Six step mortality audit cycle

Session 5

Session Objectives

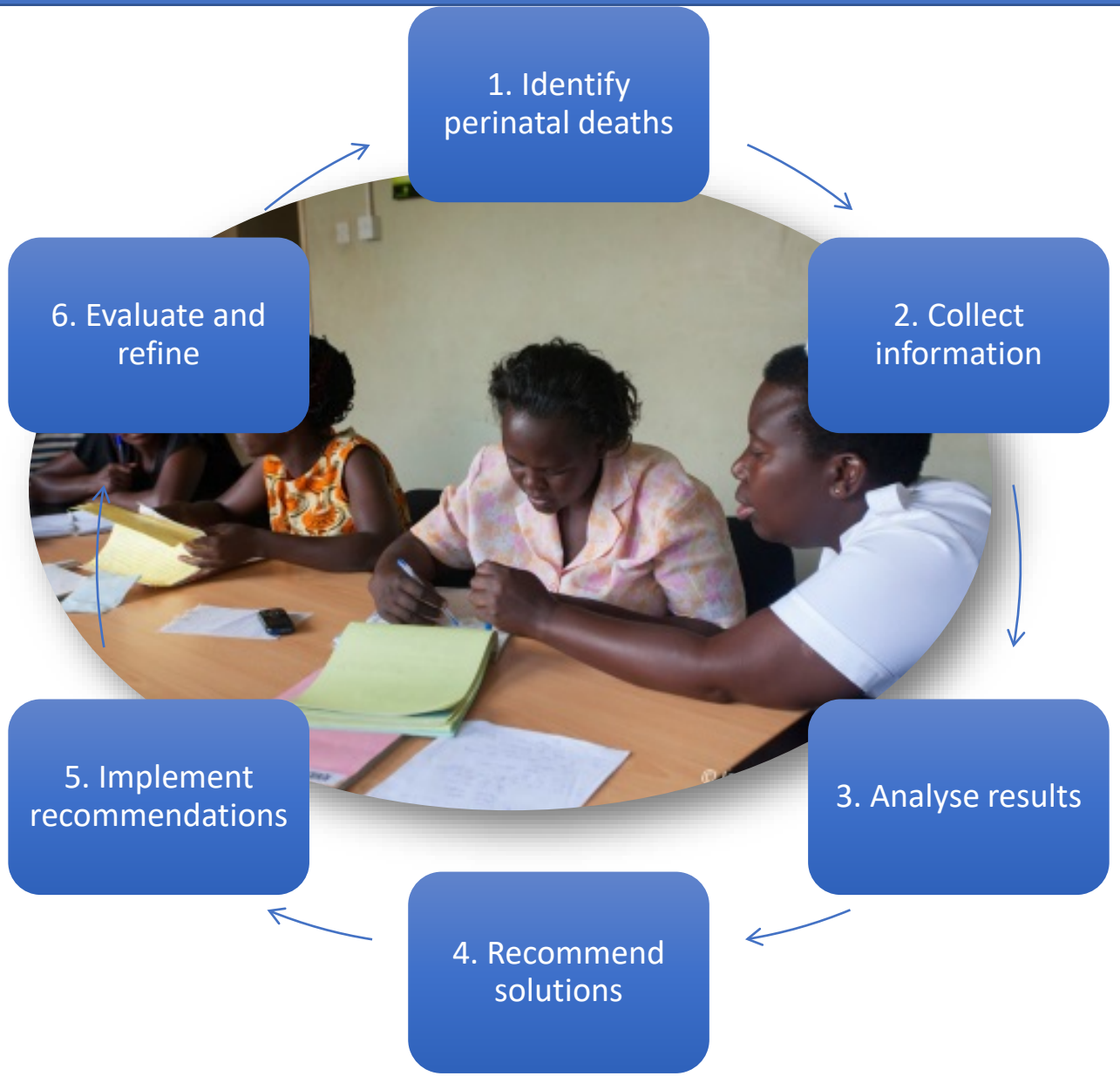
Describe and identify the six steps of the mortality audit cycle

What is an audit?

- A systematic and critical analysis of quality of care in the broadest sense, which assesses the impact of procedures for diagnosis and treatment on patient outcomes (WHO 2013 MDSR guidelines, WHO Making Every baby Count 2016)

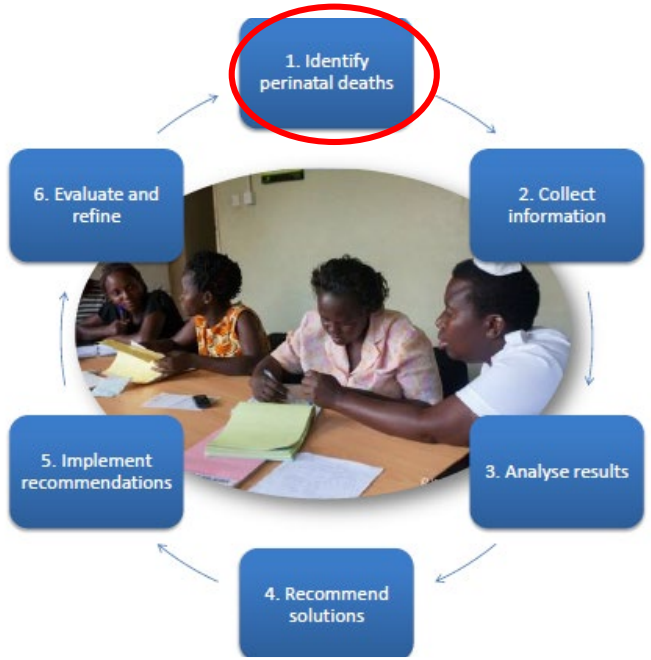
- Perinatal audit: “The systematic, critical analysis of the quality of perinatal care, including the procedures used for diagnosis and treatment, the use of resources and the resultant outcome and quality of life for women and their babies” - Dunn, P. M (1996). *Perinatal audit*

Six steps of a mortality audit cycle



Step 1: Identifying cases

- Identify sources for information: Where are deaths likely to occur in my facility?
  - Emergency room registers, General admission and discharge register, Maternity registry, Newborn unit register , Operations Theater- Obstetric register, Pediatric ward register and Postpartum register

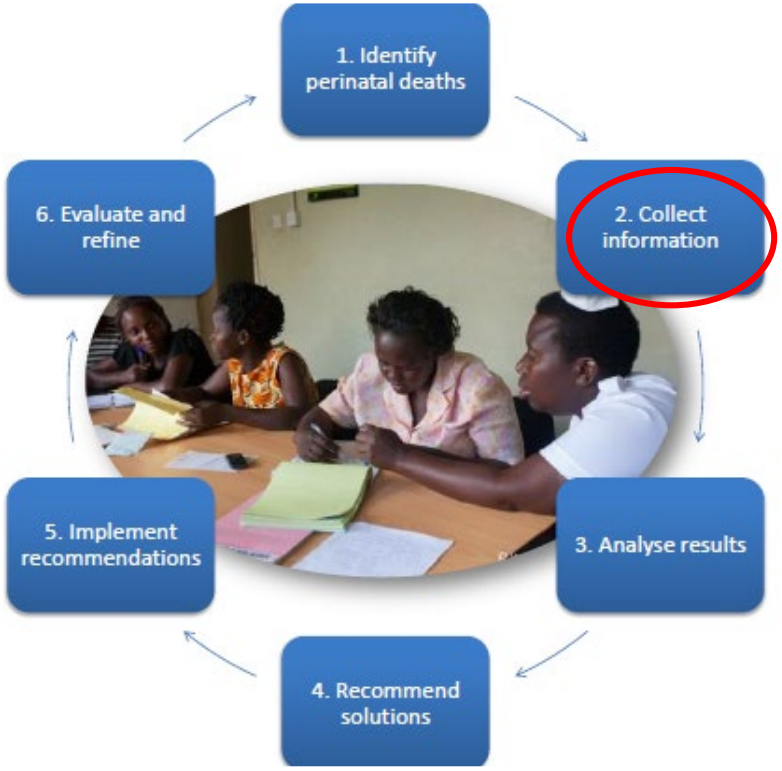


- Create a list of all stillbirths and neonatal deaths in a facility to improve capturing perinatal deaths for review

Goal: Identify <u>all</u> births and deaths to feed into the minimal perinatal dataset

Step 2: Collecting information

- Ideally, review within a week of the event
- Paper forms or computerized data entry programs e.g.: South Africa's Perinatal problem identification program https://www.ppip.co.za/
- Necessary data to be used for analysis
- Data verification
- All additional information that can create a richer understanding of delays and modifiable factors



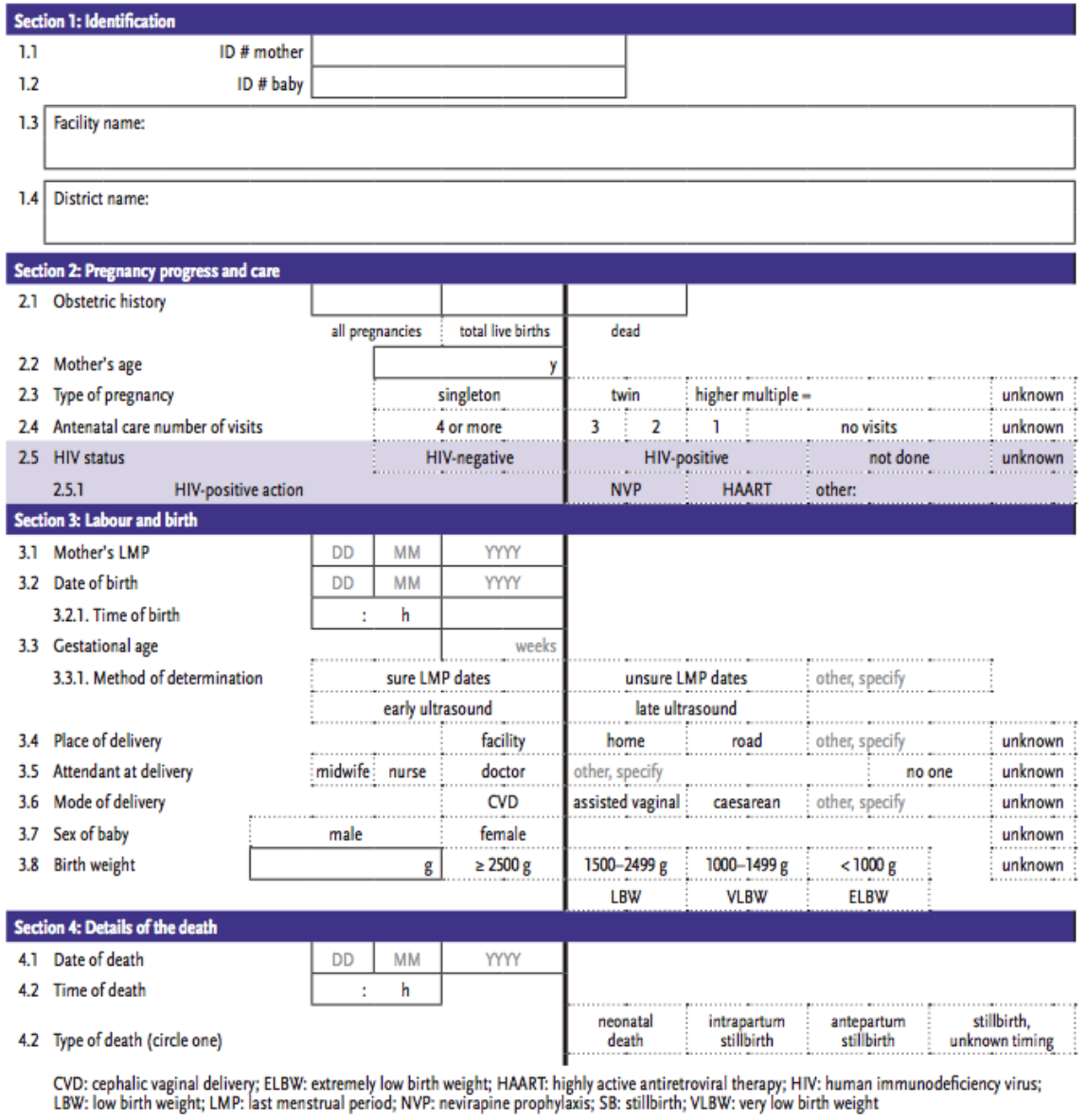
Background and contextual information

- Socio-demographic status
  Age, ethnicity, occupation, education, socioeconomic factors
- Antenatal
  Obstetric history, planned pregnancy, medical history, antenatal care given, hospitalisation, other barriers for care
- Intrapartum
  Date and onset of labour, rupture of membranes, place of labour start, monitoring during labour, date and time of onset of labour, delivery attendant, complications, status of the baby (sex, gestational age, birth weight, APGAR), immediate care, barriers and decision timeline
- Postpartum/ Postnatal
  Feeding choice (date and time for first feed), date and time for onset of complications, reported awareness of problems barriers and decision timeline

Minimum perinatal dataset

At a minimum, the Every Newborn Action Plan recommend that we collect at least six indicators for all births and deaths.

1) Maternal age
2) Place of delivery
3) Mode of delivery
4) Birth weight
5) Gestational age
6) Birth outcomes



Section 1: Identification

1.1	ID # mother	
1.2	ID # baby	
1.3	Facility name:	
1.4	District name:	

Section 2: Pregnancy progress and care

2.1	Obstetric history		all pregnancies	total live births		dead			
2.2	Mother's age			y					
2.3	Type of pregnancy		singleton		twin		higher multiple =		unknown
2.4	Antenatal care number of visits		4 or more		3	2	1	no visits	unknown
2.5	HIV status		HIV-negative		HIV-positive			not done	unknown
2.5.1	HIV-positive action				NVP		HAART	other:	

Section 3: Labour and birth

3.1	Mother's LMP	DD	MM	YYYY					
3.2	Date of birth	DD	MM	YYYY					
3.2.1.	Time of birth	:	h						
3.3	Gestational age			weeks					
3.3.1.	Method of determination	sure LMP dates			unsure LMP dates			other, specify	
		early ultrasound			late ultrasound				
3.4	Place of delivery			facility	home		road	other, specify	unknown
3.5	Attendant at delivery	midwife	nurse	doctor	other, specify			no one	unknown
3.6	Mode of delivery			CVD	assisted vaginal		caesarean	other, specify	unknown
3.7	Sex of baby	male		female					unknown
3.8	Birth weight	g		≥ 2500 g	1500–2499 g		1000–1499 g	< 1000 g	unknown
					LBW		VLBW	ELBW	

Section 4: Details of the death

4.1	Date of death	DD	MM	YYYY				
4.2	Time of death	:	h					
4.2	Type of death (circle one)				neonatal death	intrapartum stillbirth	antepartum stillbirth	stillbirth, unknown timing

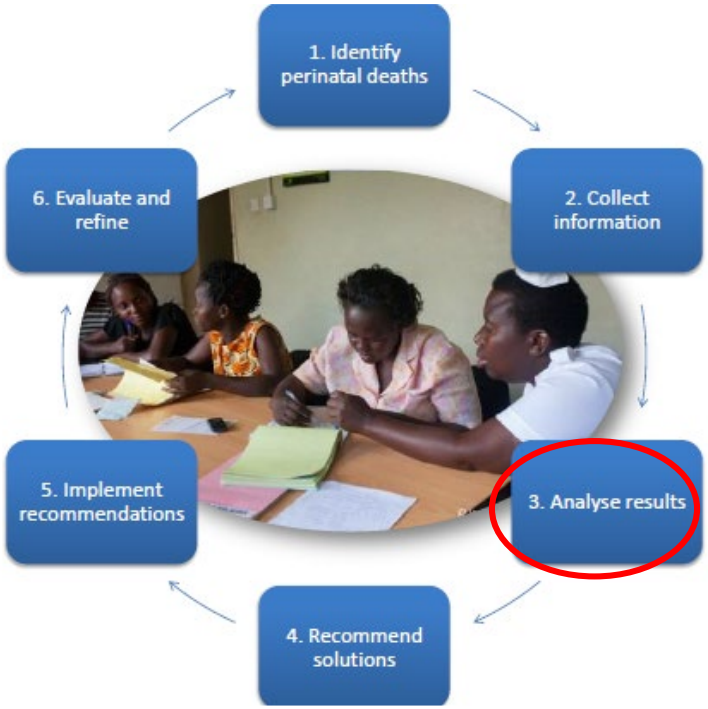
CVD: cephalic vaginal delivery; ELBW: extremely low birth weight; HAART: highly active antiretroviral therapy; HIV: human immunodeficiency virus; LBW: low birth weight; LMP: last menstrual period; NVP: nevirapine prophylaxis; SB: stillbirth; VLBW: very low birth weight

Step 3: Analysing the information - 1

- Selecting cases for review - Will depend on the burden of maternal and perinatal mortality

- Review maternal and perinatal deaths together, if they occur at the same time

- If perinatal mortality burden is high:
  - Use a thematic approach (for instance only birth asphyxia cases, sepsis cases)
  - Only the deaths the first week of the month
  - Cases that are most probably preventable
  - Depending on what any existing QI targets



Even reviewing ONE death
can generate useful information and lessons learnt to prevent future similar deaths from happening

Step 3: Analysing the information- 2

- Minimum indicators to follow over time:
    - number of vaginal deliveries
    - maternal deaths
    - antepartum and intrapartum stillbirths
    - in-facility stillbirths
    - neonatal mortality rates
- Quantitative and qualitative information
- Geographical mapping
- Analyses at different levels: Facility or individual cases
- Modifiable factors

What are modifiable factors?

- Something that may have prevented death if a different course of action was taken
  - Identifies missed opportunities
  - Builds momentum for behaviour change
  - More than one modifiable factor associated with each death
  - Ability to designate modifiable factors depends on knowledge of the case and clinical knowledge

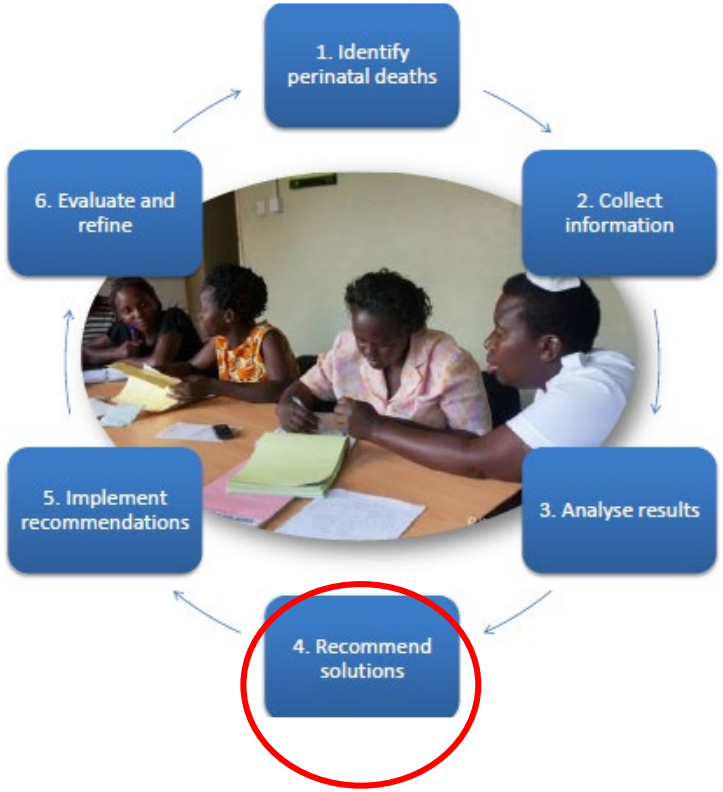
- Multiple methods for identifying modifiable factors
  - Root-cause analysis is a common method
  - Delay approach (the three delays –decision, reaching and receiving)
  - Level approach (family/patient, administration or provider)

Examining contributing factors is a priority in death audits!

Step 4: Recommending solutions

- Solutions should target actionable problems, factors, causes and sub-causes

- Solutions should always be **SMART**:
  - Specific
  - Measurable
  - Appropriate
  - Relevant
  - Time-bound



- Possible actions include interventions in the facility, community, linked health services or the public sector.
- Dissemination of audit findings with key message to those who can implement change: MOH, planners, Professional organisations, Academic institutions, CSOs
- Periodic report in a simple language with findings and solutions

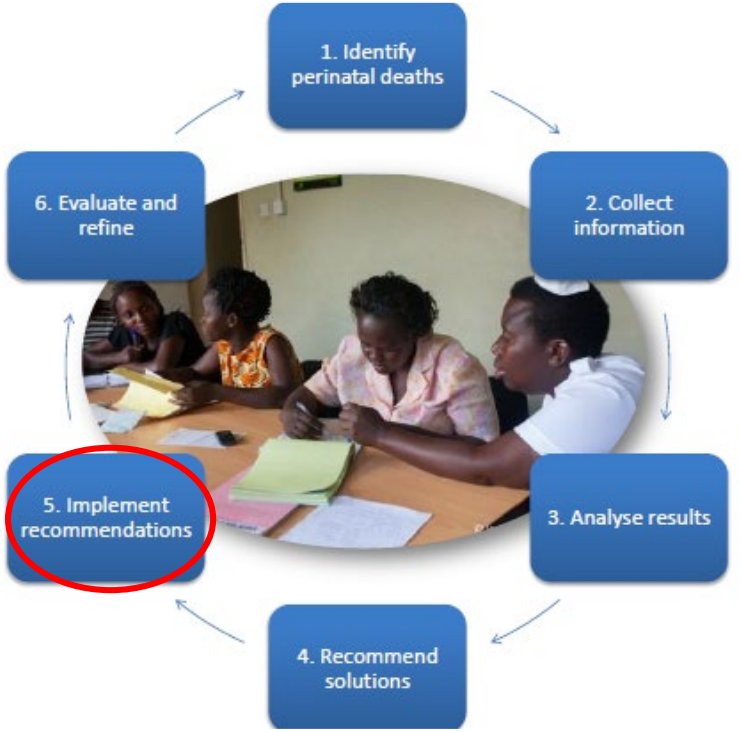
Step 5: Implementing changes

- The whole purpose of the action cycle!

- Actions with different time frames
- Assign actions to team members of the committee
  - Who?
  - What?
  - By when?
- Leadership is important!

- Important to monitor whether recommendations have been implemented

- Follow up on recommendations.



Step 6: Evaluating and refining

- How efficient is the system in identifying and reviewing deaths?

- How effective is the system in institutionalising beneficial practices?
  - Document changes over time, through annual review meetings or report helps identify gaps and areas of success.
  - Periodic evaluation of the system improvements
  - Periodic evaluation of the inequality of the information captured