Understanding Stillbirth from a Fetal and Infant Mortality Review (FIMR) Perspective

March 24, 2014

CAPT Madelyn Reyes, MA, MPA, RN
Senior Nurse Consultant
Department of Health and Human Services
Health Resources and Services Administration
Maternal and Child Health Bureau
Division of Healthy Start and Perinatal Services

Health Resources and Services Administration (HRSA)

- **Vision:** Healthy Communities, Healthy People
- **Mission:** To improve health and achieve health equity through access to quality services, a skilled health workforce and innovative programs
- **Goals**
  1. Improve Access to Quality Care and Services
  2. Strengthen the Health Workforce
  3. Build Healthy Communities
  4. Improve Health Equity

Maternal and Child Health Bureau (MCHB)

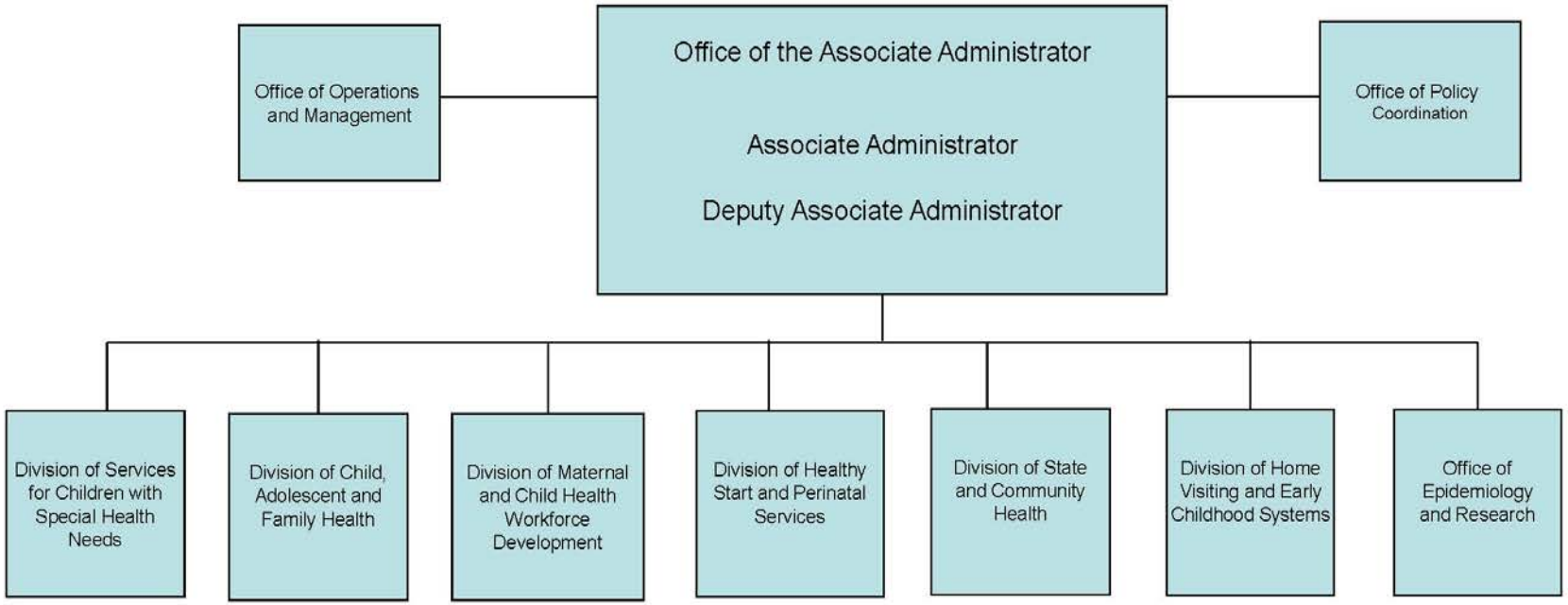
- **Mission**: Provide national leadership, in partnership with key stakeholders, to improve the physical and mental health, safety and well-being of the maternal and child health (MCH) population which includes all of the nation's women, infants, children, adolescents, and their families, including fathers and children with special health care needs.

- **Programs**: Reduce infant mortality; ensure access to comprehensive prenatal and postnatal care, improves health care for all children, and provides special programs for children with special health care needs.

Maternal and Child Health Bureau (MCHB)

- Administers Maternal and Child Health (MCH) Services Block Grant (Title V of the Social Security Act)
- Awards more than 900 discretionary grants
- Other key programs (Maternal, Infant, and Early Childhood Home Visiting and Healthy Start)

Maternal and Child Health Bureau



National Fetal and Infant Mortality Review (NFIMR) Resource Center

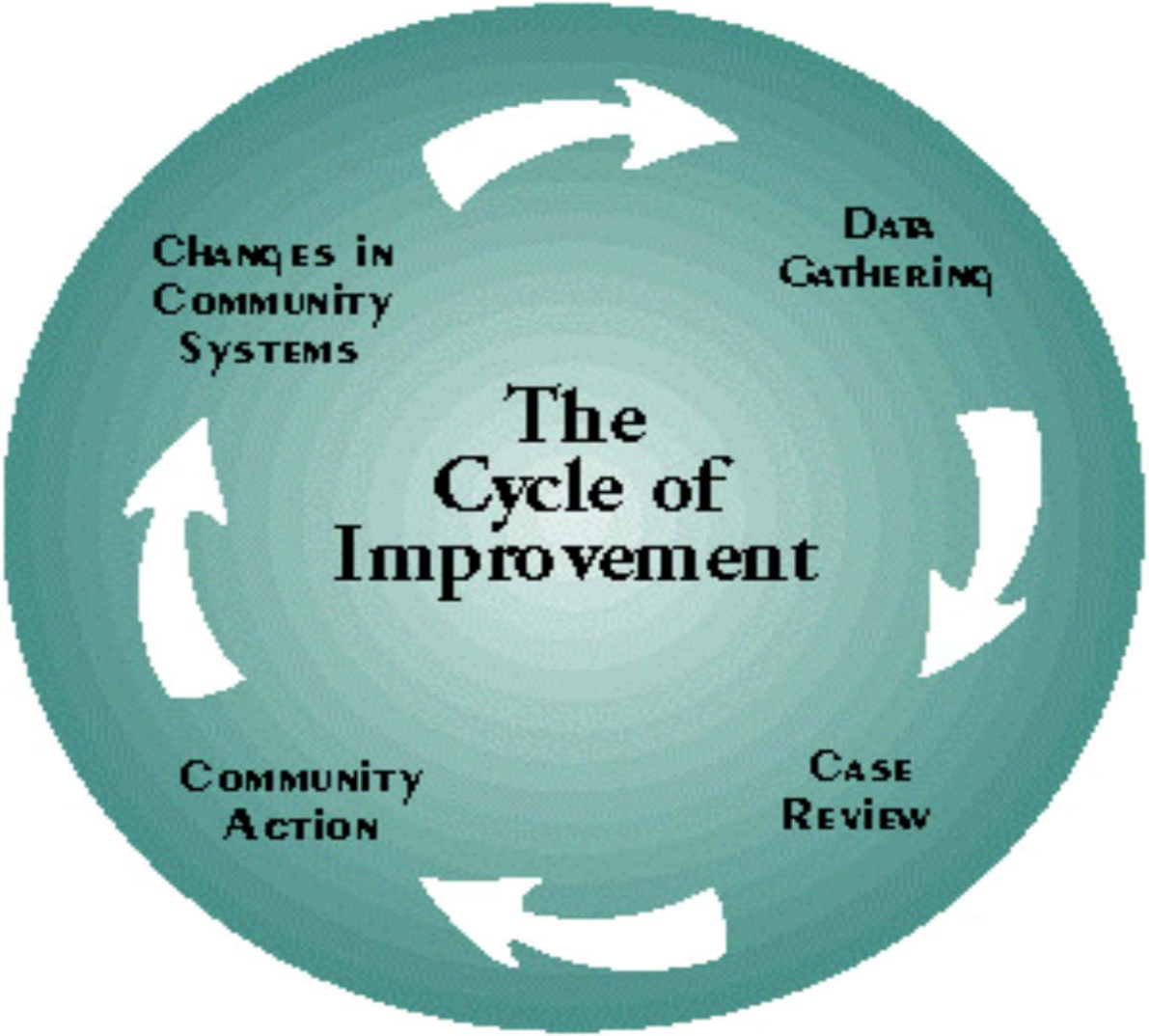
- Since 1990, NFIMR has been a resource center working with states and communities to develop fetal and infant mortality review programs

- NFIMR is a cooperative agreement between the American College of Obstetricians and Gynecologists and HRSA's Maternal and Child Health Bureau

Fetal and Infant Mortality Review (FIMR)

"Fetal and Infant Mortality Review (FIMR) is an action-oriented community process that continually assesses, monitors, and works to improve service systems and community resources for women, infants, and families."

The FIMR Process



FIMR Offers a Community

- A warning system that can describe effects of health care systems change
- A method for implementing continuous quality improvement (*CQI*)
- A means to implement needs assessment, quality assurance and policy development; essential public health functions, at the local level

FIMR Includes a Key Informant Interview

FIMR PROCESS

↓

Death Occurs

↓

Case Selection

↓

Case Abstraction

↓

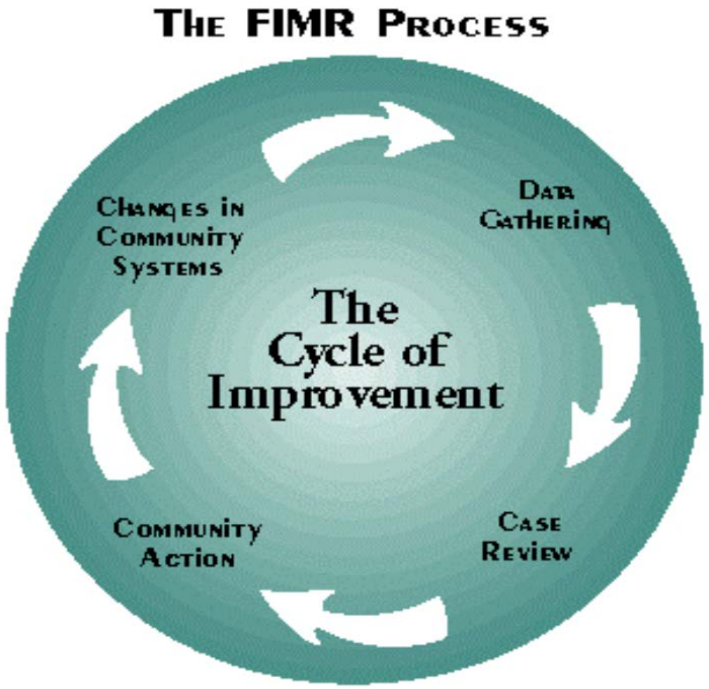
Case Review Team Recommendations

↓

Community Actions /Community Action Team

↓

Improved Maternal and Infant Health



Review of Fetal Deaths
Preliminary data
2014 NFIMR survey

- 85% of FIMR programs review fetal deaths

Substance abuse, one Indiana county

- Identification of barriers to care including addiction recognition, treatment utilization, and service disparities
- Multidisciplinary approach to eliminate barriers, starting with dissemination of findings from FIMR

Maternal interviews after fetal death

- Local jurisdictions in Texas, California, and Delaware reported that mothers did not track fetal movement
- Massive education campaign for providers and community members, including Kicks Count program with March of Dimes
- Tracking fetal deaths with some promising results

Maternal Interview Informs Change in Care

Fetal death

- Only 19% went to Healthcare Provider day that decreased movement noticed
- 42% waited 1-2 days before contacting Healthcare Provider

FIMR Takes ACTION

- Collaborate with March of Dimes, Kicks Count
- Education campaign for provides & parents

FETAL DEATHS LATER IN PREGNANCY:

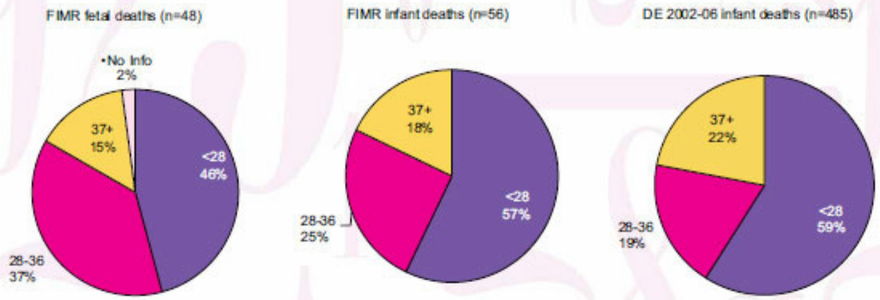
The Conception and Roll-Out of fetal Kicks Count in Delaware

M Ramakrishnan, JM Kelley, K Joyce and A Pedrick

Problem/Issue Identified

Over half of the 48 FIMR fetal death cases (53%) reviewed from July 2009 to June 2010 occurred at or after 28 weeks gestation. This proportion is higher than infant deaths occurring at or above 28 weeks gestation: in Delaware, from 2002 to 2006, 41% of infant deaths occurred to babies born in the third trimester. Also of concern, of the 26 FIMR maternal interviews conducted with women who had a fetal death after 24 weeks gestation, only 19% (5 women) went to the hospital or doctor's office the same day when they noted decreased fetal movements. Forty-two percent of women (11 women) waited one or two days after noticing decreased fetal movements before contacting a health care provider. If signs of fetal distress are recognized early, interventions may be available to avert some of these stillbirths especially for the viable, late term fetus.

Gestational age distribution (in weeks) of FIMR fetal deaths, infant deaths and a comparison group of all infant deaths in Delaware over a five-year period[1]



[1]Delaware Health Statistics Center. Delaware Vital Statistics Annual Report, 2007: Delaware Department of Health and Social Services, Division of Public Health 2010.

Recommendation

Support prenatal education on fetal movement tracking as a standard of obstetric care.

Action/Intervention

In 2011, the Division of Public Health and the Delaware Healthy Mother and Infant Consortium developed the Fetal Kicks Count program, a social marketing campaign that targets health care providers and pregnant women with the message that fetal movement tracking, beginning at 24 weeks gestation, is an important indicator of fetal health.

Outcomes

The Fetal Kicks Count program was developed and implemented in less than six months after discussion and a recommendation made at a FIMR CRT meeting. Toolkits—including education brochures and Kicks Count tracker pocket booklets for recording a baby's daily movements—were distributed to prenatal providers statewide in 2011. A perinatal collaborative education coordinator also provides support to ensure providers have the Kicks Count toolkits and are comfortable implementing the clinical follow-up for decreased fetal movements. The FIMR database will continue to track the proportion of women with documented prenatal education on fetal movement tracking.

DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health
Center for Family Health Research and Epidemiology

Delaware Perinatal Cooperative

march of dimes

U.S. Department of Health and Human Services
HRSA
Health Resources and Services Administration

IMPLEMENTATION AND EVALUATION OF THE
Kicks Count Program in Delaware

G Colmorgen, B Buckaloo, A Jones, JM Kelley, K Joyce, M Ramakrishnan, A Pedrick

Problem/Issue identified

In some populations, fetal movement counting has resulted in a 50% decrease in the stillbirth rate. The Delaware Child Death, Near Death and Stillbirth Commission's Fetal-Infant Mortality Review conducted a maternal interview program beginning in 2006. As a result of their work, we identified a high number of cases of stillbirth for which the mother did not seek or receive attention when experiencing decreased fetal movement. The Delaware Healthy Mother & Infant Consortium (DHMIC), in conjunction with the Division of Public Health (DPH), developed a toolkit entitled "Kicks Count" to address this deficit.

Recommendation

The Delaware Chapter of the March of Dimes, with funding from the Delaware Division of Public Health, hired a nurse educator of the Perinatal Cooperative of the Delaware Healthy Mother & Infant Consortium to distribute the Kicks Count toolkits.

Action/Intervention

The nurse educator visited each practice and hospital in the state, giving out toolkits and providing education regarding their use. About a year later, the nurse educator gave surveys to providers concerning their practice with regard to fetal movement counting. The DPH compiled the results of the survey and APS Healthcare analyzed them.

Outcomes

Of the 106 surveys distributed to providers, 72 were completed, for a response rate of 67.9%. About 75% of respondents stated they used the Kicks Count materials in their practices. About 61% distributed them within the 24 to 28 weeks' recommended time frame—19.6% distributed them before that time; 43.1% distributed them afterward (several respondents chose multiple time frames).

About 81% of providers used the explanation provided in the toolkit. All others provided some other explanation, except for 1.4% of providers who simply provided the packet to their patients without explanation. In 88.2% of cases, an obstetrical provider (MD/DO, CNM, NP), in 27.9% a nurse, in 10.3% a medical assistant and in 17.6% someone else provided the education. When asked whether the program increased the number of calls for decreased fetal movement, 18% responded "yes" and 82% responded "no." The providers were also invited to offer criticism and suggestions for improvements.

Figure 1. Time Period in which Fetal "Kicks Count" Packet is Given to Patients.

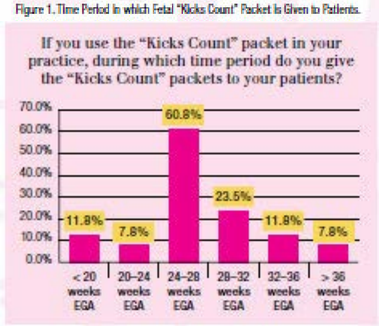
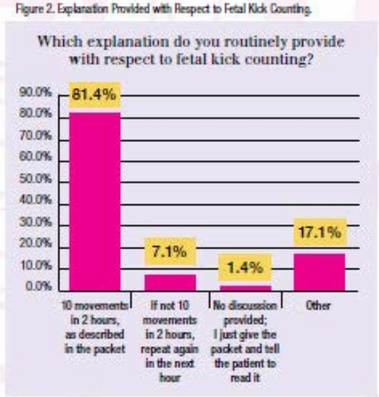


Figure 2. Explanation Provided with Respect to Fetal Kick Counting.



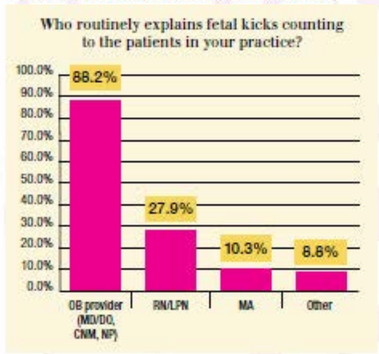
Discussion

Fetal movement counting, a "low-tech" approach to fetal monitoring, has not been rigorously studied but is recommended by the American Congress of Obstetricians and Gynecologists. According to the *Guidelines for Perinatal Care*, "Whether programs of fetal movement assessment actually can reduce the risk of stillbirth is unclear." However, a Norwegian study found a nearly 50% reduction in the rate of stillbirth among women who counted fetal movement after experiencing decreased fetal movement.

The *Guidelines for Perinatal Care* advocates having women count fetal movements daily: "The perception of ten distinct movements within two hours is considered to be reassuring." We adopted this technique, teaching it to all pregnant women in the state between 24 and 28 weeks gestation.

Providers generally accepted the Kicks Count program and have suggested improvements. We hope to further study its effectiveness using Vital Statistics and the FIMR data collected under the Delaware Child Death, Near Death and Stillbirth Commission. Kicks Count should provide a model for other communities. The suggestions of providers and the lessons we have learned will help us fine-tune this program and reduce the infant mortality rate in our state.

Figure 3. Who Explains Fetal Kicks Counting to Patients in Your Practice.



SURVEY QUESTIONS

1. **Do you currently use the Fetal "Kicks Count" packet in your practice?**
   - ❑ Yes
   - ❑ No
2. **If you answered yes to #1, during which time period do you give the "Kicks Count" packets to your patients?**
   - ❑ < 20 weeks EGA
   - ❑ 20–24 weeks EGA
   - ❑ 24–28 weeks EGA
   - ❑ 28–32 weeks EGA
   - ❑ 32–36 weeks EGA
   - ❑ > 36 weeks EGA
3. **Which explanation do you routinely provide with respect to fetal kick counting?**
   - ❑ As described in the packet (10 movements in 2 hours).
   - ❑ If not 10 movements in 2 hours, repeat again in the next hour.
   - ❑ No discussion provided; I just give the packet and tell the patient to read it.
   - ❑ Other (describe).
4. **Has the "Kicks Count" program increased the number of phone calls you have received for decreased fetal movement?**
   - ❑ Yes
   - ❑ No
5. **Who routinely explains fetal kicks counting to the patients in your practice?**
   - ❑ OB provider (MD, DO, CNM, NP)
   - ❑ RN/LPN
   - ❑ MA
   - ❑ Other [Explain]
6. **Comments/Suggestions:**_____

DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health
Center for Family Health Research and Epidemiology

Delaware Perinatal COOPERATIVE

march of dimes

NFIMR

For more information about the FIMR process

- Call (202) 863-2587
- E-mail us at NFIMR@ACOG.org
- Or visit us at www.nfimr.org

NFIMR Project Staff
Jodi Shaefer, RN, PhD, NFIMR Director
jshaefer@acog.org, (202) 863-1630

Shreya Durvasula, Program Specialist
sdurvasula@acog.org , (202) 863-2587

Contact Information

CAPT Madelyn Reyes
Senior Nurse Consultant
HRSA/MCHB/DHSPS
Phone: (301) 443-0543
Email: mreyes1@hrsa.gov