

Integrating PPOR into MCH Programs: Marion County, Indiana

Jessica Craig, MPH
Teri Conard RN, MS
Shelley Vaughn, MS

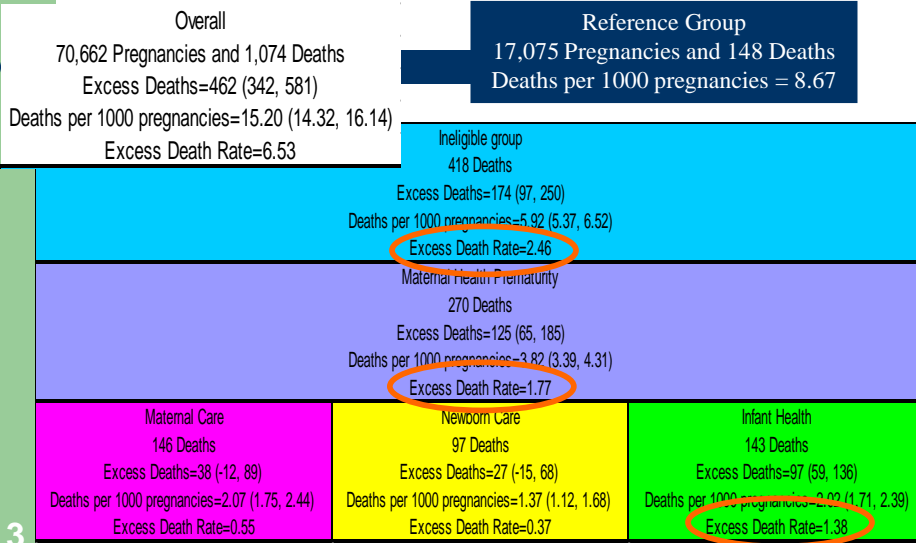
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Study Population

- All births and fetal deaths that occurred in Marion County to Marion County resident mothers from 2001-2005, and all deaths that occurred in Marion County among those infants before the infants turned 1 year of age.
- Infants <500gms or <24wks were included in a separate category called PPOR Ineligible.
- Reference population was infants born to non-Hispanic white mothers over 20 years of age with more than a high school education (12+ years)

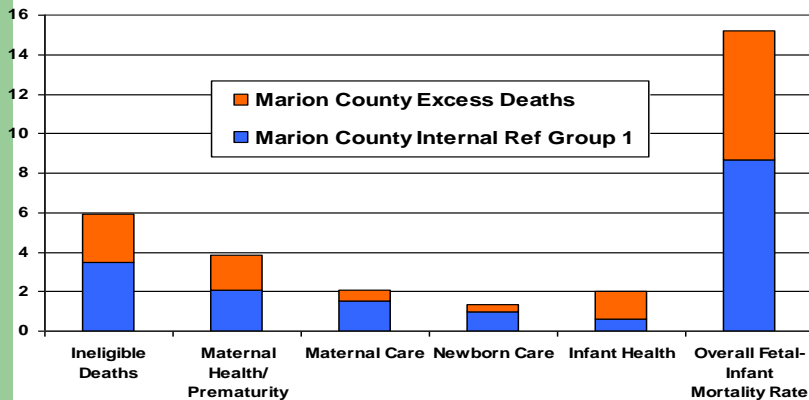
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PPOR Mapping Results



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PPOR Mapping Results



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Risk Factors for VLBW

- In a multivariate analysis, the following were statistically significantly associated with delivering a VLBW infant in Marion County:
 - Black race (OR=1.58, 95% CI: (1.37, 1.82)) versus white race
 - Multiples versus singletons
 - <12 years education (OR=1.15, 95% CI: (1.07, 1.24)) versus 12+ years education
 - Smoking (OR=1.27, 95% CI: (1.18, 1.38)) versus non-smoking
 - Adequate+ PNC (OR=2.19, 95% CI: (1.77, 2.70)) versus adequate PNC

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Causes of Postneonatal Death

- Top 3 Causes of Death for PPOR Infant Health Category in Marion County
 1. Unspecified threats to breathing
 2. Hanging, strangulation, and suffocation
 3. SIDS

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Investigation into SUID Deaths

- Diagnosis ICD codes (ICD-9/ICD-10)
 - SIDS (798.0/R95)
 - Accidental suffocation and strangulation (E913/W75-W77, W81-W84)
 - Intent unknown suffocation (E983/Y20)
 - Neglect, abandonment, and other maltreatment syndromes (E967, E968.4/Y06-Y07)
 - Unknown cause (799.9/R99)

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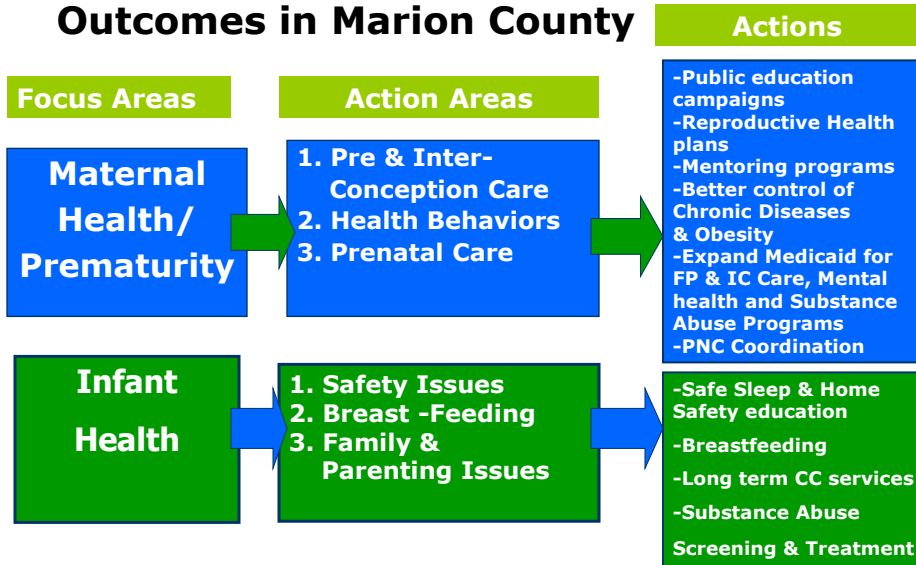
Source: Rahmanifar, A (2008). Trends in sudden and unexpected deaths in Indiana 1990-2006: Evidence of recent change in classification and reporting. <http://www.in.gov\isdh>

Risk Factors for SUID Deaths

- In a multivariate analysis, the following were statistically significantly associated with experiencing a SUID death:
 - Preterm births less than 37 weeks (OR=3.57, CI: (2.04-6.24)) versus full-term births
 - Maternal smoking (OR=3.79 CI: (2.19-6.56)) versus mothers who did not smoke
 - Being African American (OR=2.07, CI: (1.19-3.60)) versus all other race/ethnicities
 - Maternal age of less than 20 (OR=2.04, CI: (1.18-3.53)) versus mothers ages 20 and older

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Strategic Actions to Improve Birth Outcomes in Marion County



FP-Family Planning, IC-Interconception Care, PNC Prenatal Care Coordination, CC-Care Coordination
 Based on Perinatal Periods of Risk (PPOR) data for Marion County 2001-2005

How PPOR became a part of FIMR

When the CAT team began, PPOR data helped the program determine priority cases to review: SUIDs & Maternal Health/Prematurity

CAT members shared that PPOR/FIMR gave them the big picture on infant mortality

Review of cases showed the system issues with Vital Record and Medical Record documentation needs

Marion County FIMR

- Investigated all SIDS and Other SUID deaths from cases reviewed from 2004-2009
- Cases SIDS/SUID statistics
 - A total of 54 cases reviewed
 - 33 maternal interviews conducted
 - 89% of deaths were postneonatal
 - 87% of deaths were accidental suffocation and strangulation
 - 13% of deaths were classified as SIDS

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Marion County FIMR

- Of the SIDS and Other SUID Deaths
 - 85% of the mothers were single
 - 48% of the infants were bed-sharing
 - 41% were sleeping on an adult bed/pillow
 - 19% were found on a couch or chair
 - 39% of infants were found on their abdomen
 - 72% of deaths occurred to families on Medicaid
 - 55% of the mothers used tobacco

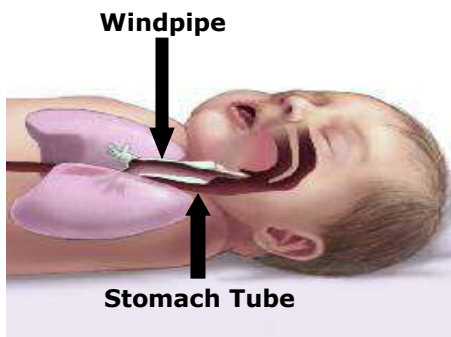
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Addressing the Need for Safe Sleep Education

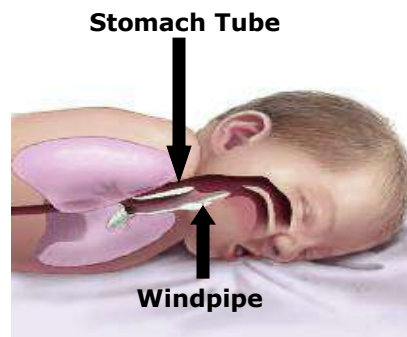
- 48% of the case histories did not include documented safe sleep education
 - 2% claim they did not receive education at all
- In a majority of cases infants were found with items in their sleeping area
 - 30% with infant blankets
 - 20% with adult pillows
 - 30% with adult blankets
 - Almost 30% no documented information in death scene investigation

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Why is sleeping on the back safer for baby?



SAFE: Back Sleeping Position
Windpipe lies on top of the stomach tube in this position. Anything vomited must work against gravity to go into the lungs.



UNSAFE: Stomach Sleeping Position
Stomach tube lies on top of the windpipe so that anything vomited will pool at the opening of the windpipe and make it easier to go into the lungs.

Used with written permission from the National Institutes of Health. Adapted from *Continuing Education Program on SIDS Risk Reduction: Curriculum for Nurses*. National Institutes of Health, 2006, p.26. Revised for parent education.

Who Needs the Message?

- African American families living in poverty
 - 96% of deaths occurred in families that lived in communities where more than 15% of the population lived under the Federal Poverty Line
 - For a family of 4 = annual income of \$22,050
- Specialized messages and education opportunities for women receiving Medicaid
- Reinforce education among single parent households
- Education for parents who use tobacco

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How PPOR Became Part of Indianapolis Healthy Start (IHS)

- Focused Core Service Interventions
 - Case Management, Outreach and Health Education
 - Key Messages: Preconception care, Health behaviors, Safe sleep & injury prevention, Breastfeeding, Access to prenatal care
 - Data Collection
- Local Health Systems Action Plan (LHSAP)
 - Resources allocated for collaboration

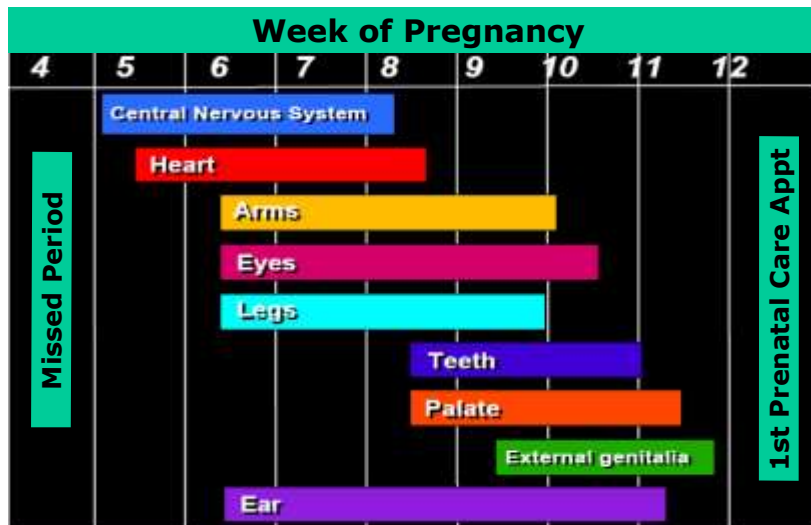
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LHSAP– Maternal Health/Prematurity

- Sponsor Indiana Perinatal Network provider education to increase screening of ATOD
- Public education campaigns – Baby R U Ready, folic acid
- Increase access to care
 - Group prenatal care
 - Indiana Medicaid Presumptive Eligibility
 - Indiana Perinatal Network
 - Reversal of the decision to not adopt presumptive eligibility for Indiana Pregnant women
 - Began July 1, 2009

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Baby's Early Development



Adapted from: Damus, K. (2010). History, Highlights and Hope: Shattering the U.S. Infant Mortality Glass Ceiling, Emerging issues in Maternal Child Health
 **-binar. <https://cc.readytalk.com/cc/schedule/display.do?udc=o7kewuje4j81>

LHSAP–Infant Health

- Efforts to promote Sudden Unexpected Infant Death Invigation (SUIDI) training, reporting, and education
 - State Child Fatality Review Teams lead by Dr. Toni Laskey
- Safe Sleep Education – collaboration between Indianapolis Healthy Start and hospitals provides \$1500 stipends for staff and patient education
 - DVD's purchased to show safe sleep education
 - Implementation of safe sleep sacks at discharge
- Bedtime Basics for Babies campaign – First Candle Collaboration
- Safe Sleep Media Campaign
- Participation in Breastfeeding Coalitions
- Conduct Child Safety Checklists – Safe Housing

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Stakeholder Involvement Assisted By:

- Tailored Messages
 - Front line staff
 - Hospital Staff
 - Community
- CRT and CAT Accomplishments (Action)
- Increase in Perceived Value of Data

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Sustainability

- Dissemination of Information
 - Indianapolis Healthy Babies Consortium
 - FIMR Case Review Team
 - FIMR Community Action Team
 - Local Conferences

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Challenges

- Keeping Partners Informed and Focused
 - New Partners/Staff Turnover
 - New Data
- Data Interpretation
 - Three Epidemiologists
 - Develop a data-driven community

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PPOR Directs Action

- Helps Determine Who Needs the Information
 - Safe Sleep example (Dissemination of data to front line staff)
- Resource Allocation

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Conclusion

- PPOR provides the Big Picture for community efforts
- Catalyst for the development of a more data-oriented community
- The use of PPOR Investigations allows for a comprehensive look into fetal and infant mortality
 - Looks deeper into the causes behind the problem and provides guidance to develop solutions
 - Directly aids in systems change
 - Allows for the targeting of specialized messages to those in the community that need them
 - Aids in resource allocation

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