Assessing Preventability of 2013 Maternal Deaths in Florida

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Background

- In 2014, the Florida Pregnancy-Associated Mortality Review (PAMR) Committee initiated the assessment of preventability of Pregnancy-Related Deaths (PRDs) that occurred in 2013. After a series of discussions with the PAMR preventability work group and mirroring the California PAMR preventability process, two new columns were included in the PAMR review form.
- For each case, the PAMR Committee reached consensus on whether the death appeared to have been preventable and to what degree the death was preventable.
- Also, the PAMR Committee identified what factors contributed to the death.
- The factors were identified by Individual/Community Factors, System Facility Factors, and Clinical Factors.

Study Questions

- To what degree are PRDs preventable?
- What individual/community, system, or clinical factors contributed to the PRD?

Methods

- For each death, the PAMR Committee evaluated "Factors Contributed" by determining the factors that either possibly or definitely contributed to the maternal death as indicated in the record.
- Additionally, the PAMR Committee determined whether the death appeared to have been preventable and to what degree it was preventable.
- The case is considered to have had an overall "Chance to Alter Outcome" if specific actions had been implemented and those actions may have led to the woman's survival.
- The PAMR surveillance system was used to analyze the chances to alter outcome and the contributing factors.
- The analysis included 54 maternal deaths that occurred in the year 2013. Excel and SPSS (Statistical Package for the Social Sciences) were used for the analysis.

Results

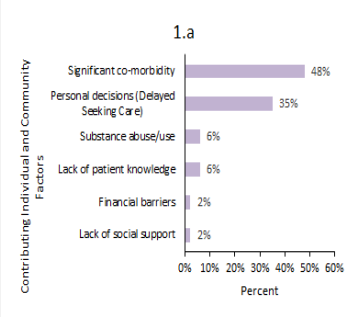
- In 2013, 37% of PRDs had a strong chance to alter the outcome and prevent maternal deaths, and nearly 75% had at least a possible chance to alter the outcome.
- The leading causes of death showed variation (Table 1). Intrauterine hemorrhage and infection both had 50% strong chance to alter the outcome, while hypertensive disorders and thrombotic embolism had 36% and 33%, respectively.

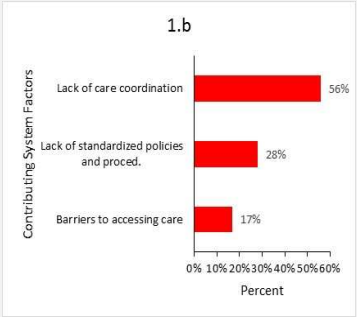
Table 1. Pregnancy-Related Deaths and Preventability, Florida 2013 (n=54)

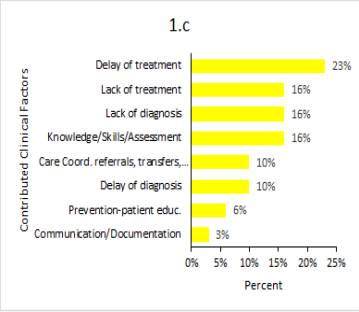
	Outcome					
	Strong	Possible	None	N/I	Total	% Strong Chance to Alter Outcome
Hemorrhage	6	3	0	5	14	42.9%
Intrauterine	4	1	0	3	8	50.0%
Ectopic	2	2	0	2	6	33.3%
Hypertensive disorder	4	3	1	3	11	36.4%
Infection	5	3	0	2	10	50.0%
Cardiovascular	1	2	0	1	4	25.0%
Thrombotic embolism	1	2	0	0	3	33.3%
Ammiotic fluid embolism	0	1	0	1	2	0.0%
Cardiomyopathy	0	1	0	0	1	0.0%
Other	3	5	0	1	9	33.3%
Total	20	20	1	13	54	37.0%

- The most frequent contributing factors: by individual/community were significant co-morbidity (48%) and personal decisions (35%) (Figure 1.a).
- By system factors were lack of care coordination (56%) and lack of standardized policies and procedures (28%) (Figure 1.b).

Figures 1a, 1b, and 1c. Contributed Factors among Pregnancy-Related Deaths, Individual and Community Factors (1.a), System Factors (1.b), and Clinical Factors (1.c) Florida, 2013







- By clinical factors were delay of treatment (23%) and lack of treatment and diagnosis with each one (16%) (Figure 1.c).
- By cause of death: 75% of intrauterine hemorrhage, 60% of infection, and 50% of cardiovascular cases had any contributing factor (Table 2).

Table 2. Pregnancy-Related Deaths and Contributed Factors, Florida 2013 (n=54)

	Factors that Contributed				
	Definitely	Possible	N/I	Total	% Definitely Factor Contributed
Hemorrhage	8	3	3	14	57.1%
Intrauterine	6	0	2	8	75.0%
Ectopic	2	3	1	6	33.3%
Hypertensive disorder	2	5	4	11	18.2%
Infection	6	2	2	10	60.0%
Cardiovascular	2	1	1	4	50.0%
Thrombotic embolism	1	1	1	3	33.3%
Ammiotic fluid embolism	0	1	1	2	0.0%
Cardiomyopathy	1	0	0	1	100.0%
Other	6	2	1	9	66.7%
Total	26	15	13	54	48.1%

Conclusions

- The assessment of preventability is based on PAMR Committee review and represents the first year of collecting these factors.
- The Florida PAMR Committee members are optimistic that this information will help to focus the PAMR Committee recommendations.

Public Health Implications

- Assessing preventability, findings, and recommendations are proposed as a means of improving maternal outcomes through collaboration with diverse public and private organizations to pursue multifaceted approaches for moving recommendations into tangible actions.

Acknowledgement

The Florida Department of Health thanks the PAMR Committee's dedicated efforts. Many recommendations have been identified and disseminated to the larger community through publications, presentations, posters, and use of media.

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