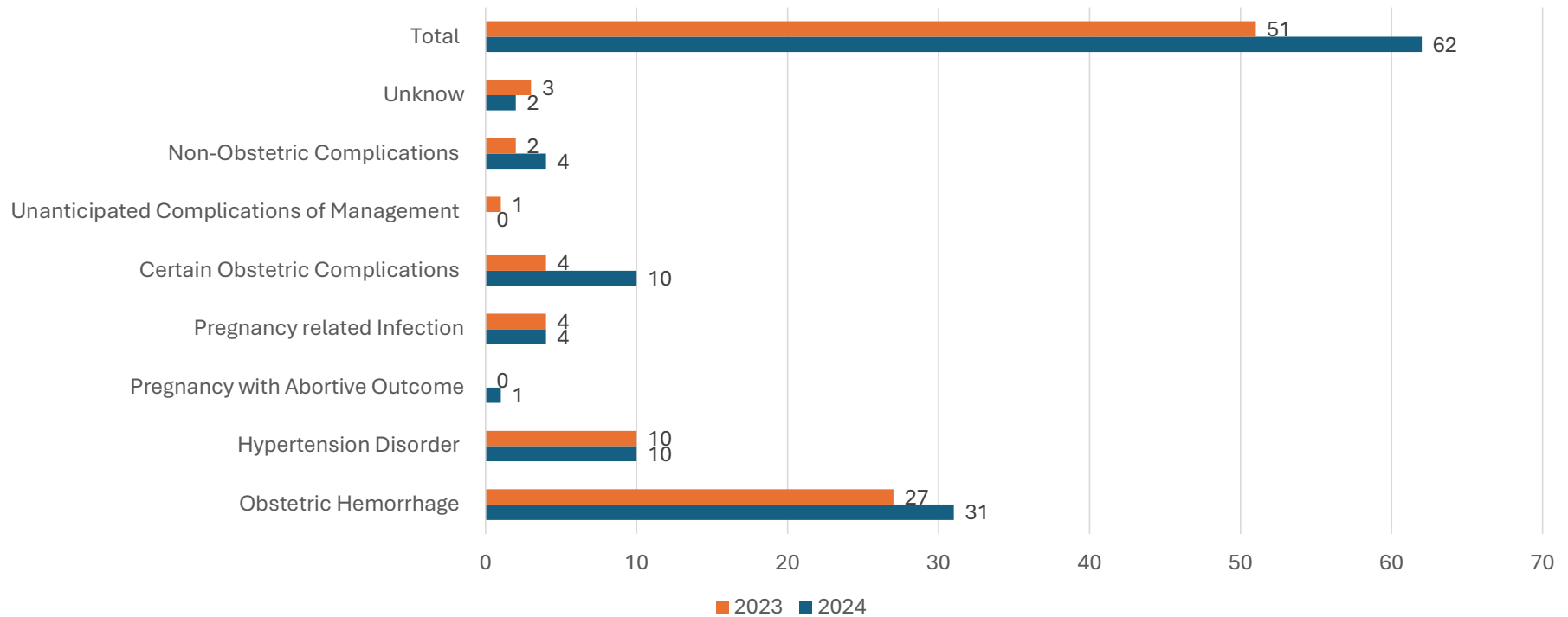
# Causes of Maternal Death 2023 (51 cases)



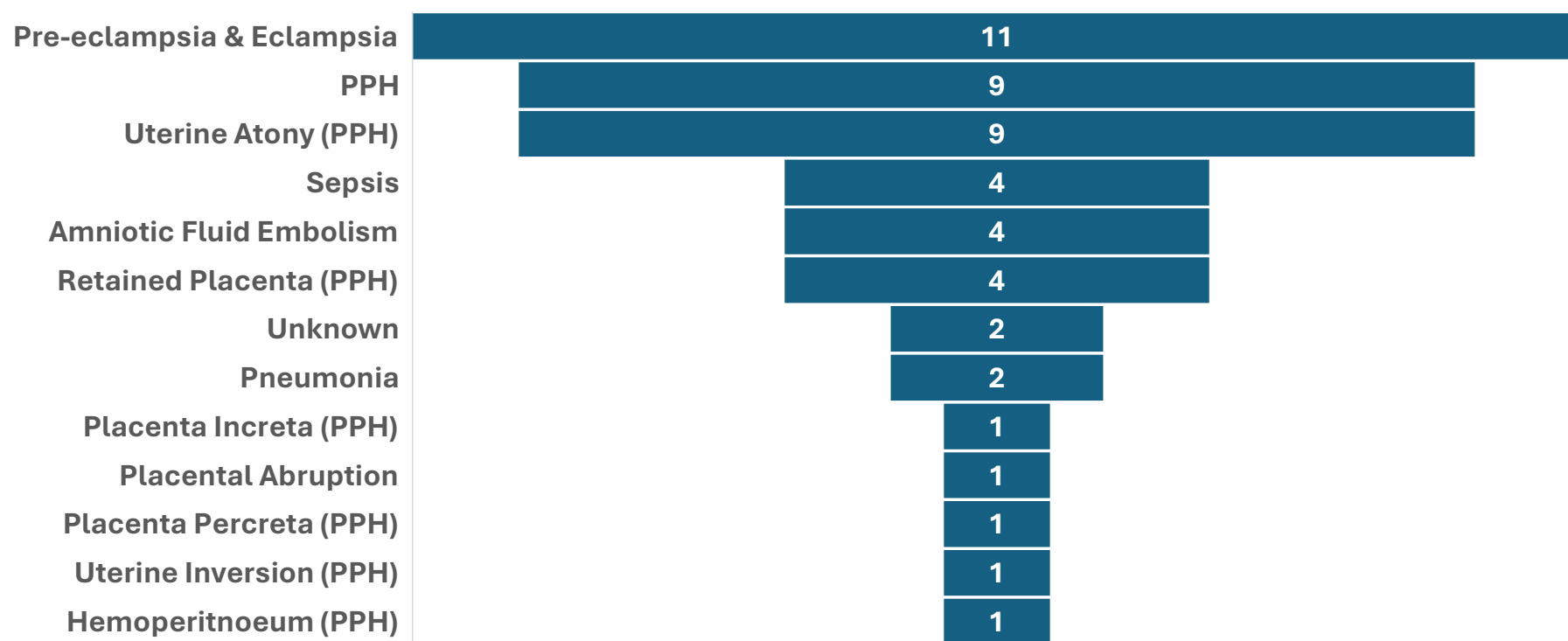
# Causes of Maternal Death 2024 (62 cases)



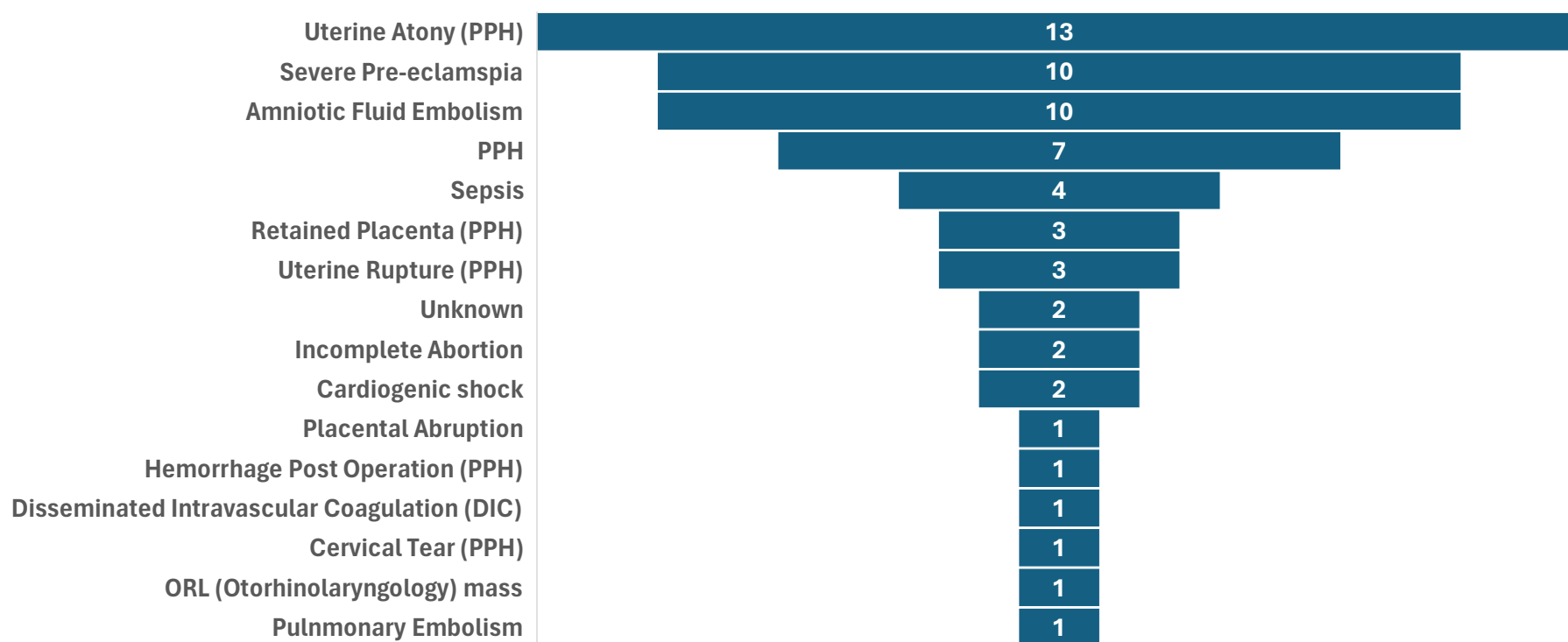
# Causes of Maternal Death 2023-2024 (113 cases)



## Underlying Causes of Maternal Death 2023 (51 Cases)



# Underlying Causes of Maternal Death 2024 (62 Cases)



# Global evidence - PPH



## Causes of and risk factors for postpartum haemorrhage: a systematic review and meta-analysis



Idnan Yunus\*, Md Asiful Islam\*, Kulandaipalayam N Sindhu, Adam J Devall, Marcelina Podsek, Sayeda Sadia Alam, Shoumik Kundu, Kristie-Marie Mammoliti, Ashraf Aswat, Malcolm J Price, Javier Zamora, Olufemi T Oladapo, Ioannis Gallos, Arri Coomarasamy

### Summary

Lancet 2025; 405: 1468-80

Published Online

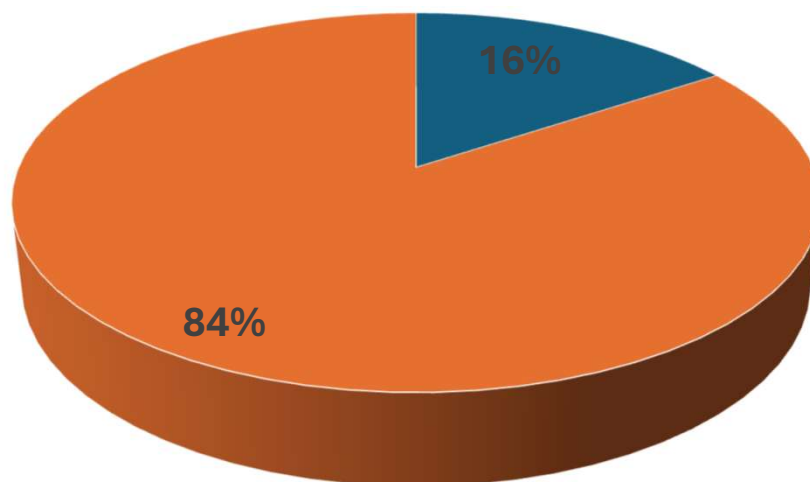
April 3, 2025

[https://doi.org/10.1016/S0140-6736\(25\)00448-9](https://doi.org/10.1016/S0140-6736(25)00448-9)

**Background** An understanding of the causes of postpartum haemorrhage is needed to provide appropriate treatment and services. Knowledge of the risk factors for postpartum haemorrhage can help address modifiable risk factors. We did a systematic review and meta-analysis to identify and quantify the various causes and risk factors for postpartum haemorrhage.

- We synthesised data from 327 studies, including 847 413 451 women.
- The pooled rates of the five commonly reported causes of postpartum haemorrhage were **uterine atony**
- Risk factors with **a strong association with postpartum haemorrhage** included **anaemia, previous postpartum haemorrhage, caesarean birth, female genital mutilation, sepsis, no antenatal care, multiple pregnancy, placenta praevia, assisted reproductive technology use, macrosomia with a birthweight of more than 4500 g, and shoulder dystocia.**
- **Interpretation** Knowledge of risk factors with a strong association with **postpartum haemorrhage** can help to identify women at high risk of postpartum haemorrhage who could benefit from enhanced prophylaxis and treatment.

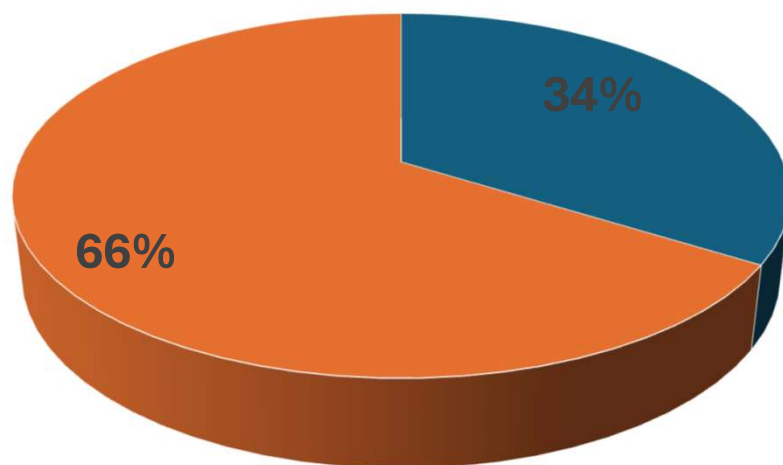
## Maternal Death by Period of Death 2023 (51 Cases)



- Pregnant at the time of death (ANC, Labour/Birth)
- Not pregnant at the time of death (Postpartum)

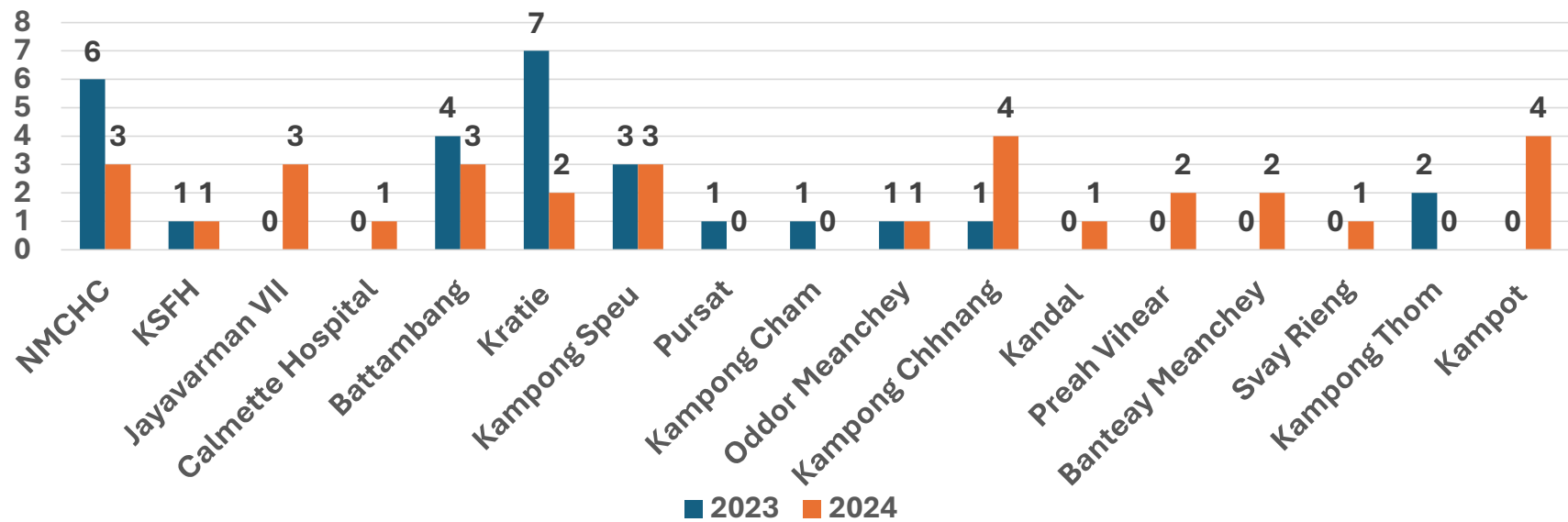


## Maternal Death by Period of Death 2024 (62 Cases)

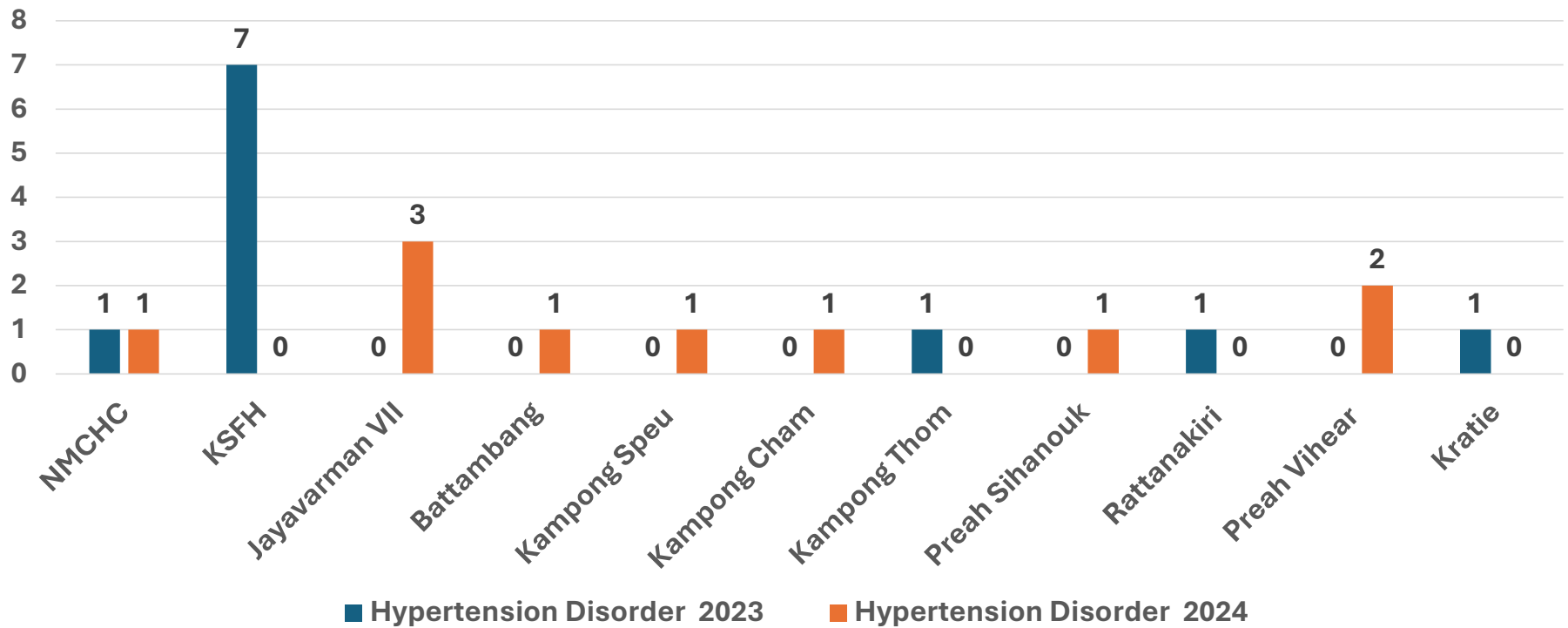


- Pregnant at the time of death (ANC, Labour/Birth)
- Not pregnant at the time of death (Postpartum)

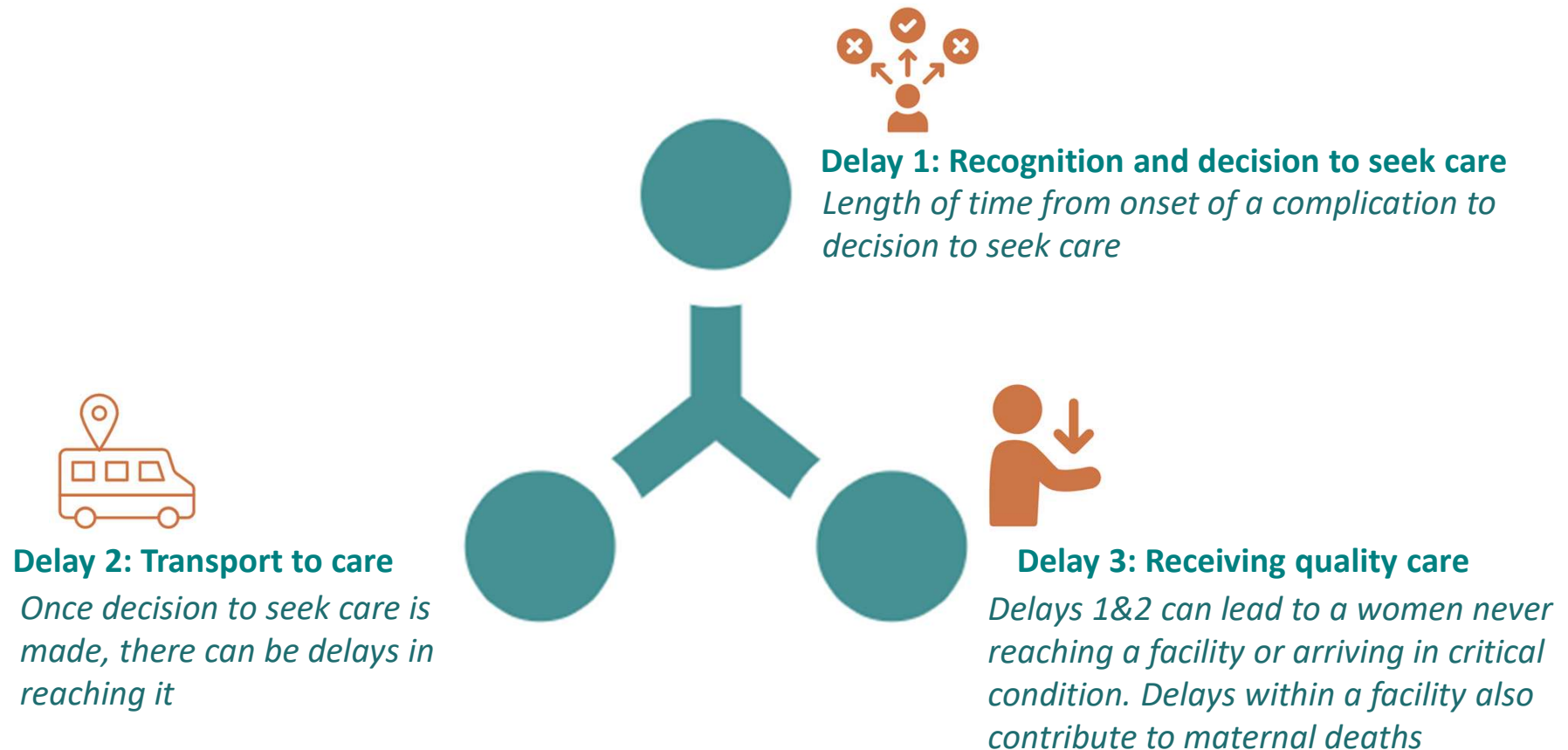
## Obstetric Hemorrhage for Maternal Death 2023-2024 (58 Cases)



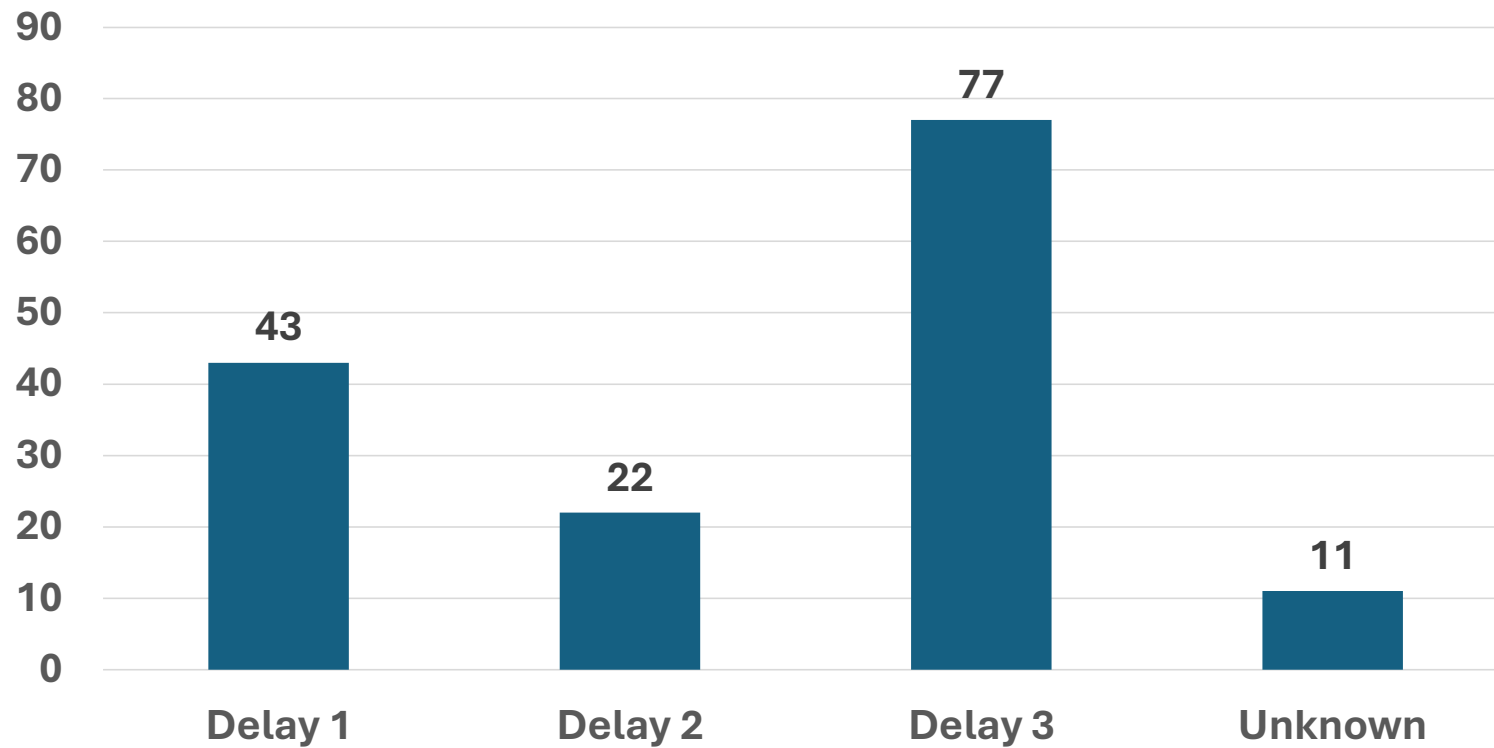
## Hypertension Disorder for Maternal Death 2023-2024 (21 Cases)



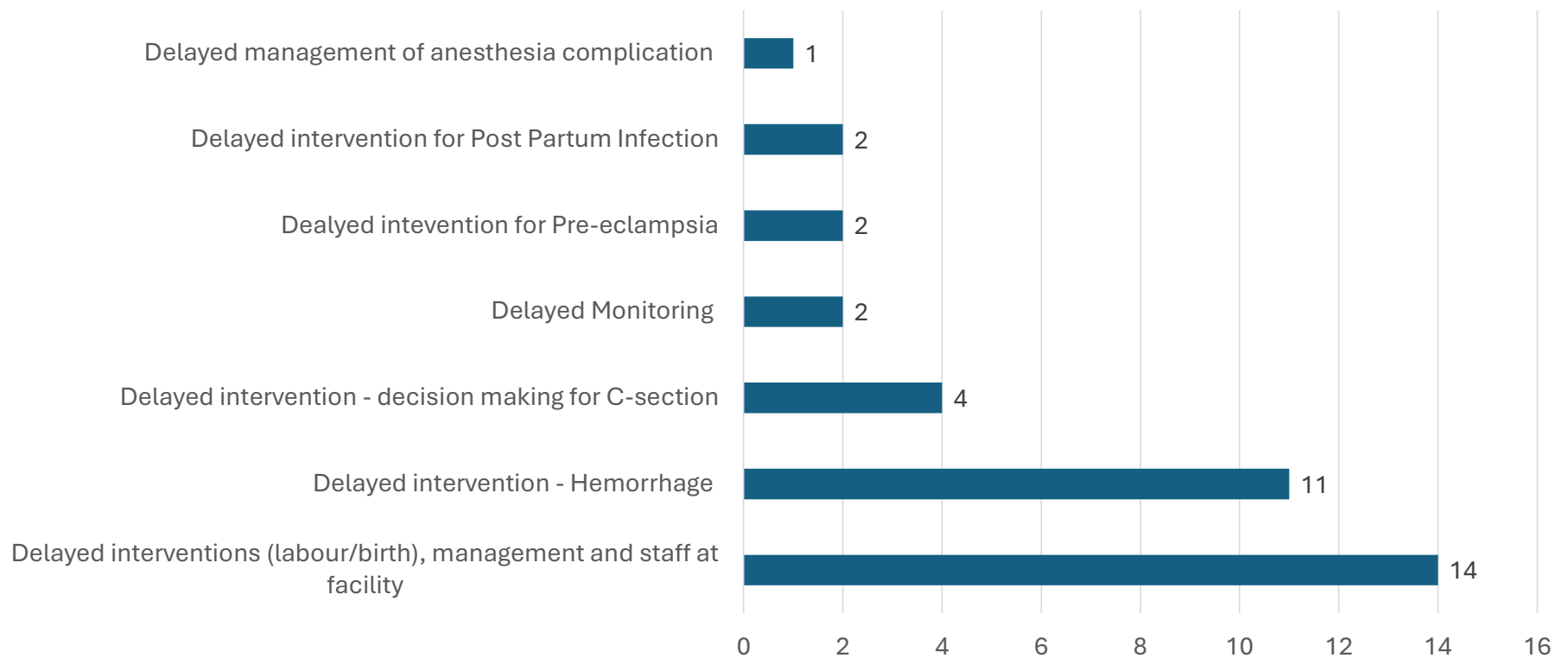
# The Three Delays Model



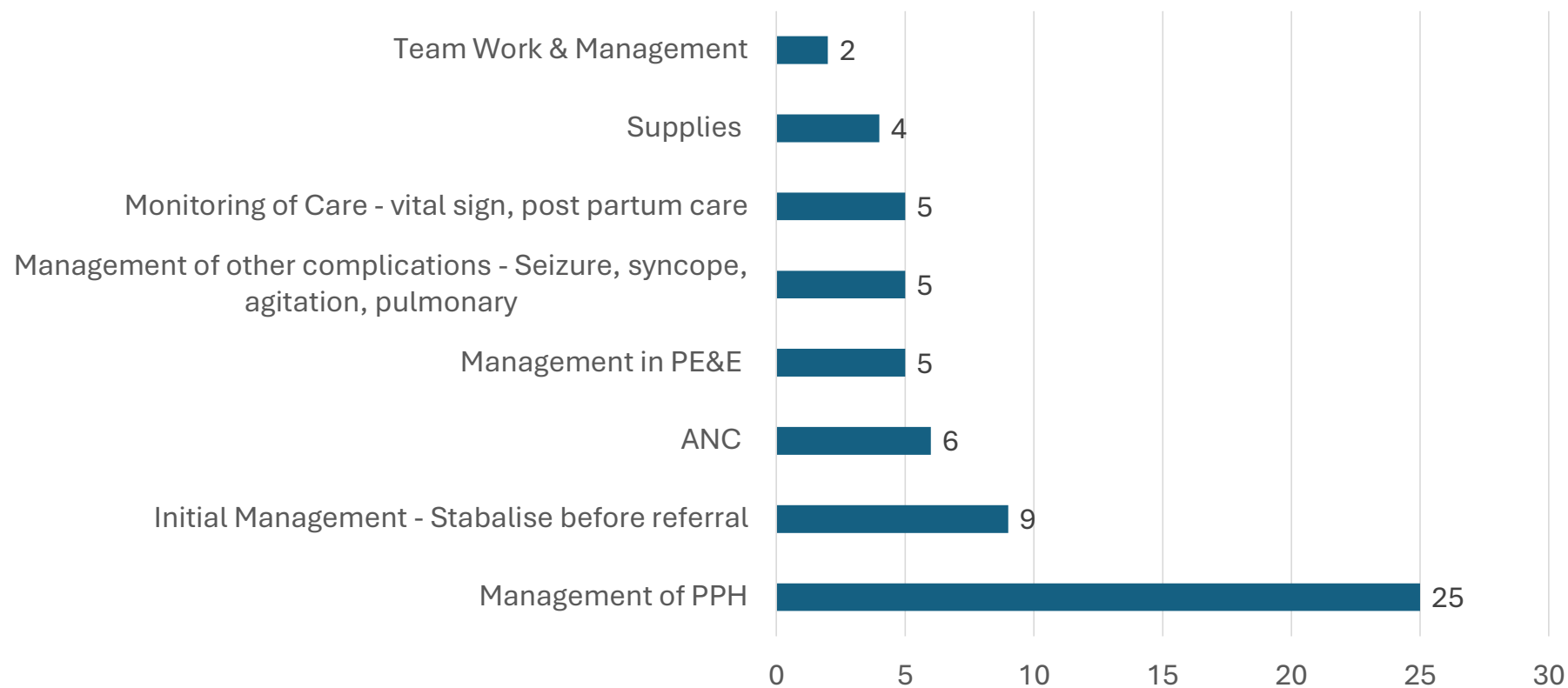
## Types of Delay for Maternal Death 2023-2024



## Components of Delay 3 for Maternal Death 2023-2024



## Limited Quality of Care - Maternal Death 2023-2024



### **3- Result of MPDSR Review : January-June 2025**



## ចំនួនមរណភាពមាតា និងទារក ពីខែមករា ដល់ ខែមិថុនា ឆ្នាំ២០២៥

ខេត្ត	មរណភាពមាតា	មរណភាពទារក
កំពត	2	2
ពោធិ៍សាត់	3	1
កំពង់ធំ	2	1
បាត់ដំបង	2	1
ស្វាយរៀង	2	0
ព្រៃវែង	1	1
បន្ទាយមានជ័យ	1	0
Kg.Cham	2	0
KSFH	2	2
NMCHC	1	2
Krati	1	0
<b>Total</b>	<b>19</b>	<b>10</b>

### \* Maternal death review:

- 1- National MPDSR review= 11
- 2-MDSR provincial review=06
- 3-Nation Hospital review= 02

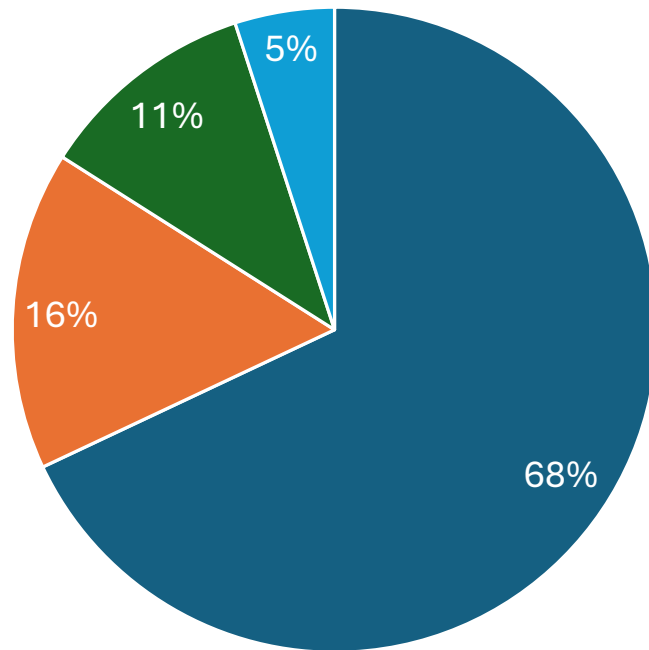
### \* Perinatal death review:

- 1-National MPDSR review= 02
- 2-National hospital review=03

### \* Perinatal death: 10Cases

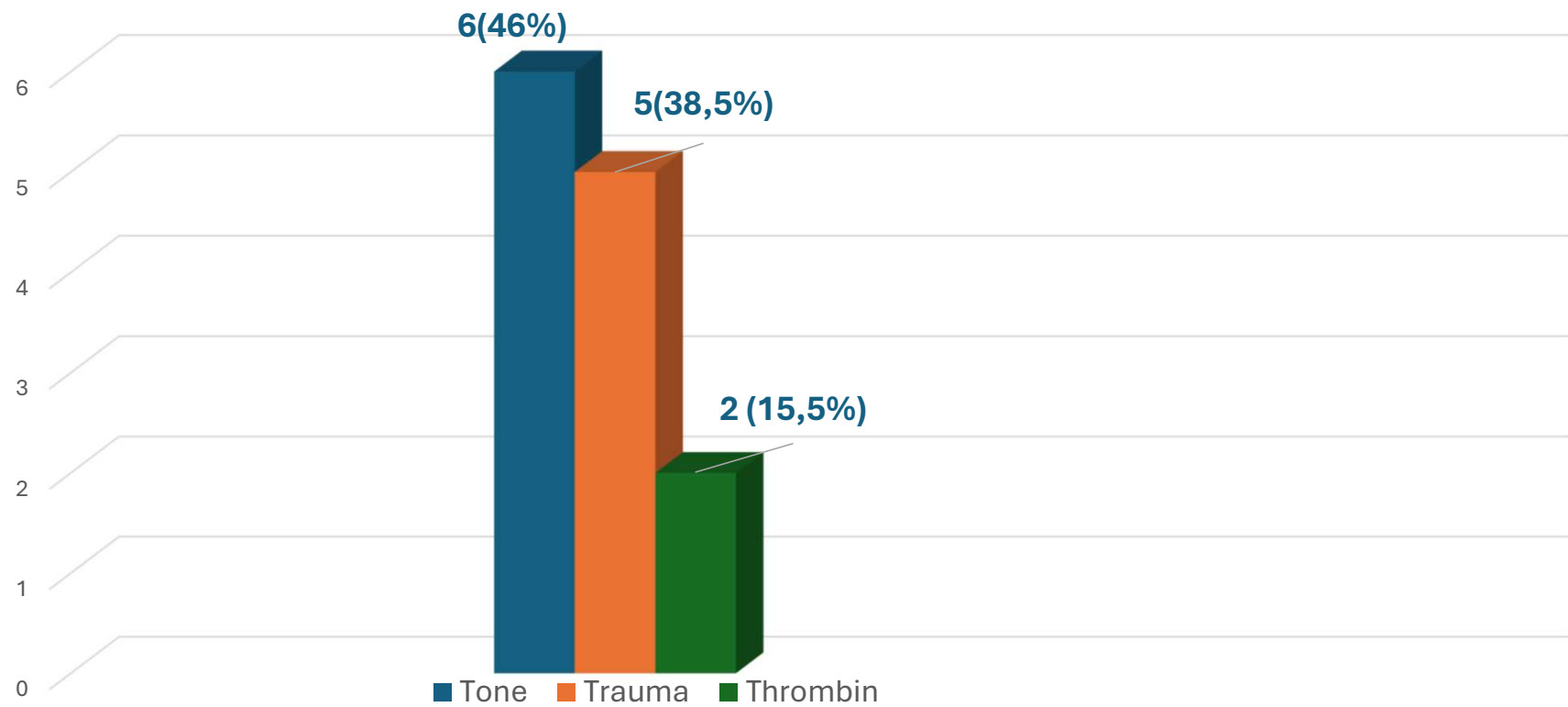
- Early neonatal death=04
- Fetal antepartum death=06

### Cause of death

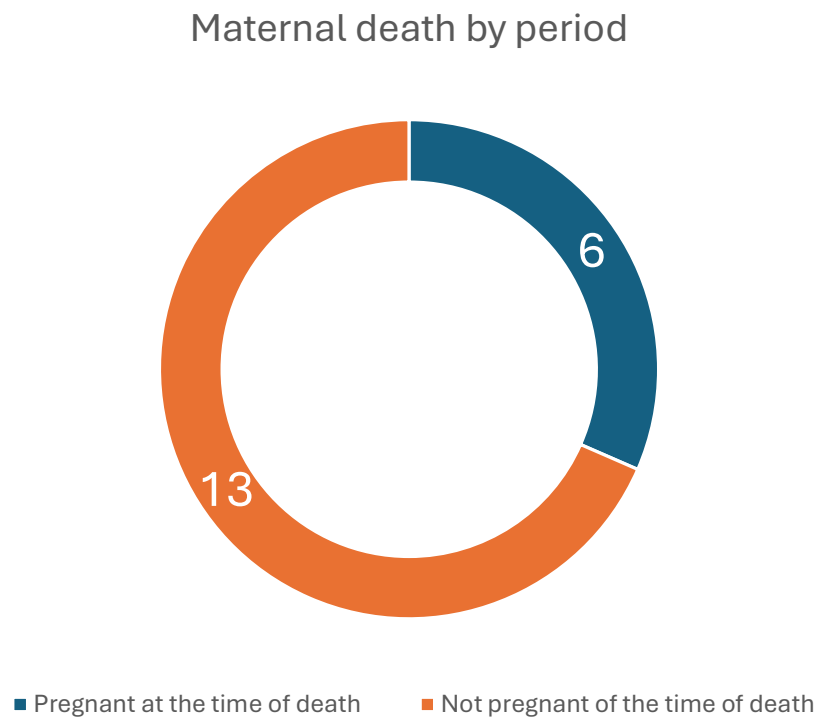


■ PPH ■ AFE ■ Indirect cause ■ PE

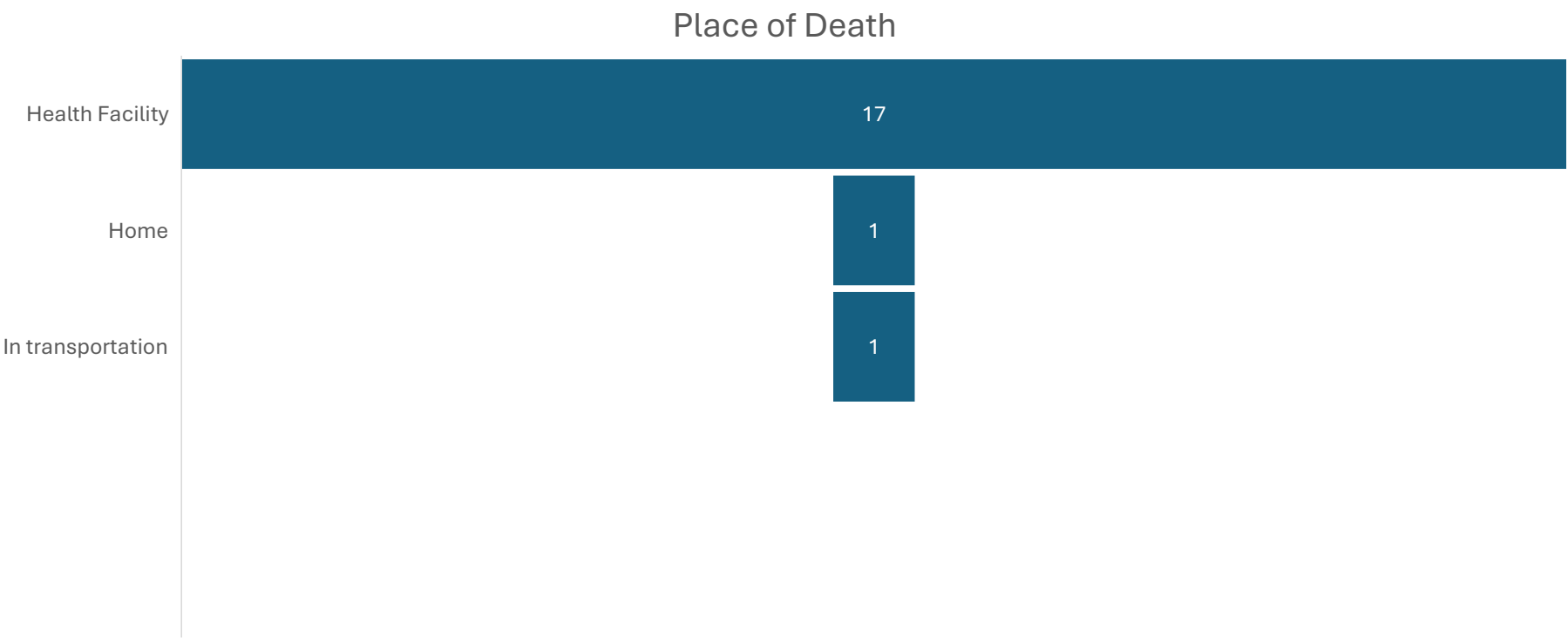
## Cause of PPH



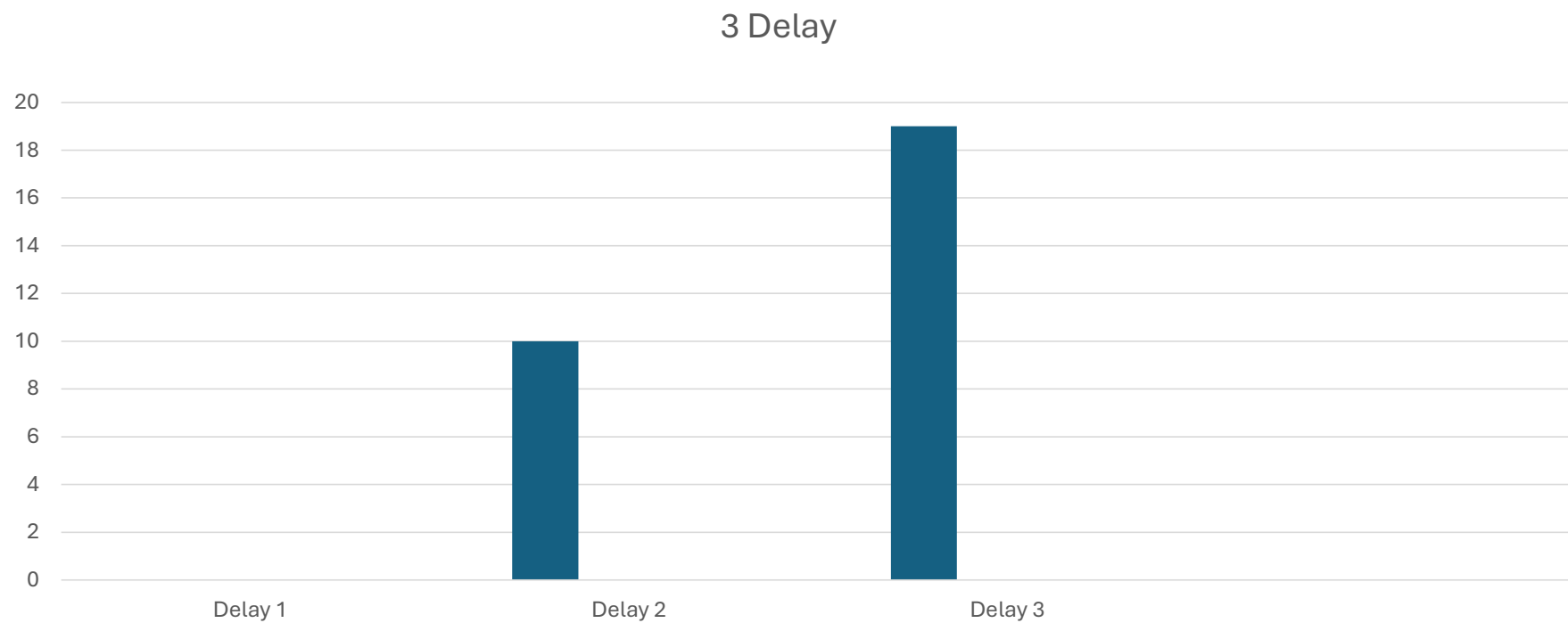
## Maternal Death by Period of Death



# Place of Death



## Types of Delay for Maternal Death 2025



## **Delay 2: Transport to care, delays reaching an appropriate facility**

- Insufficiency to stabilize patient before transfer.
- Poor management during transportation
- Lack of recording during transportation
- Lack of competency of midwifery during transportation (e.g, midwife must do message during transportation)
- Poor communication and coordination

## **Delay 3: Third Delay: Quality of care received in the health facility**

1. Low quality of ANC to detect the high-risk pregnancy
2. Poor management of severe pre-eclampsia (Not available parenteral hydralazine in RH)
3. Inadequate patient monitoring after labore + late response treatment
4. Lack of skill for CPR
5. Poor using RBC or whole blood
6. Poor knowledge of PPH assessment and correctly management
7. Late of decision to stop bleeding(Surgical)



## Types of delay for perinatal death

### Modified contrubuting factors Three Delay Model

First Delay: Recognition and decision to seek care (Home/family/community)

Second Delay: Transport to care, delays reaching an appropriate facility

Third Delay: Quality of care received in the health facility

- Poor management for critical care (e.g., CPR)
- Lack of knowledge to detect severity
- Late diagnosis
- Poor preterm management
- Lack of competency to secure baby after birth

# 4- Forms for review

## តារាងទី៩៖ MCCD – ធ្លាក់ឈាមក្រោយសម្រាល (PPH)

មូលហេតុនៃការស្លាប់ (ជំងឺ ឬស្ថានភាពដែលគិតថាជាមូលហេតុសំខាន់គួរតែបង្ហាញនៅក្នុង បត្រាដែលបានបំពេញរួច ក្រោមបំផុតនៃផ្នែក I)		ចន្លោះពេលប្រហាក់ ប្រហែលរវាងការចាប់ផ្តើម និងការស្លាប់
ផ្នែកទី I	a)	
ជំងឺ ឬស្ថានភាពដែលនាំទៅដល់ ការស្លាប់ដោយផ្ទាល់		
មូលហេតុមុនៗ ដោយសារតែ ឬជាលទ្ធផលនៃ	b)	
ដោយសារ ឬជាលទ្ធផលនៃ	c)	
ដោយសារតែ ឬជាលទ្ធផលនៃ	d)	
ផ្នែកទី II ស្ថានភាព សំ ខាន់ៗ ផ្សេងទៀត រួមចំណែកដល់ការស្លាប់ ប៉ុន្តែមិន ទាក់ទងទៅនឹងជំងឺ ឬស្ថានភាព ដែលបណ្តាលឲ្យស្លាប់នោះទេ		
ស្ត្រីនោះគឺ៖ <input type="checkbox"/> មានផ្ទៃពោះនៅពេលស្លាប់ <input type="checkbox"/> មិនមានផ្ទៃពោះនៅពេលស្លាប់ (ប៉ុន្តែមានផ្ទៃពោះក្នុងរយៈពេល 42 ថ្ងៃ) <input type="checkbox"/> មានផ្ទៃពោះក្នុងឆ្នាំកន្លងមក		

## កត្តារួមចំណែកដែលអាចកែប្រែបាន(រៀបចំនៅក្នុងគំរូការពន្យារពេលបី)

ស្រុក :	មូលដ្ឋានសុខាភិបាល :	កាលបរិច្ឆេទប្រជុំ (ខែ/ថ្ងៃ/ឆ្នាំ) :...../...../.....
កាលបរិច្ឆេទនៃព្រឹត្តិការណ៍មរណភាពមាតា (ខែ/ថ្ងៃ/ឆ្នាំ) :		អាសយដ្ឋានរបស់អ្នកស្លាប់
កន្លែងស្លាប់:		កាលបរិច្ឆេទនៃការបំពេញបែបបទ (ខែ/ថ្ងៃ/ឆ្នាំ)
ករណីសង្ខេប (អាចត្រូវបានបិទភ្ជាប់ ប្រសិនបើបានបញ្ចប់ក្នុងគំរូឡុងពេលកិច្ចប្រជុំមុនៗ)		
កត្តារួមចំណែកដែលអាចកែប្រែបាន (រៀបចំនៅក្នុងគំរូការពន្យារពេលបី)		
ការពន្យារពេលដំបូង៖ ការទទួលស្គាល់ និង ការសម្រេចចិត្តស្វែងរកការថែទាំ (ផ្ទះ/ គ្រួសារ/សហគមន៍)		
ការពន្យារពេលទីពីរ៖ ការដឹកជញ្ជូន ទៅកាន់ការថែទាំ ការពន្យារពេល ទៅដល់កន្លែងសមស្របមួយ		
ការពន្យារពេលទីបី៖ គុណភាពនៃ ការថែទាំដែលទទួលបាននៅក្នុង មណ្ឌលសុខភាពឬមន្ទីរពេទ្យ		

## 4- Forms for review(Cont.)

ទម្រង់ឆ្លើយតប៖ កត្តាដែលអាចកែប្រែបាន និងការឆ្លើយតបជាអាទិភាពរួម ដើម្បីពន្លឿនការកាត់បន្ថយការស្លាប់របស់មាតា

កត្តារួមចំណែកដែលអាចកែប្រែបាន	ការឆ្លើយតប (អ្វីដែលត្រូវធ្វើ)	អ្នកទទួលខុសត្រូវ (ធានាសកម្មភាព ត្រូវបានបំពេញ) បញ្ជាក់ទីកន្លែង ឬស្រុក	កាលបរិច្ឆេទ បញ្ចប់គោលដៅ	តាមដានកំណត់ចំណាំដំណើរការ (បានបញ្ចប់/កំពុងបន្ត/បរាជ័យ)

## Example for response plan PPH

Case	Modifiable Contributing Factors	Response (What to do)	Responsible person (Ensures completion of response) Specify facility and/or district	Target completion date	Follow up Progress Notes (Completed/ Ongoing/Failed)
	Provider did not know how to manage PPH	Ensure that providers know how to manage uterine atony and other causes of PPH Provide PPH's management protocol	Head of Training and Human Development	Within in month	Ongoing
	No uterotonic for prevention and management of PPH in the Labour ward	Developed a log to track availability of oxytocin	Head of Maternity Ward All Staff in Maternity Ward	Within a week	Ongoing
	Lack of blood	Ensure blood and blood product are always available and stored properly at the facility blood bank	Head of Health Facility	Within a week	Ongoing
	Immediate postpartum prophylactic uterotonic not administered	Ensure all the providers are competent and understand importance of providing active management of the third stage labor	Head of Maternity Ward	Within a week	Ongoing
	Delayed identification of PPH in postnatal ward	Introduce systematic written protocol with assigned staff, to monitor all women for bleeding and other danger signs after birth	Head of Maternity Ward	Within a week	Ongoing

# Strategies for Follow-up



- Include review of previous recommendations during each MPDSR committee meeting
- Create a sub-committee to track implementation of recommendations and report back at each MPDSR committee meeting
- Develop a follow-up schedule with one person assigned to check in regularly with persons responsible for recommendations
- Display all recommended responses on a board and have one person responsible for tracking implementation of recommendations



5-ពិធីសារទំនាក់ទំនងថ្នាក់ដឹកនាំពាក់ព័ន្ធថ្នាក់ជាតិ ថ្នាក់ក្រោមជាតិអំពីករណីមរណៈភាពមាតា  
និងទារកជុំវិញករណី ( SOP–Way of communication with all levels of leaders, national and sub-  
national )

- 1- Initiated and validated by the head of MPDSR and implemented by team member of the committee through the message of invitation and action to perform.
- 2-មធ្យោបាយទំនាក់ទំនងបឋម Telegramដើម្បីជូនដំណឹងនិងអញ្ជើញប្រជុំតាមទំហំនៃបញ្ហា, ( Decided by the head of the committee )
- 3-Leader to be involved at the first line: PHD's director, first line of the contact.
- 4-Scenarios of problem and source of the information
  - \*Death case report
  - \*Social media sensitive
  - \*Direct or indirect communication

# ពិធីសារទំនាក់ទំនងថ្នាក់ដឹកនាំពាក់ព័ន្ធថ្នាក់ជាតិ ថ្នាក់ក្រោមជាតិអំពីករណីមរណៈភាពមាតា និងទារកជុំវិញករណី ( SOP –Way of communication with all levels of leaders, national and sub-national )

A- Very urgent case report ( Social media sensitive, informed by HM or leader involved..... ):

Message to be sent to PHD for action:

-ដំរាបមក ឯកឧត្តម លោកជំទាវ ប្រធានមន្ទីរសុខាភិបាល អំពីករណីមរណភាពមាតា ទារក តាមរយៈរបាយការណ៍/FB ថ្ងៃទី.....នៅ.....

-ដោយបានទទួលព័ត៌មានពីក្រុមការងារអធិការកិច្ចក្រសួង

-ដោយបានទទួលចំណាត់ការពី ឯកឧត្តមសាស្ត្រាចារ្យរដ្ឋមន្ត្រីពីការត្រួតពិនិត្យ និងចុះបន្ទាន់

គណៈកម្មការ -ដោយមានការឯកភាពឱ្យមានការរៀបចំក្រុមចុះពិនិត្យក្នុងនាមគណកម្មការជាតិ MPDSR របស់លោកជំទាវសាស្ត្រាចារ្យ អ៊ឹម សិទ្ធិការ្យ ប្រធាន

-ក្រុមការងារថ្នាក់ជាតិដែលមានរាយនាមដូចខាងក្រោមត្រូវបានចាត់ឱ្យចុះបន្ទាន់៖

១)ឯកឧត្តម

២)លោកជំទាវ

៣)វេជ្ជបណ្ឌិត

.....

មុន។ យោងកិច្ចការបន្ទាន់ក្រុមការងារកំពុងរៀបចំចុះទៅពិនិត្យ និងស្រាវជ្រាវស្វែងយល់ស៊ីជម្រៅអំពីករណីខាងលើដោយពុំមានពេលវេលាជូនដំណឹងជា

ណៈកម្មការជាបន្ទាន់ និងត្រៀមសហការគ្របពេលវេលា។ អាស្រ័យហេតុនេះសូមឯកឧត្តម លោកជំទាវប្រធានមន្ទីរសុខាភិបាលជូនដំណឹងបន្ទាន់ដល់មូលដ្ឋានសុខាភិបាលពាក់ព័ន្ធ និង ផ្តល់ព័ត៌មានមកគ

ចំណាំ ៖ លេខទំនាក់ទំនងក្រុមការងារ.....

## ពិធីសារទំនាក់ទំនងថ្នាក់ដឹកនាំពាក់ព័ន្ធថ្នាក់ជាតិ ថ្នាក់ក្រោមជាតិអំពីករណីមរណៈភាពមាតា និងទារកជុំវិញកំណើត ( SOP –Way of communication with all levels of leaders, national and sub-national )

### B- Regular death case report, but missed information and highly inappropriate writing:

-គណកម្មការថ្នាក់ជាតិ ផ្តល់ដំណឹងដល់ PHD តាមរយៈ តេឡេក្រាម ដើម្បីអញ្ជើញអ្នកពាក់ព័ន្ធចូលរួមប្រជុំតាម zoom ជាដំបូង និងពិនិត្យផ្ទាល់ជាមួយគ្នាលើរបាយការណ៍ករណីស្លាប់។

គោលបំណងនៃកិច្ចប្រជុំ គឺពិនិត្យវាយតម្លៃឡើងវិញ និងកំណត់ពេលវេលាសម្រាប់គណកម្មការចុះទៅពិនិត្យផ្ទាល់ដល់ HF.

### C- Regular death case report with some information missing:

The National committee informs PHD by telegram message to invite people involved.

The meeting is set to be via zoom and to examine together the death case report.

The objective of the meeting is complete the missed information and together validate again the report.



### III- Home message

- ☞ MPDSR committee at all level must be created.
- ☞ Action plan /Response plan: base on :
  - Modifiable factors finding
  - Light Assessment Tool(LAT) for EmONC
- ☞ Communication for report: National Hospital and PHD must be send maternal and perinatal case of death to National MPDSR committee, as soon as possible.

# Thank you

