

# CENTRAL NEW YORK

## Fetal - Infant Mortality/Morbidity Review/Registry FIMMRR

2006-2007

R. H. Aubry, MD, MPH  
Spring 2009

# FIMMRR TEAM

**Richard H. Aubry, MD, MPH**

**Kristen Luke-Houseman, RN**

**Janet Press, RN**

**Pamela Parker, BA**

**Michelle Bode, MD, MPH**

**Heather Shannon, CNM**

**Brenda Bronstad, RN**

**Martha Wojtowycz, PhD**

**CENTER FOR MATERNAL/CHILD HEALTH  
UPSTATE MEDICAL UNIVERSITY  
THE COMMUNITY HEALTH FOUNDATION OF  
WESTERN AND CENTRAL NEW YORK**

# FIMMRR

## APPROACH TO IMPROVING THE OUTCOME OF PREGNANCY

- Requires clarification of details of cause of death and contributing factors in each case
- National FIMR experience – Since 1995
- FIMMRR concept – Broader & Integrated
- Community Health Foundation – Brings Concept to Action
- CNY - FIMMRR Project – Began 2006
- Preliminary report now available - 2009

# FIMMRR 2006-2007

	<b>SHS Service Area</b>	<b>Onondaga County</b>	<b>CNY Region</b>
Live Births	<b>4,531</b>	<b>10,919</b>	<b>38,769</b>
Total Deaths (#)	<b>71</b>	<b>124</b>	<b>434</b>
Fetal Deaths (#)	<b>38</b>	<b>60</b>	<b>246</b>
Neonatal Deaths (#)	<b>25</b>	<b>50</b>	<b>160</b>
Post Neonatal Deaths (#)	<b>8</b>	<b>14</b>	<b>28 *</b>
Infant Deaths (#)	<b>33</b>	<b>64</b>	<b>188</b>

\* Only includes cases reported from the Onondaga County Health Department and Child Death Review Team

**Preliminary Data**

# FIMMRR 2006-2007

	SHS Service Area	Onondaga County	CNY Region
IUFD*	8.4	5.4	6.3
NND**	5.5	4.6	4.1
IMR**	7.3	5.9	4.8

\* - #/1,000 LB & IUFD's

\*\* - #/1,000 LB

Preliminary Data

# FIMMRR 2006-2007

## REGIONWIDE ASSOCIATED/CONTRIBUTING RISK FACTORS OF CONCERN FOR PERINATAL MORTALITY (ALSO DOCUMENTED IN SPDS)

			<u>Risk</u>
Age	-	≤ 20	1.4x
Race	-	Non white	3.2x
Marital Status	-	Single	1.5x
Partner	-	Uninvolved	1.7x
Body Mass Index	-	>40	0.4x
Substance Abuse	-	Cigarettes	1.3x
	-	Alcohol	0.7x
	-	Marijuana	2.2x

# FIMMRR 2006-2007

## REGIONWIDE

### ASSOCIATED/CONTRIBUTING RISK FACTORS OF CONCERN FOR PERINATAL MORTALITY (ALSO DOCUMENTED IN SPDS)

		<u>Risk</u>
<b>Prenatal Care</b>	- After First Trimester	<b>3.7x</b>
<b>Inter-pregnancy interval</b>	- < 6 months	<b>1.4x</b>
<b>OB History</b>	- Poor	<b>1.2x</b>
<b>Pre pregnancy Medical Ills</b>	- Yes	<b>0.9x</b>
<b>Assisted reproductive technology</b>	- Yes	<b>0.8x</b>

# FIMMRR 2006-2007

## REGIONWIDE ASSOCIATED/CONTRIBUTING RISK FACTORS OF CONCERN FOR PERINATAL MORTALITY (EXCLUSIVE TO FIMMRR)

		<u>Risk</u>
<b>Family Planning Problem</b>	- Yes	<b>1.9x</b>
<b>Documented Maternal Stress in Sentinel Pregnancy</b>	- Yes	<b>1.3x</b>
<b>History of Pre-Pregnancy Mental Illness</b>	- Yes	<b>1.2x</b>
<b>Domestic Violence</b>	- Yes	<b>0.8x</b>

Preliminary Data

# FIMMRR 2006-2007

The greatest modifiable risk factor  
for Perinatal Mortality is:

SMOKING!

# FIMMRR 2006-2007

## RELATIONSHIP OF SMOKING TO POOR OUTCOMES

<b>All CNY Births</b>	<b>21.8%</b>
<b>Preterm Delivery among Perinatal Mortalities</b>	<b>37.6%</b>
<b>Fetal Death</b>	<b>40.7%</b>
<b>Neonatal Death</b>	<b>30.6%</b>
<b>Post Neonatal Death</b>	<b>53.6%</b>

Preliminary Data

# FIMMRR 2006-2007

- The greatest modifiable risk factor for Neonatal Mortality is:

PREMATURITY!

- The greatest modifiable risk factor for Post-Neonatal Mortality is:

UNSAFE SLEEPING ENVIRONMENT!

# FIMMIRR 2006-2007

## POST-NEONATAL MORTALITY ONONDAGA COUNTY 2006-2007

<b>Sudden Unexpected Infant Death</b>		
<b>involving Unsafe Sleep Environment</b>	-	8
<b>Trauma/Accident</b>	- (2)	
<b>Birth Defects</b>	-	5
<b>Acute Medical Illness (Infection)</b>	-	1
<b>Total</b>		<hr/> 14

# FIMMRR

## Unsafe Sleeping Environment:

Anything other than an infant sleeping supine, alone, in their own sleeping space (such as a crib, bassinet, portable crib or sidecar) free of pillows, bumpers, fluffy quilts and/or stuffed toys.

# FIMMRR

## **SUID (Sudden Unexpected Infant Death):**

Sudden unexpected infant deaths are defined as infant deaths that occur suddenly and unexpectedly, and whose manner and cause of death are not immediately obvious prior to investigation.

Source: <http://www.cdc.gov/sids/index.htm>

# FIMMRR

## **SUID (Sudden Unexpected Infant Death):**

Types of SUID include infant deaths due to SIDS (Sudden Infant Death Syndrome), suffocation, asphyxia, poisoning, undetected metabolic or cardiac disorders, hypothermia and hyperthermia, as well as some abuse and neglect cases.

# FIMMRR

## **SIDS (Sudden Infant Death Syndrome):**

Sudden Infant Death Syndrome (SIDS) is defined as the sudden death of an infant less than one year of age that cannot be explained after a thorough investigation is conducted, including a *complete autopsy, examination of the death scene, and review of the clinical history.*

Source: <http://www.cdc.gov/sids/index.htm>

# FIMMRR

## **SIDS Versus SUID:**

The major difference between SIDS and SUID is the presence or absence of an external risk factor such as an unsafe sleeping environment or a medical disease. All SIDS cases are classified as natural deaths with regard to manner of death. In contrast, the majority of SUID cases are classified as undetermined manner.

Source: <http://www.cdc.gov/sids/index.htm>

# FIMMRR

## UNSAFE SLEEPING ENVIRONMENT ONONDAGA COUNTY: 8 CASES

- 8/8 Single
- 7/8 Medicaid
- 7/8 Smoking
- 7/8 Formula Feeding
- 6/8 Marijuana use
- 6/8 <12 yrs. Education
- 6/8 SHS Service Area
- 5/8 Non-white
- 5/8 Justice System Problems
- 5/8 Late/No Prenatal care
- 5/8 Sleeping with Adult(s)
- 2/8 Teens (plus 2/8 were 20 years old)

# FIMMRR 2006-2007

## SUMMARY

- FIMMRR is an extremely valuable approach.
- Smoking/Marijuana is the biggest preventable problem in Perinatal Mortality.
- Extreme Prematurity is the biggest problem in Neonatal Mortality.
- Unsafe Sleeping Environment is the biggest preventable problem in Post-Neonatal Infant Mortality.

# FIMMRR 2006-2007

## SUMMARY

- We have been making documented progress toward improving the outcomes of pregnancy.
- Disparity remains.
- Smoking cessation and Safe Sleep education are opportunities for improvement.