Ohio Maternal Mortality: Use of the MMRDS

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Ohio Pregnancy-Associated Mortality Review (PAMR)

Overview
- Re-established in 2010
- State-level, passive surveillance system
- Review of pregnancy-associated AND pregnancy-related deaths
- 3 methods of case ascertainment
- Review of Ohio residents
- Completion of 4 years of review

Purpose
- To examine circumstances of a woman’s death around pregnancy
- To identify factors that contributed to the death
- To provide recommendations to decrease mortality and morbidity
Abstraction (Case Summary) Form

- Adapted from Virginia PAMR
- Completed by coordinator
- 15 pages
- 14 sections
  - Synopsis, Demographics, Community Information, Death Certificate, Medical History, Body Habitus, Social Issues, Prenatal Care (Labs & Medication), Labor and Delivery, Postpartum, Outpatient Visits, Hospitalizations, Transport, and Terminal Event
- De-identified
Associated Factor (AF) Form

- Adapted from Florida PAMR
- Completed by committee members
- 4 pages
- 3 sections
  - Death Review Process, Factors (Present and/or Contributing), and Teaching Case / Recommendations
PAMR Operations (Prior to MMRDS)

Fragmented Data Management
– Prior efforts to develop in-house system unsuccessful
– Multiple spreadsheets and summary tables
– Various locations on ODH internal server
– Paper documentation

Limited Data Analyses/ Dissemination
– Draft fact sheet
– Tabulations by hand
Process: Beta-Testing MMRDS

Oct 2013
• CDC released MMRDS
• Installed Epi Info and reviewed manual

Nov 2013
• Performed “crosswalk of variables” available in system to compare to PAMR collected variables
• Preliminary identification of gaps

Dec 2013
• Entered sample of cases to evaluate ease

Jan–Sept 2014
• Submit feedback (ongoing) about use and suggestions for improvement
Summary of “Crosswalk”

ODH Current System
- Demographics
- Maternal Death Certificate
- Birth/Fetal Death Certificate
- Labor and Delivery
- Prenatal Care
- Laboratory / Pathology / Procedures
- Maternal Physical Characteristics
- Terminal Event Info
- Maternal Risk Factors
- ER / Hospitalizations
- Pregnancy History
- Office (Outpatient) Visits
- Transport Info
- Detailed Injury Info

MMRDS
- SES Characteristics
- Stress
- Documented Barriers
- Social / Medical Referrals
- Environmental Context
- Possibility: Different Outcome
- ICD Codes
Ohio’s Experience with MMRDS

**System Strengths**
- Its timely existence
- Centralized location for data entry
- Captures essential information necessary for review
- Eases queries / analyses

**System Limitations**
- Designed more for pregnancy-related deaths
- Missing form fields
- Inability to delete records re: data entry
- No place to document discrepancies
- Epi Info capacity
Ohio Maternal Deaths, by Pregnancy Status*, Ohio 2008-2011** (N=182)

- **Within 42 Days**: 59 (32.4%)
- **43-365 Days**: 60 (33%)
- **Unknown**: 4 (2.2%)
- **Not Specified**: 1 (0.5%)

*As indicated by death certificate, Ohio Vital Statistics Office

**Preliminary
Pregnancy-Associated Deaths, by Cause of Death*, Ohio 2008-2011** (N=182)

- **Injury** 72 (39.6%)
- **Unknown** 4 (2.2%)
- **Cardiovascular Conditions** 27 (14.8%)
- **Non-Cardiovascular Conditions** 28 (15.4%)
- **Hemorrhage** 11 (6.0%)
- **Emboli** 7 (3.8%)
- **Infection** 20 (11.0%)
- **Pre-eclampsia/Eclampsia** 7 (3.8%)
- **Mental Health Conditions** 6 (3.3%)
- **Unknown** 4 (2.2%)

* Source: CDC Cause of Death Classification System (Berg, Cindy)
**Preliminary
Pregnancy-Related Deaths, by Cause of Death*, Ohio 2008-2011** (N=90)

- Cardiovascular Conditions: 21 (23.3%)
- Infection: 14 (15.6%)
- Injury: 12 (13.3%)
- Hemorrhage: 11 (12.2%)
- Pre-eclampsia/Eclampsia: 7 (7.8%)
- Embolism: 7 (7.8%)
- Non-Cardiovascular Conditions: 11 (12.2%)
- Mental Health Conditions: 4 (4.4%)
- Unknown: 3 (3.3%)

* Source: CDC Cause of Death Classification System (Berg, Cindy)
**Preliminary
Next Steps: PAMR and MMRDS

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Fall 2014
- Customization of MMRDS
- Request TA re: Epi Info from CDC
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