Syracuse Healthy Start
Helping Moms and Babies

SYRACUSE HEALTHY START NEWSLETTER

SEPTEMBER 2008 • Center for Maternal and Child Health • EDITION 12

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In collaboration with:
- Onondaga County Health Department/ Syracuse Healthy Start
- SUNY Upstate Medical University, Center for Maternal and Child Health

Syracuse Healthy Start *at a Glance*

Term: Refunded for years 2005-2009
Grantee: Onondaga County Health Department
Goal: Eliminate disparities in Perinatal health
Project area: City of Syracuse
Target population: Pregnant and/or parenting women with children under the age of 2

COMPONENTS
- Outreach
- Case Management/Care Coordination
- Health Education
- Consortium
- Addressing depression during the Perinatal period
- Interconception Care

OBJECTIVES
- Conduct intensive outreach to individuals at risk/ minority women, to better link them with health and human services;
- Provide integrated case management services to enhance the care coordination, intervention for identified risks, and cultural competence of the services
- Increase provider competence in addressing multi-faceted risks faced by participants
- Empower consumers through education

Commissioner of Health & Principal Investigator:
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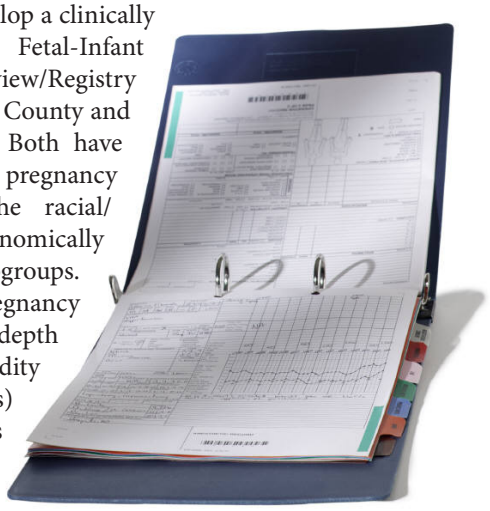
The Central New York Fetal-Infant Mortality Morbidity Review/Registry, FIMMRR

The Central New York Fetal-Infant Mortality/Morbidity Review/Registry (FIMMRR) is a demonstration project started in 2006 and supported by a grant from the Community Health Foundation of Western and Central New York[1]. It combines aspects of traditional FIMR (Fetal Infant Mortality Review) programs with standardized case review intended to provide critical feedback to healthcare providers and community agencies and to be used for Continuous Quality Improvement.



The overall project goal is to develop a clinically oriented, community based Fetal-Infant Mortality/ Morbidity Review/Registry (FIMMRR) model for Onondaga County and the Central New York Region. Both have higher than optimal rates of poor pregnancy outcome, especially among the racial/ ethnic minorities and socioeconomically disadvantaged population subgroups. The project will help improve pregnancy outcomes by conducting in-depth analysis of mortality/morbidity cases (known as Sentinel Events) and learning from this analysis what needs to be done to improve the outcomes of future pregnancies.

Background

Infant Mortality

- The Infant Mortality Rate (IMR) remains a critical problem in the United States as reflected by recent data showing an increase in the nationwide IMR.

[1] The Community Health Foundation is a non-profit private foundation with a mission to improve the health and health care of the people of Western and Central New York.

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- Local statistics show that the IMR in Onondaga County of 6.4/1,000 live birth is higher than that of New York State, 5.8 (2005).
- Racial and ethnic disparity remains unresolved. In Onondaga County (OC), African-American infants die over twice as often as white infants.
- Similar disparity in birth outcome is found among the economically disadvantaged groups throughout Central New York.
- Syracuse (Onondaga County's urban center) has the worst child poverty rate in NY for Blacks and the second highest in the US for Hispanics.

Fetal Mortality

- Fetal mortality is about as frequent and disparate as infant mortality but has been less adequately studied.
- Examining fetal and infant mortality together is necessary to properly perceive the overlapping etiologies.

Morbidities

Infant morbidity, as reflected by the surviving Extremely Low Birthweight babies (ELBW, <1000 g), is also a result of the reproductive stresses produced by racial/ethnic/ socioeconomic disparity.

The tables below present the mortality statistics for the United States, New York State, and Onondaga County

United States

	IUFD*	NND**	PNM**	P-NIM**	IMR**
2000	6.6	4.6	11.2	2.3	6.9
2004	6.2	4.5	10.7	2.3	6.8

IMR ranked 29th among nations

New York State

	IUFD*	NND**	PNM**	P-NIM**	IMR**
2000	7.7	4.5	12.2	1.8	6.3
2005	6.8	4.0	10.8	1.8	5.8

IMR ranked 45th out of 52 states

Onondaga County

	IUFD*	NND**	PNM**	P-NIM**	IMR**
2000	6.5	5.7	12.2	2.2	7.8
2005	5.8	3.9	9.7	2.4	6.4

PNM ranked 29th out of 52 counties

* -per 1,000 LB & IUFD
** -per 1,000 LB

In order to improve the current poor fetal and infant mortality and morbidity, careful evaluation of the processes of care and detailed analysis of causes and contributing factors are required. In most analyses of Fetal/Infant Mortality/Morbidity, there is inadequate information regarding the cause of death/morbidity or the contributing factors on the part of the patient, provider, health systems and/or community supports. In-depth review of individual and aggregate fetal/infant deaths and morbidity cases will shed light on the root causes of poor pregnancy outcomes and help to improve them as well as the health of the children that survive.

While Fetal and Infant Mortality Review (FIMR) programs have been implemented in 220 sites in 42 US states since 1995, the methodology that they have been using has limited the extent to which they can provide evidence-based clinical feedback to health care providers and Regional Prenatal Centers.

Our FIMMRR offers an innovative approach through:

- Including detailed medical root cause analysis of each fetal and infant death;
- Including Very Low Birthweight survivors in the analysis ;
- Utilizing a Registry mechanism for analysis and evaluation;
- Embodying the potential for action plans that include the full spectrum of participants—consumers, providers, and health related agencies;
- Documenting outcome of interventions;
- Providing data that can be generalized throughout the State of New York or even nationally.

Process

When a Sentinel Event occurs, the notification/report/chart goes to the Regional Perinatal Center, where each chart is carefully reviewed by the FIMMRR team members. Data are extracted, de-identified, and entered to the FIMMRR database for analysis. The results of analysis are reviewed by the Regional Perinatal Center, presented at the Regional Perinatal Forum, the Prenatal/Perinatal Networks, and shared with Regional/State D.O.H. Public agencies (Healthy Start), private agencies (M.O.D.), community agencies (Community Foundation), as well as payors are involved in the review to help planning for interventions to avoid such poor outcomes.

Acronyms used in the newsletter

IUFD — IntraUterine Fetal Death (≥ 20 wks or ≥ 300 g)
NND — Neonatal Death (≤ 28 days)
PNM — Perinatal Mortality (20 wks of gestation - 28 days newborn)
P-NIM — Post-Neonatal Infant Mortality (29 - 365 days)
IMR — Infant Mortality Rate
LB — Live Births

A standardized individual case review process for all fetal and neonatal deaths, including spontaneous late fetal deaths (≥ 300 g), within affiliate birth hospitals has been implemented as a standard process within the Quality Assurance system of the CNY Regional Perinatal Program. In addition, a standardized case review process for all post-discharge infant deaths and all surviving Extremely Low Birthweight babies born to Onondaga county residents within the three county birth hospitals has been implemented.

The preliminary FIMMRR data presented below show causes of and risk factors for fetal and neonatal death in CNY (15 counties) and Onondaga County (OC).

Overview of 2006-2007

	OC	CNY
Total LB	10,437	37,372
IUFD	59 (5.6/1K LB&FD)	166 (4.4/1K LB & FD)
NND	47 (4.5/1K LB)	132 (3.5/1K LB)
IMR (2006)	34 (6.3/1K LB)	

Causes of IUFD*

	OC	CNY
Abruption/Infarct	27%	25%
Anomaly/Abnormality	10%	17%
Chorioamnionitis	12%	8%
Twin-Twin Transfusion Syndrome	8%	7%
Cord Accident	5%	7%
Fetal-Maternal Hemorrhage	5%	3%
Intrapartal Asphyxia	3%	3%
IUGR	2%	2%
Other	11%	11%
Unknown	17%	17%

* For more information on IUFD and relationship between birth-weight/gestational age and IUFD, see our previous newsletter on Fetal Death.

Causes of Neonatal Death

	OC	CNY
Overwhelming Immaturity	53%	46%
Anomaly/Abnormality	27%	33%
Sepsis	6%	6%
Perinatal Asphyxia	6%	3%
SIDS/SUID	4%	3%
CNS Hemorrhage	2%	2%
Other	2%	8%
Unexplained	0%	0%

Associated/contributing risk factors in C.N.Y.

Age	Teenage pregnancy
Race	Non-white
Marital	Unwed
Payor	Medicaid (but not in Onondaga County)
Conception	ART (but only 5% of PNM)
Prenatal Care	None (10% of PNM)
Substance Abuse	Cigarettes (40% of PNM in CNY) Marijuana (10% of PNM in CNY; 15% in OC)

Factors contributing to perinatal mortality

The preliminary analysis shows the significant contribution of the following factors to perinatal mortality:

- Pre-conceptional ill health;
- Extreme prematurity (birth at less than 24 weeks accounts for half of perinatal mortalitiy);
- Anomaly/Abnormality (accounts for about one quarter of perinatal mortality);
- Cigarette/marijuana abuse.

The analysis has also shown the importance of timely and quality prenatal care for improving pregnancy outcomes.

Post-neonatal infant mortality

According to the analysis of post-neonatal infant mortality in Onondaga County, the most frequent causes deaths in 2006 births were birth defects (3 cases) and trauma (2 cases), followed by medical illness (1) and SIDS (1). The cause of death in one case is still under investigation.

Perinatal Periods of Risk (PPOR) Analysis

The Perinatal Periods of Risk (PPOR) approach has been used by the Center for Disease Control (CDC) to monitor and investigate fetal-infant mortality for over a decade. PPOR analysis helps to map fetal-infant death, examine potential opportunity gaps, target further investigation and prevention efforts, and indicate the community actions needed.

On the PPOR map, fetal and infant deaths are categorized into three categories according to the Age at Death: Fetal Death, Neonatal Death, and Postneonatal Deaths. These time periods are chosen in part because they generally imply different causes of death and different courses of community action. Each of the Perinatal Periods of Risk suggests the important primary preventive direction for the deaths in that group.

A more detailed description of the PPOR analysis and maps are depicted in the insert to this newsletter.

Summary

The preliminary in-depth review and analysis of the Fetal-Infant Mortality/Morbidity cases conducted within the FIMMRR project has revealed the most common causes of and risk factors for fetal-infant mortality in Central New York. The project has also made obvious the importance of providing feedback to prenatal/perinatal care providers and community agencies in order to help them improve the pregnancy outcomes.

The FIMMRR Team

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