State of Alaska Epidemiology Bulletin

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Pregnancy-Related Mortality in Alaska, 2012–2016

Background

Pregnancy-*related* mortality refers to the death of a woman while pregnant or within 1 year of pregnancy completion from causes related to or aggravated by the pregnancy or its management. Since surveillance began in 1987, the U.S. pregnancy-related mortality rate has increased from 7.2 per 100,000 live births to 18.0 per 100,000 live births in 2014.[1] This trend has led to increased attention and enhanced efforts to better understand and address the causes of these deaths. Maternal mortality review committees comprehensively assess maternal deaths and identify opportunities for prevention. This *Bulletin* presents findings from the most recent 5 years of pregnancy-related deaths reviewed by the Alaska Maternal Child Death Review Committee (MCDR).

Methods

The MCDR Committee reviews all deaths of Alaska women who were pregnant at the time of death or who died within 1 year of end of pregnancy. The Section of Health Analytics and Vital Records reports to MCDR all deaths with 1) obstetrical ICD-10 cause of death codes A34, O00-O99; 2) a positive indication of pregnancy on a check-box added to the Alaska death certificate in 2014; or 3) any match to a birth or fetal death certificate dated within 1 year prior to the woman's death. The Committee reviews medical records, autopsy reports, and other relevant documents for all reported deaths, determines which deaths are pregnancy-related, and identifies cause(s), contributing factors, and preventability.

Results

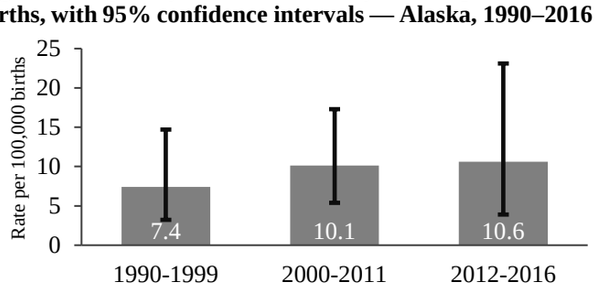
During 2012–2016, 53 maternal deaths were reported to MCDR. The Committee found no medical evidence of pregnancy or pregnancy termination within 1 year of death for four deaths; six of the remaining 49 deaths were classified as pregnancy-related, corresponding to a rate of 10.6 per 100,000 live births (Figure). The number of pregnancy-related deaths per year ranged from 0–3.

The six decedents were White, Asian, and Pacific Islander women. Five of the women were residents of the Anchorage or Matanuska-Susitna Valley regions. One woman died during her pregnancy. The remaining five died during the postpartum period (range: 2–24 days after delivery). One was a planned out-of-hospital birth. All five women who delivered their infant did so at a hospital.

The MCDR Committee found the following primary causes of death:

- Infection: bacterial sepsis (two cases, 33%)
- Hypertensive diseases of pregnancy: preeclampsia/ HELLP (Hemolysis, Elevated Liver enzymes, Low Platelet count) syndrome (two cases, 33%)
- Cardiac failure secondary to a maternal congenital heart defect (one case, 16%)
- Pulmonary embolism (one case, 16%)

Figure. Pregnancy-related mortality rates per 100,000 births, with 95% confidence intervals — Alaska, 1990–2016



Factors noted by the MCDR Committee that each contributed to at least one of the deaths included medical conditions that complicated or led to the direct cause of death, substance misuse, and inadequate health care.

Discussion

Alaska's rate of pregnancy-related mortality has been lower than the U.S. rate since MCDR maternal reviews began in 1990. In the current analysis, the rate was similar to that found in the prior published analysis which summarized deaths in Alaska during 2000–2011 (Figure).[2] While not all of the deaths were considered preventable, the MCDR Committee found that actions that might have prevented some of the deaths included: improved blood pressure control, timelier referral to a higher level of care, appropriate treatment of maternal infections, improved communication between provider and patient regarding medications, and substance abuse treatment.

Most of Alaska's pregnancy-related deaths occurred after delivery. There is increasing awareness of the importance of the postpartum time period, both for maternal risk and opportunities for intervention. The traditional postpartum visit falls 4–6 weeks after delivery. Alaska Medicaid data indicate that only 39% of women who had a live birth during fiscal year 2016 had a postpartum visit on or between 21 and 56 days after delivery.[3] Postpartum visits with a health care provider offer an opportunity for clinicians to discuss pregnancy spacing and contraception options, provide screening and resources for postpartum depression, manage a patient's chronic illnesses, and provide education regarding overall health and wellness. The American College of Obstetricians and Gynecologists (ACOG) recently published new guidelines recommending a first postpartum visit within 3 weeks of delivery, with a follow-up visit within 12 weeks.[4] Blood pressure evaluation for women with hypertensive disorders of pregnancy is recommended no later than 7–10 days after delivery, and women with severe hypertension are recommended to have a follow-up blood pressure evaluation within 72 hours.[5]

Recommendations

1. Health care providers should adopt the ACOG recommendation for the first postpartum appointment within 3 weeks after delivery. Providers should treat chronic hypertension and hypertensive disorders of pregnancy to avoid severely elevated blood pressures, with first postpartum follow-up 7–10 days after discharge or within 3 days if severe hypertension is present.
2. Health care providers caring for women with known high-risk conditions during their pregnancy should consult with specialists as indicated and promptly transfer patients to a higher level of care if antepartum, intrapartum, or postpartum complications develop.

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