Fetal and Infant Mortality Review

How the FIMR Process Improves Women and Infant Health Outcomes

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Counsel on Resident Education in OB/GYN
Henri Center

The National Center for Fatality Review and Prevention (NCFRP)

• A resource and data center that supports child death review (CDR) and fetal and infant mortality review (FIMR) programs around the country.
• Supported with funding from the Maternal and Child Health Bureau (MCHB) at the Health Resources and Services Administration (HRSA)
• Aligns with several MCHB priorities and performance and outcome measures such as:
  • Healthy pregnancy
  • Child and infant mortality
  • Injury prevention
  • Safe sleep

Learning objectives:

• Provide an update on the prevalence and current trends of fetal and infant mortality in the US and MI
• Describe FIMR methodology: an effective perinatal systems intervention and public health strategy
• Describe socioeconomic, family, and environmental cultural, safety, health and systems factors associated with mortality
• Explore the how FIMR helps communities to understand the factors that lead to health disparities,
Infant mortality

- Definition: The death of any live born infant prior to his/her first birthday.
- "The most sensitive index we possess of social welfare..."
  Julia Lathrop, Children’s Bureau, 1913

Infant mortality in the United States

- 3,978,497 births in 2015
  - 8.1% were low birth weight (less than 5.5 pounds)
  - 9.6% preterm, (born less than 37 weeks gestation)
- 23,455 infant deaths
- Rate of 5.89 deaths per 1,000 live births
- Leading causes of infant death:
  - Congenital malformations
  - Prematurity
  - Sudden Infant Death Syndrome

Fetal mortality

- "Fetal death", or still birth, refers to an infant born without signs of life, generally after 20 weeks of gestation
- 5.96 deaths per 1,000 live births
Disparities in Fetal and Infant Mortality Rates

Data Source: https://www.cdc.gov/nchs/nvss/linked‐birth.htm

Infant mortality rates, Michigan compared to the US

Data Source: https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm

Sources: https://www.mdch.state.mi.us/pha/osr/InDxMain/InfDx.asp
Leading Causes of Infant Deaths, MI, 2015

- Prematurity/LBW: 29%
- SIDS: 20%
- Birth Defects: 12%
- .5%: 9.5%
- Other: 4.3%
- 7%
- Other: 7%
- Perinatal and other infections: 11%

Data Source: https://www.mdch.state.mi.us/pha/osr/InDxMain/Dollfus.asp

States Ranking for Overall Infant Mortality

Three Year Average, 2011-2013

- States' ranking for black infant mortality

Three Year Average, 2011-2013
Michigan County rankings for overall infant mortality

Three Year Average, 2013 – 2015

Michigan County rankings for black infant mortality

Three Year Average, 2013 – 2015

Michigan, live births by race, 2015

- Total births – 113,211
- White births – 82,938 (73%)
- Black births – 21,457 (19%)
- Asian & Pacific Islander – 3,888 (3.4%)
- American Indian – 631 (.5%)
- All other races – 4,064 (3.5%)
- Ancestry:
  - Hispanic ancestry – 7,768 (6.8%)
  - Arab ancestry – 4,872 (4.3%)
Michigan, live births with selected maternal risk factors, 2015

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Michigan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco Use in Pregnancy</td>
<td>17.3%</td>
</tr>
<tr>
<td>Unmarried</td>
<td>42.7%</td>
</tr>
<tr>
<td>&lt; 12 years of education</td>
<td>12.1%</td>
</tr>
<tr>
<td>Moms under 20 years</td>
<td>5.7%</td>
</tr>
<tr>
<td>Previous Pre-term birth</td>
<td>2.9%</td>
</tr>
<tr>
<td>Gestational Diabetes</td>
<td>5.1%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>7.9%</td>
</tr>
<tr>
<td>Moms with healthy weight before pregnancy</td>
<td>41%</td>
</tr>
<tr>
<td>Care in first trimester</td>
<td>73.4%</td>
</tr>
</tbody>
</table>

Michigan, live births with selected infant risk factors, 2015

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Michigan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast feeding initiated</td>
<td>44%</td>
</tr>
<tr>
<td>Low Birth Weight</td>
<td>8.5%</td>
</tr>
<tr>
<td>Preterm</td>
<td>9.8%</td>
</tr>
<tr>
<td>Apgar score &lt; 7 in first 5 minutes of life</td>
<td>2.5%</td>
</tr>
</tbody>
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When Vital Statistics alone cannot tell us the story . . .

. . . Communities turn to FIMR to tell us how and why babies are dying
Fetal and Infant Mortality Review

The FIMR process

FIMR brings a multidisciplinary community team together to examine confidential, de-identified cases of infant deaths.

FIMR goals

• To examine significant social, economic, cultural, safety, health and systems factors that are associated with mortality
• To design and implement community-based action plans founded on information obtained from the reviews
FIMR: a public health model

1. Fetal and Infant Deaths Selected
2. Maternal Interview Conducted
3. Records Abstracted & Summarized
4. FIMR Team Reviews & Makes Recommendations
5. Community Action Team Prioritizes & Takes Action
6. Improved Systems, Services & Resources for Families
7. Community Action Team Prioritizes & Takes Action

The maternal interview

• Gives insight into the mother’s experience before and during pregnancy
• Conveys the mother’s story of her encounters with local service systems

Community Advantage

“Maternal interviews give a voice to the disenfranchised in my community, those without clout or power. FIMR provides a rare opportunity for the ‘providers’ in a community to hear from the ‘consumers.’”

—Patt Young, FIMR Interviewer, Alameda/Contra Costa Counties, CA
Confidentiality

• FIMR cases are de-identified so that the names of families, providers and institutions are confidential – the FIMR focus is on improving systems, NOT assigning blame.

FIMR: A two tiered process

CRT          CAT
Case Review Team  Community Action Team

Role of the CRT (Community Review Team)

• Review cases
  – Sentinel Events
  – Trends
  – Incidental Findings

• Develop initial recommendations
Role of the CAT (Community Action Team)

- Composed of those who have the political will and fiscal resources to create large scale systems change
- Responsible for taking CRT recommendations to ACTION
  - Creative solutions to improve services and resources
  - Prioritize and implement interventions

Who Should Participate?

- Diversity
- Influence
- Commitment
- Consumer participation

FIMR today

- FIMR has a presence in 29 states, DC and Puerto Rico
- 175 local programs
- Tribes plan and participate in FIMR in WI and WY
  - MI Intertribal Health Council has own FIMR
175 FIMR Programs in 29 States, DC, and Puerto Rico

Michigan FIMR

Who Studies Deaths Now

- Health care providers
- Institutions
- Medical researchers
- County and state health officers

FIMR complements existing efforts, but takes a different approach
FIMR as part of other MCH Initiatives

- Vital Statistics
- PRAMS (Pregnancy Risk Assessment Monitoring)
- CDR (Child Death Review)
- MMMS (Maternal Mortality Surveillance)
- PPOR (Perinatal Periods of Risk)
- BRFSS (Behavioral Risk Factor survey System)

Why is case review valuable?

• We learn things we cannot learn through simple review of vital statistics and population data
• We see the health care system from the consumer perspective
• We identify and address gaps in care, systems issues
• We learn of the mothers’ and families’ experiences with racism and implicit bias, and how they have impacted infant and child outcomes

Health Disparities and Health Equity

• Health disparities are preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations. (CDC)
• Health Equity is a fair, just distribution of the social resources and social opportunities needed to achieve well being.
Inequity addressed . . .

Systemic barriers removed

FIMR’s Role in Public Health

Surveillance:
The ongoing systematic collection and analysis of data about a health problem that can lead to action being taken to control or prevent the problem. An infant death is a sentinel event that triggers surveillance activities.

Core Public Health Functions

• Monitor health status to identify community health problems
• Diagnose and investigate health problems
• Inform, educate, and empower people about health issues
• Mobilize community partnerships to identify and solve health problems
• Develop policies and plans that support individual and community health
Core Public Health Functions

- Enforce laws and regulations that protect health and ensure safety
- Link people to needed personal health services
- Assure a competent public health and personal health care workforce
- Evaluate effectiveness, accessibility, and quality of health services
- Research for new insights and innovative solutions to health problems

FIMR as Partner

- Provides data for regional/state assessment and planning
- FIMR findings drive perinatal initiatives
- Gives a voice to local families who have lost a baby
- PREVENTION: Better health care of women, children, and families

FIMR as Partner

- Enhances ability of communities to work together.
- Brings players to a common table and improves communication among health and human service providers
- Provides community specific information about changing health care systems
Community Empowerment

Through the fetal-infant mortality review process, the community becomes the *expert* in the knowledge of the entire local service delivery systems and community resources for childbearing families.

Mock Case review

- Identify strengths
- Did the family receive the services or community resources that they needed?
- Were the systems and services culturally and linguistically appropriate?
- What gaps in or duplication of service systems are apparent or suggested by this case?
- What does this case tell us about how families are able to access existing local services and resources?
FIMR Findings and Actions

- Service Delivery Issues
- Psychosocial Issues
- Economic Issues
- Environmental Issues

FIMR Findings and Actions

Service Delivery Issues
- Gaps in Care
- Access to Service
- Barriers to Care
- Communication

FIMR Findings and Actions

Psychosocial Issues
- Social Support of Family Members
- Coping Skills of Family Members
- Life Style Habits of Family Members
- Domestic Violence
FIMR Findings and Actions

Economic Issues
• Income at or below Poverty level
• Basic Family Needs

Environmental Issues
• Community Safety
• Sanitation
• Pollution

Examples of FIMRs ability to translated findings into action
• Contra Costa County, California
• Grand Rapids, Michigan
Contra Costa County, CA

- FIMR since 1991
- Population 1,049,025
- 41.4% non-white
  - 24.4% Hispanic/Latina
    (17% of Mexican Ancestry)
  - 14.4% Asian
  - 9.3% African American
  - 6% Native American
- Urban
- Industrial

Contra Costa FIMR Findings to Action

- FIMR found that there was an inconsistent referral system, many moms were not being referred to available bereavement services once they left the hospital

Contra Costa FIMR Launched Bereavement Services

- Formalized the bereavement services and continuity of grief and palliative care for families following a fetal or infant loss
- Key FIMR personnel attended training through Resolve Through Sharing (RTS) Bereavement Training: Perinatal Death
- Certified RTS “Train the Trainer”
Kent County, MI

- FIMR since 2004
- Population: 602,622
- Grand Rapids City: 188,040
- 17% of County population is non-white
- 35.3% of Grand Rapids is non-white
- Urban
- Major Industries:
  - Economic and manufacturing center of West MI
  - Stronghold of the Republican Party

Kent County FIMR – Examples of Translating Findings to Action

- Unintended pregnancy major factor in IM
- FIMR recommendation: Decrease the incidence of unintended pregnancy
- Community Action Team responded by:
  - Creating the Pregnancy Prevention Committee
  - Hosting annual conferences on family planning
  - Finding EC-friendly pharmacies
  - Community outreach

Family Planning Outreach Program Components

- Train-the-Trainer sessions for Peer Educators
- Peer group conversations
- Neighborhood outreach
- Family planning referrals
- Preconception risk screening and counseling
- Distribution of preconception health kits
- Provision of free birth control
Community Family Planning Outreach Program

- Community Action Team received state funds to engage hard-to-reach African American women in FP services
- Trained 53 non-traditional leaders and members of six community-based organizations in FP

Family Planning topics:
- Benefits of FP
- How to dialogue about FP
- Contraceptive choices
- Talking with your partner about birth control
- Risks of closely-spaced and unplanned pregnancies
- How to access FP services and local resources

Community FP Outreach Program

- Peer educators held interactive discussions with groups of women within their social networks (280 AA women educated on FP in small groups of 10-15)
The physician's role in FIMR

- Physician participation ensures that the program has support and legitimacy in the medical and health community
- Care Review Team deliberations: physicians act as the “information processor”... help other team members interpret medical information, identify needed improvements

The physician's role in FIMR

- A physician hears the FIMR report in grand rounds and returns to his/her private practice and designates a staff nurse to act as an ombudsman to see that patient barriers that interfere with compliance are identified and actively addressed before they become problematic

The physician's role in FIMR

- An OB/GYN physician learns that 20% of infant deaths reviewed in FIMR have documented physical abuse of mom during pregnancy
- Begins a universal domestic violence screening policy for his/her practice: every women, every visit, five questions
- Works with the community to enhances the services available to abused women, counseling, shelters, escape plans and legal support
Dr. Joseph F. Marshall, MD, FACOG

• “It is important to have the support of physicians in the community. This will help to open doors . . . To convince physicians to become involved in FIMR efforts, I remind them that infant mortality reduction lies at the essence of obstetrics, as it does in pediatrics.”

Team Composition

• Medical Expertise
  – Obstetrics
  – Pediatrics
  – Pathology
  – Emergency Department
  – Family Practice
  – Psychiatry

It takes a community . . .

• Other Health Care Providers
  – Nurses
  – Social Workers
  – Dietitian
  – Discharge Planning
  – Home Care & Home Visiting

• Emergency Medical Personnel
• Medical Examiners
It takes a community . . .

- Human Service Providers
  - Child Welfare Agencies
  - Mental Health
  - Substance Abuse

- Housing Authority
- Transportation Authority

It takes a community . . .

- Public Health
  - Medicaid
  - Health Plans
  - WIC
  - Family Planning
  - Outreach Workers

It takes a community . . .

- Community Leaders
  - Mayor, City Council, County Executive
  - Business Leaders, Chamber of Commerce
  - Clergy
  - Civic Groups (Kiwanis, Junior League)
  - Law Enforcement
It takes a community . . .

• Advocacy Groups
  – March of Dimes
  – Healthy Mothers/Healthy Babies
  – Family Support Groups
  – Safe Kids Coalition

Importance of documentation

• Complete documentation on identified client issues or risk factors, as well as referrals for service, assures that FIMR team correctly identify what may be missing in the community
• If it isn’t charted, it didn’t happen!

How physicians may benefit from FIMR

• Improved relationship between what happens in the office and the circumstances in the community
• FIMR provides unique information about the community infrastructure and health
• Personal and professional learning and growth
• Positive impact on medical practice:
  – Better patient education
  – decreased non-compliance with appointment and treatment regimes