Retrospective Review of Contextual Factors Associated with Maternal Deaths in 12 Hospitals in 9 districts in Indonesia

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Getting into the Mindset

- Who could this women be?
- What are the contextual factors, especially in hospital, associated with maternal deaths?

Sources for the Cases

49 EMAS Hospitals

217 Maternal In-Hospital Deaths January – June 2014

Prioritized by Ratio of In-Hospital Maternal Deaths to Live Births

Targeted the 15 Hospitals with the Highest Ratio

Dropped 3 Due to Low Number of Cases

12 Hospitals across 9 Districts and 6 Provinces

112 Cases Reviewed after exclusion of cases with missing charts (about 90% yield)

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Case Review and Analysis Process

Permission

- **approval from Hospital leaders**

Data Collector

- **physician and midwives collect** the medical record
- Hospital staff helps with access to charts and occasional clarification of content

Data Collection

- **Standardized** data recording form used
- Data are blinded
- A **secure privacy key** can connect a case back to the record if needed for further research

Review & Analysis

- 112 records cleaned
- Review & Analysis performed of the 112 cases
- Analyze by 24 Ob/gyn (representatives from Professional Organization)

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Limitation

1. The number of cases is limited and supports overall directional and descriptive summaries and does not allow detailed comparisons across age groups, geographies, diagnoses
2. All cases were limited to EMAS affiliated hospitals, and mostly public type B hospitals and cannot necessarily be extrapolated to the broader environment
3. The review is retrospective and based on chart documentation
4. Clinical assessments are dependent on accurately understanding the clinical course and rely on the judgment of the reviewer.

RESULT

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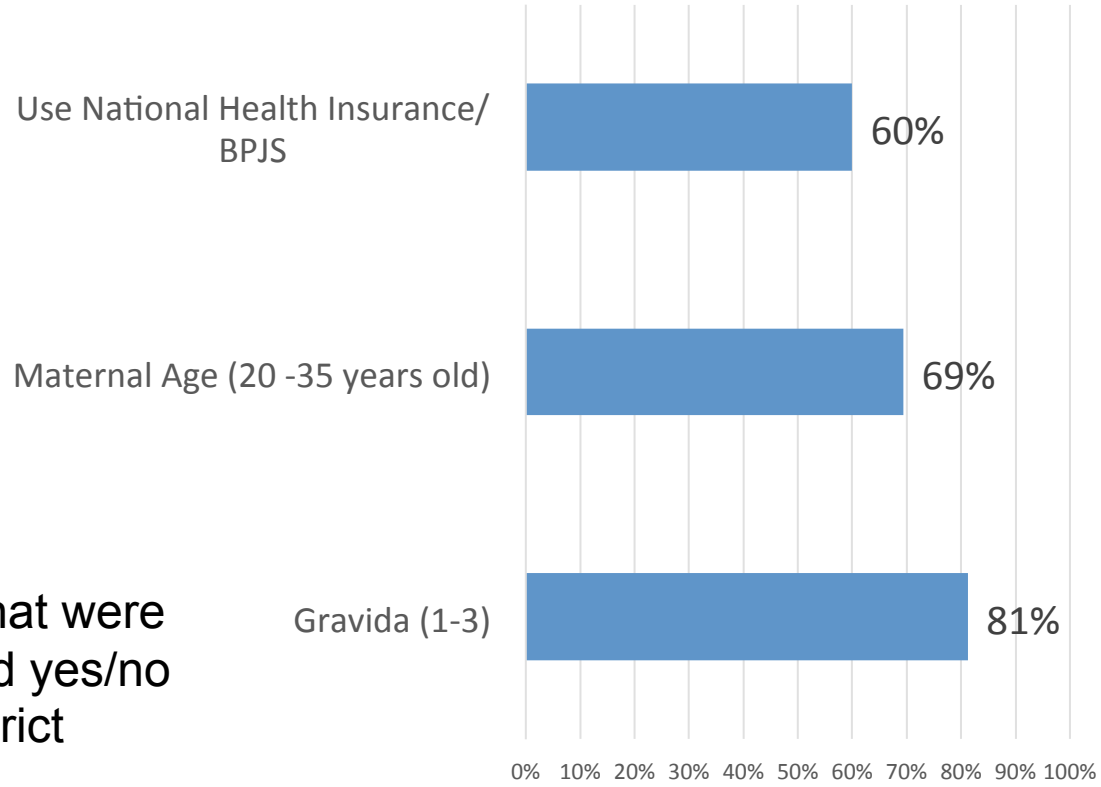
Basic Demographics

Median Age	31 years old
Payment source	
BPJS	60%
self pay/out of pocket	30%
Type Hospital	
Public, type B	109 cases
Private, type C	3 cases
Patterns of referral to RS	
Medical source	80% of all
Private midwife	26% of all
Primary Health Care	37% of all
Within same district	95% of those that were referred and had yes/no response to district



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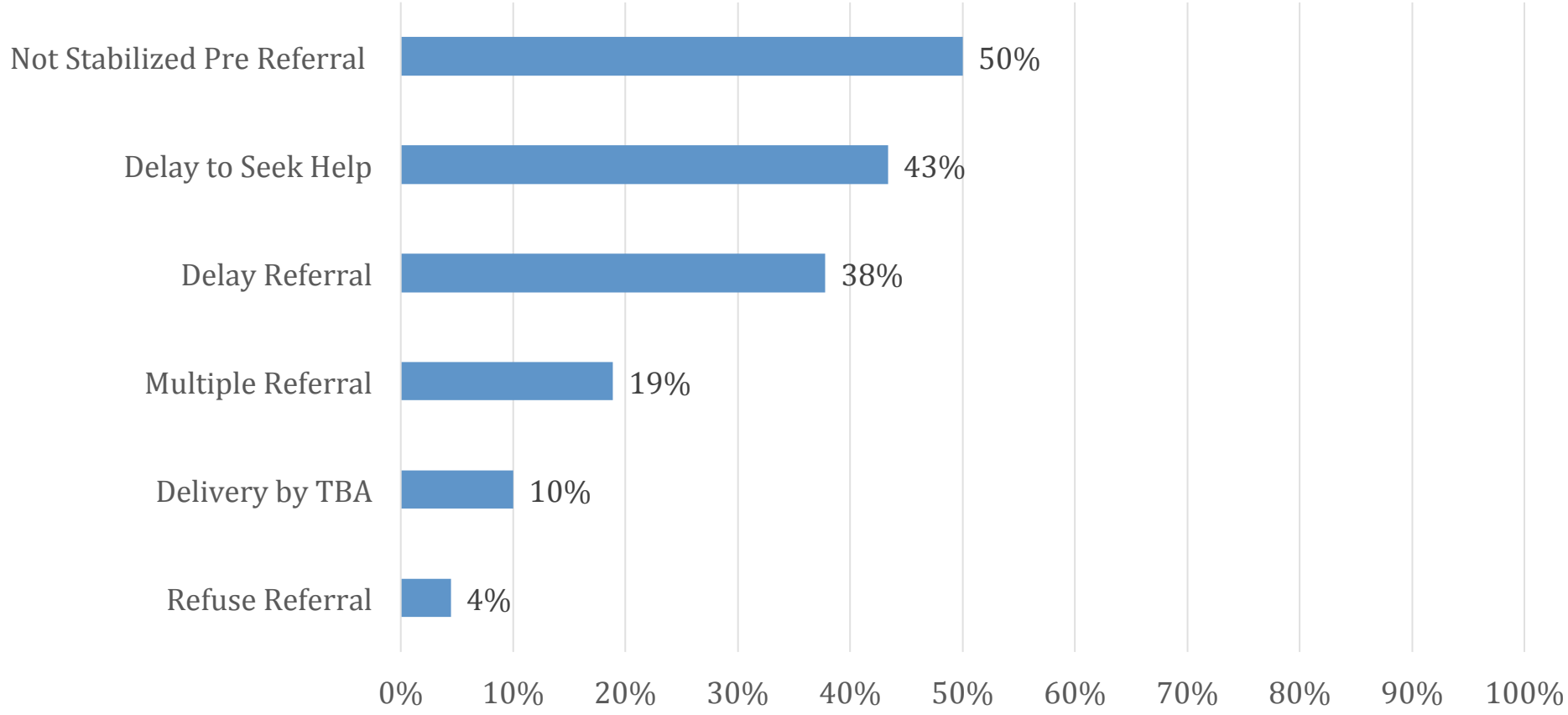
Quality of Care: Pre-hospital



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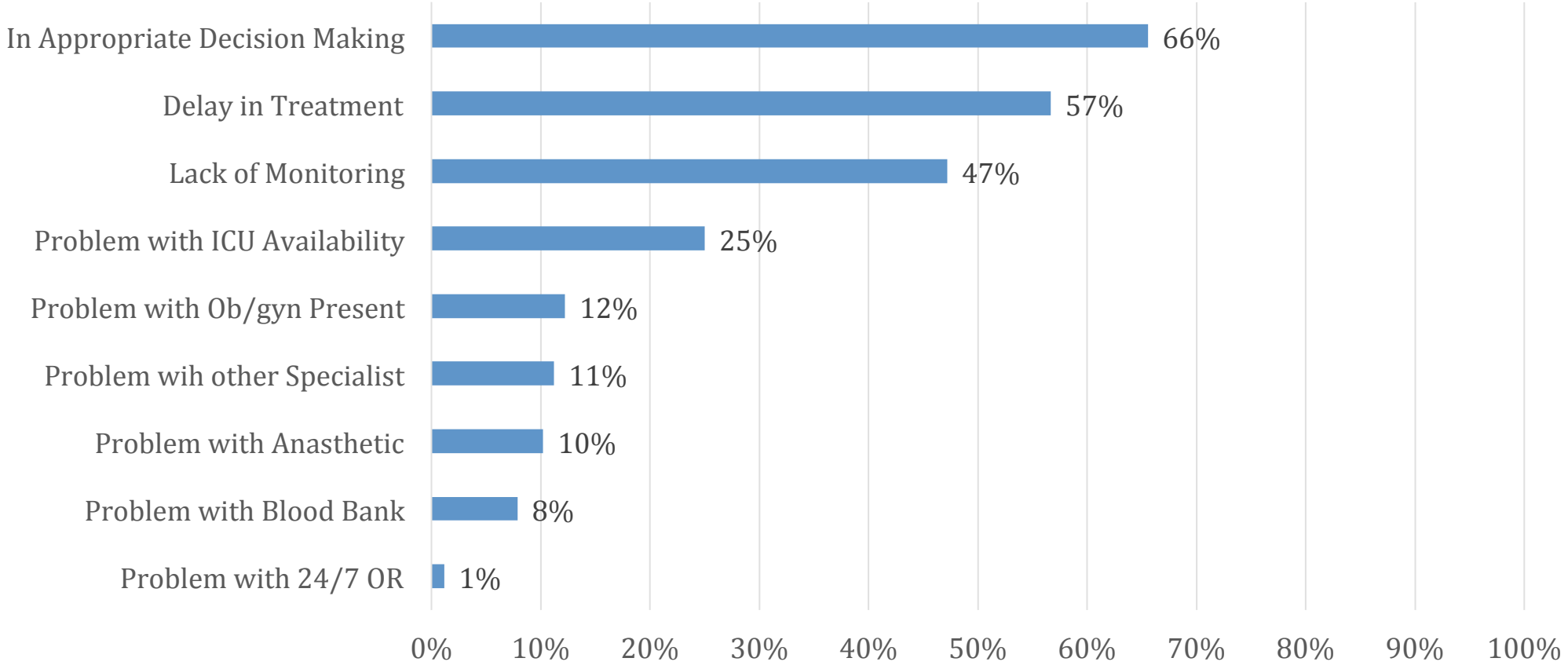
Delays in receiving care

- The decision to seek help was late in 43% of cases.
- The decision to refer from primary care giver was made too late in more than one-third of the cases, yet only 3% of patients/families were refused to be referred.
- And the pre referral stabilization was not done in 50% of cases

Quality of Care: in Hospital



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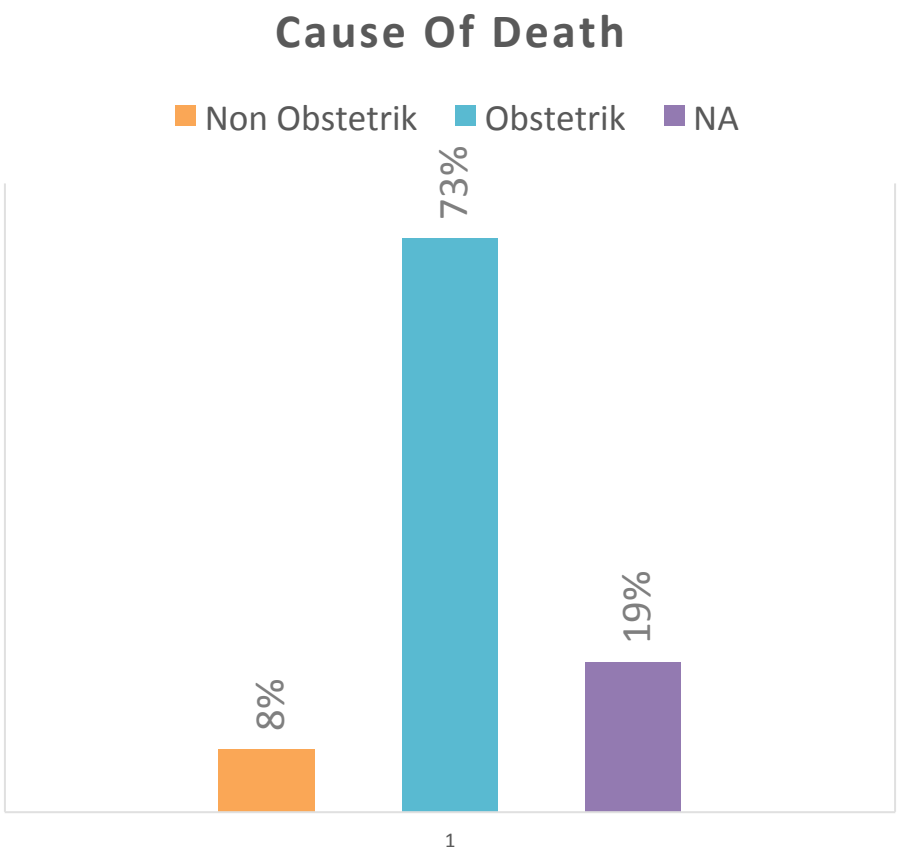
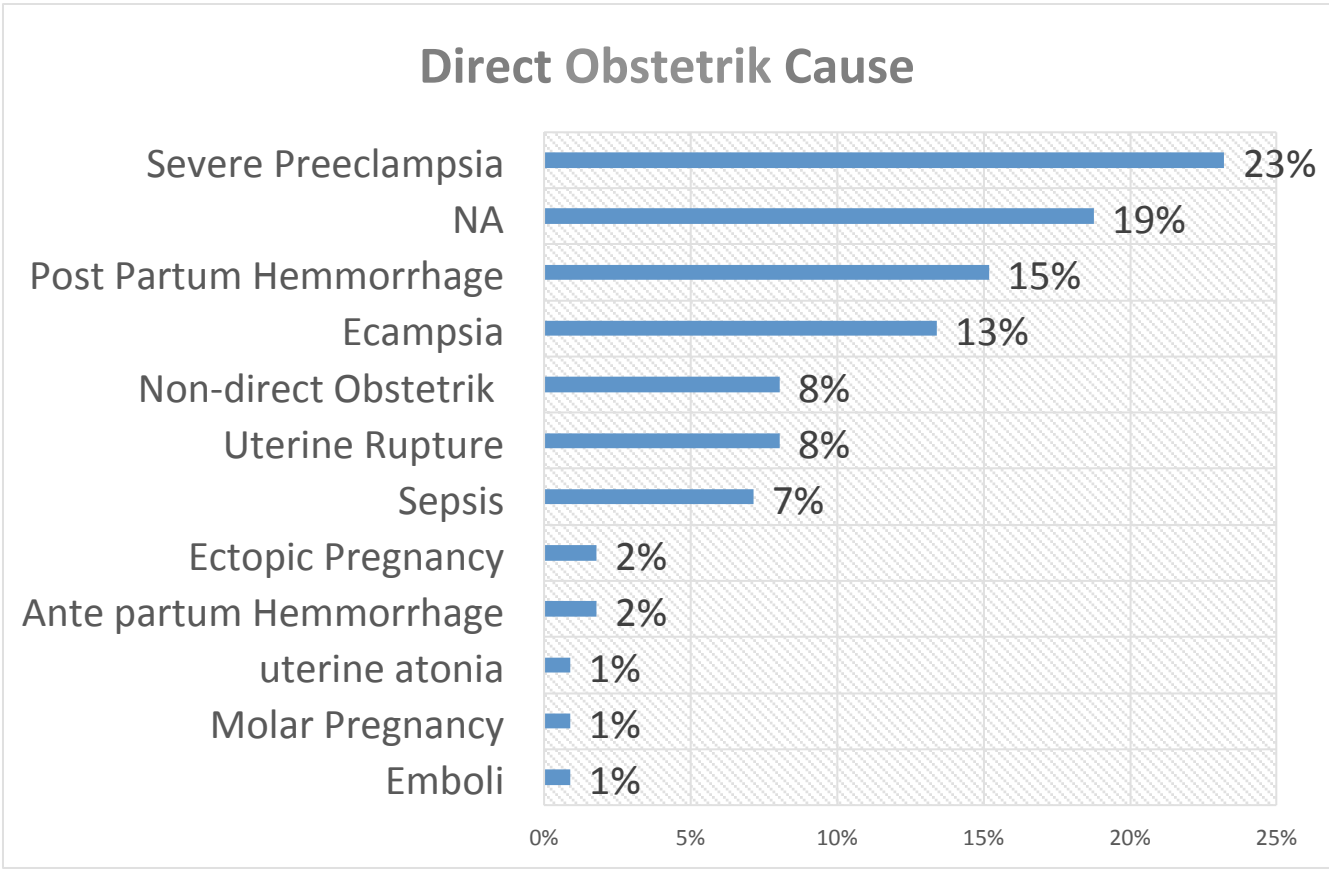
Hospital Emergency Response

- In more than half of the deaths, the course of clinical treatment and care at the hospital was inappropriate or incorrect.
- In 47% of the death, monitoring during and after delivery were inappropriate
- These then led to delay definitive treatment
- Regarding hospital equipment and supply, 25% of cases couldn't get appropriate ICU treatment due to limited bed
- The sufficient expert team (ob-gyn, anaesthetic, internal-med, etc) shown to be 10-12%
- But there were less than 10% inadequacy in 24/7 OR and blood bank

Direct Obstetric Cause of Death





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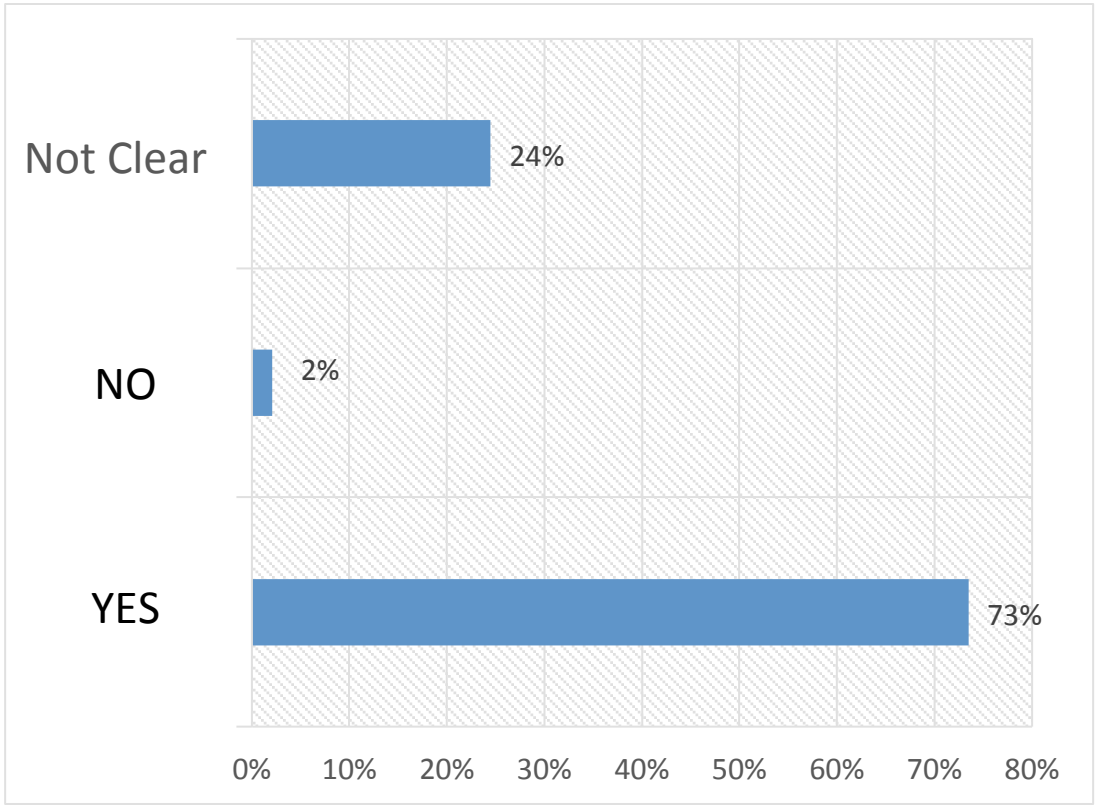
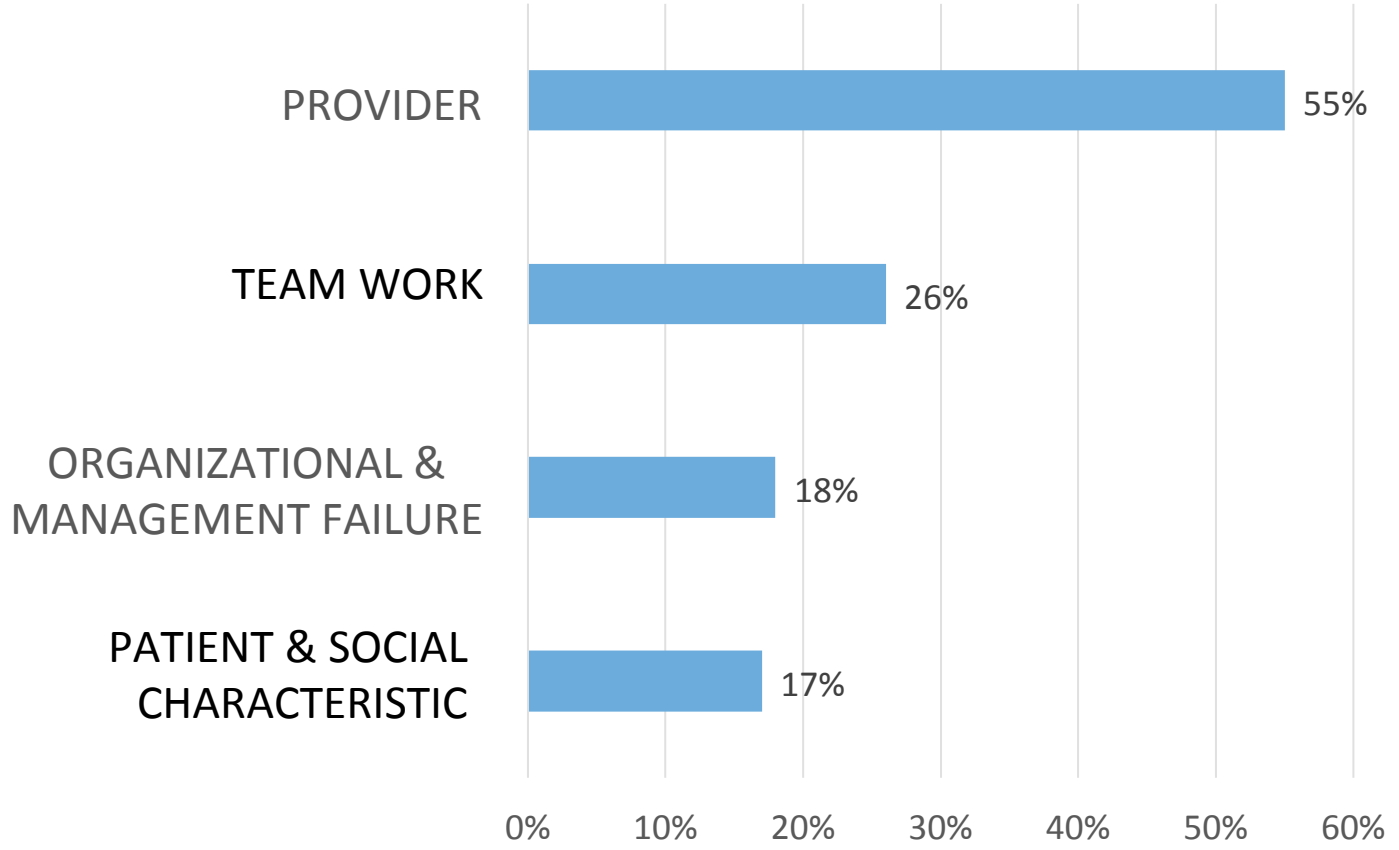
Preventable vs Not Preventable



In-Depth Analysis

- Hospitals did not use the same definition regarding the cause of death. Determining the cause of death mostly is not in accordance with Indonesia MPA guideline; define maternal death to: direct obstetric cause, final cause of death and contributing factors.
- Review by POGI showed more precise diagnosis -- The review committee determined that 73% of the deaths could and should have been prevented, and some 20% of the deaths may have been prevented with more appropriate care in the hospital.

Contextual Factors



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Conclusion

- In lieu of a more formal and comprehensive death review process, it is possible to gain valuable insights retrospectively from individual charts in a relatively short time period.
- The review should always be considered as an opportunity for hospital to improve their care

Acknowledgement

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- Thank You