

FIMMR

2007 ANNUAL REPORT

ST. LOUIS FETAL INFANT
MORTALITY REVIEW PROGRAM

Healthy babies
are the foundation of a
healthy community.





GREETINGS FROM THE CHAIRPERSONS OF THE ST. LOUIS FIMR CASE REVIEW TEAM AND FIMR COMMUNITY ACTION TEAM

Since its inception in 2003, the St. Louis FIMR program has been committed to bringing the community together to address key issues related to infant and maternal, child health. Unlike other review programs where the focus may be centered solely on looking at demographics, or medical issues, FIMR provides a window into how the loss of an infant impacts families and the totality of the communities they live in, as well as the health care services they receive. FIMR is a twofold process that gives families the opportunity to share their stories in addition to allowing FIMR staff to collect valuable medical information pertinent to the death of an infant.

It is rewarding to work with a fantastic team of multidisciplinary professionals who are taking action steps to implement change within our communities toward reducing the rate of infant mortality. While it is difficult to affect change for such a large problem, it is the small things that we accomplish as a team that may have the biggest impact. We invite you to join us in our endeavors, because every baby deserves a chance to be born healthy and live a long and fulfilled life.

Lastly, to the St. Louis FIMR staff, team members, community partners and constituents, thank you for making this program a success.



Judy Wilson-Griffin, RNC, MSN
Perinatal Clinical Nurse Specialist
Barnes-Jewish Hospital
Chair, FIMR Case Review Team



Joan M. Bialczak
Executive Director, Clinical Operations
Saint Louis University-University Medical Group
Chair, FIMR Community Action Team



FIMR Case Review Team



FIMR Community Action Team

GREETINGS FROM THE FIMR MANAGER



The St. Louis Fetal Infant Mortality Review (FIMR) program of the Maternal, Child and Family Health Coalition (MCFHC) is pleased to present the 2007 FIMR Annual Report to the St. Louis community.

Babies are dying in our communities, and I am sure you would agree that the death of an infant is a painful and unfortunate experience not only for the parents, but for all persons whose lives would have been touched in some way as a young life evolves from infancy into adulthood. We need you to join us and take a stand in combating the tragedy of infant mortality. Healthy babies are the foundation of a healthy community, and the St. Louis FIMR program is committed to decreasing infant mortality rates and helping to improve maternal and infant health. Through continual utilization of the FIMR process, we are committed to understanding how the changing health care systems impact families. We gain insight into what is needed to reduce infant mortality and affect change by engaging in dialogue with community resource agents, health and human service providers, and forming collaborative relationships with those in our communities who can help us ensure that babies are born healthy. We empower communities to improve the systems of care and resources available to women and children, while avoiding duplication of services.

FIMR also provides a voice for families who have suffered the loss of an infant. We would like to express our sincere gratitude and our deepest condolences to the families who have shared their grief and loss experiences with us. Through their experiences, we gain a greater understanding of community needs and develop collaborative solutions to improve the health of women and babies in our communities.

This year's annual report will expound on the St. Louis FIMR program's initiatives and celebrate the hard work and dedication of our constituents and collaborative partners, who assist us in fulfilling the objective and goals of the FIMR program. Heartfelt thanks are also extended to the Maternal, Child and Family Health Coalition staff and members who are dedicated to improving the overall quality and effectiveness of maternal and child health.

Thank you for taking time to review this report, and I hope you are inspired to join us as we forge ahead in our efforts toward ensuring that babies in our communities are born healthy. For further information about the St. Louis FIMR program please call 314-289-5683, e-mail inquiries to rdean@stl-mcfhc.org, or visit www.stl-mcfhc.org.

Warmest regards,



Rochelle Dean

Manager, St. Louis FIMR Program
Maternal, Child and Family Health Coalition

MATERNAL, CHILD AND FAMILY HEALTH COALITION STAFF



Kendra Copanas
Executive Director



Sandii Leland Handrick
Healthy Start Project Director



Jill Thompson
Education Manager



Amber Howlett
FIMR Assistant



Lorna Vaughn
Healthy Start Coordinator

FIMR FACTS

Fetal Infant Mortality Review (FIMR) is a national best practice program that provides a community-based, action-oriented, systematic way for diverse community members to examine and address social, economic, health, environmental and safety factors associated with fetal and infant deaths. Established in 2003 by the Maternal, Child and Family Health Coalition of Metropolitan St. Louis (MCFHC) and serving as the first FIMR program in Missouri, the St. Louis FIMR program reviews fetal and infant deaths throughout St. Louis City and St. Louis County.

The FIMR process begins when a fetal or infant death occurs. FIMR collects and abstracts data from vital, medical and social service records. An extensive home interview is also conducted to record the mother's and family's experiences with the support services available to them and the care received during the prenatal, obstetric and postnatal period.

Case information, which is kept confidential, is then summarized and presented to FIMR's Case Review Team (CRT). After reviewing the case summaries, the CRT begins to identify health system and community factors that may have contributed to the death and make recommendations for community change. The Community Action Team (CAT) translates those recommendations into action and participates in implementing interventions designed to address the identified problem.

Currently four FIMR subcommittees (Education, Prenatal, Postpartum, and Placental Pathology and Autopsy) ensure that FIMR is carrying out recommendations resulting from case reviews. These include increasing education efforts on the dangers of smoking during pregnancy, expanding awareness of safe sleep for infants, improving continuity of health care for pregnant women, and increasing the rate of placental pathology examinations, which provide a greater understanding of the causes of infant deaths.

“The FIMR experience has demonstrated that so often an infant death is a symptom of a more pervasive problem in the community or social structure.”

Aaron Hamvas, M.D.

James P. Keating, M.D. Professor of Pediatrics
Director of Clinical Affairs for Newborn Medicine
Washington University / St. Louis Children's Hospital

FIMR PROGRAM INITIATIVES

Smoking Cessation and Pregnancy Initiative

PROBLEM

Cases reviewed by the St. Louis FIMR from July 2004 to May 2007 revealed that more than half (51 percent) of women who lost a baby smoked while pregnant.

ACTION PLAN

1. Develop a strategy to reduce maternal smoking inclusive of promoting smoking cessation education for pregnant women.
2. Inform health professionals about the importance of counseling pregnant women about smoking cessation.
3. Provide health professionals with resources and training in evidence-based techniques.
4. Offer additional training to health care providers on the Five A's technique, made available through a one-year grant awarded to the St. Louis FIMR program from the March of Dimes in January 2007.

Smoking during pregnancy is the single most preventable cause of illness and death among mothers and infants¹. It has been shown to cause stillbirths, spontaneous abortions, decreased fetal growth, premature births, low birth weight, placental abruption, sudden infant death syndrome (SIDS), cleft palates and cleft lips, and childhood cancers². Of all SIDS cases, 21 percent were attributable to maternal smoking; among smokers, 61 percent of SIDS cases were attributable to maternal smoking³. Thirty-two Missouri infants died in 2003 due to smoking during pregnancy.

In 2001, 13,810 babies were born in Missouri to mothers who smoked⁴. With a rate of 18.2 percent, Missouri is ranked eighth highest among all states for prevalence of smoking during pregnancy⁵. Missouri is also among 15 states with significant increases in teen maternal smoking. The average rate of smoking during pregnancy in St. Louis City is 15 percent; the rate is as high as 25 percent in certain zip codes⁶. Missouri's high rate of maternal smoking costs the state as much as \$10 million a year in otherwise preventable neonatal health care⁷. Costs exceed \$366 million nationwide.

1 Missouri Department of Health and Senior Services (MODHSS)

2 U.S. Department of Health and Senior Services (USDHSS), *Treating Tobacco Use and Dependence*, 2000

3 Shah, T., et al. SIDS and Reported Maternal Smoking During Pregnancy. *American Journal of Public Health*, Oct. 2006, Vol 96. n 10, 1757-1759

4 American Legacy Foundation: *Second Hand Smoke*, 2004

5 MODHSS, *Maternal and Child Health Needs Assessment*, 2005

6 MODHSS, *Center for Health Information & Evaluation; Vital Records*

7 U.S. Centers for Disease Control and Prevention. *Smoking During Pregnancy: United States, 1990-2002, Morbidity and Mortality Weekly Report*, October 8, 2004

“The input of the Community Action Team (CAT) has been helpful to me, as a co-worker in a commercial health plan, because I can relay conversations and suggestions back to our prenatal caseworkers and social workers, and, in turn, relay their comments to the CAT.”

Ricky LaGrange

Manager, Community Relations and Special Programs
Mercy Health Plans

There is reason to believe that pregnant women are not always being counseled by their health care provider on how and why to quit smoking. More than one-third (36.3 percent) of Missouri adult smokers who had seen a health care provider in the last year were *not* advised to quit. However, research shows that brief interventions, only five to 15 minutes at every encounter, increase quit rates by 30 percent to 70 percent⁸. Women expect and want their health care providers to address smoking and to support them while quitting. The technique of the Five A's: Ask, Advise, Assess, Assist and Arrange, has been found to be the best practice in smoking cessation interventions. All providers that have regular contact with the patient should counsel, and the progress should be recorded in the chart. Any encounter with a pregnant patient is an opportunity to encourage smoking cessation.

Safe Sleep Initiative

PROBLEM

Almost two of every five deaths (39 percent) reviewed from July 2004 to May 2007 were attributed to SIDS, accidental suffocation and other related causes.

ACTION PLAN

1. Ensure professionals who provide services and education for prenatal and postpartum mothers are providing safe sleep recommendations that match the latest American Academy of Pediatrics (AAP) guidelines on SIDS reduction, safe sleep, and safe sleep environment.
2. Collaborate with SIDS Resources, Inc. to develop a safe sleep training curriculum.
3. Present safe sleep training curriculum to providers at area hospitals, clinics, educational institutions, daycares, etc.
4. Give pre- and post-test evaluations to rate effectiveness.

⁸ Missouri Model for Brief Smoking Cessation Training, University of Missouri, Columbia

One of the primary goals of the FIMR program is to reduce the number of infants sleeping in unsafe situations in the Greater St. Louis area, which will consequently decrease the number of infants dying from sudden infant death syndrome, accidental suffocation and other related causes. By educating women and those who care for them during the prenatal and immediate postpartum period, we hope to make a positive impact on this public health crisis affecting our area.

Placental Pathology Initiative

PROBLEM

During the period of July 2004 to May 2007, reviews of case summaries indicated that a striking 89 percent of medical records contained no documentation of placental pathology — even though causes of fetal and infant deaths could be attributed to maternal, fetal or placental disease or pathology. Placental pathology results are beneficial for abstraction documentation from medical records and FIMR case studies presented to the CRT.

ACTION PLAN

1. Explore obstetric hospital guidelines and policies on placental exams for laboratories, labor and delivery.
2. Develop a recommended policy for placental examinations.

To address this issue, the CAT Placental Pathology and Autopsy Subcommittee — consisting of a diverse, experienced group of individuals representing several area hospitals and educational institutions — has reviewed placental pathology policies of all obstetric hospitals in St. Louis and compared how each hospital system regulates its placental pathology procedures. A recommended policy was then developed which we hope will serve as a guideline for placental examinations and disposal.

“Despite the multitude of excellent providers and hospitals in St. Louis, infant mortality is too high. We look for issues that are amenable to community action and education to prevent such deaths. This is the essence of good public health.”

Corinne Walentik, M.D., MPH

Neonatologist, SSM Cardinal Glennon Hospital
Professor of Pediatrics, Saint Louis University School of Medicine

FIMR INFANT MORTALITY SURVEILLANCE DATA

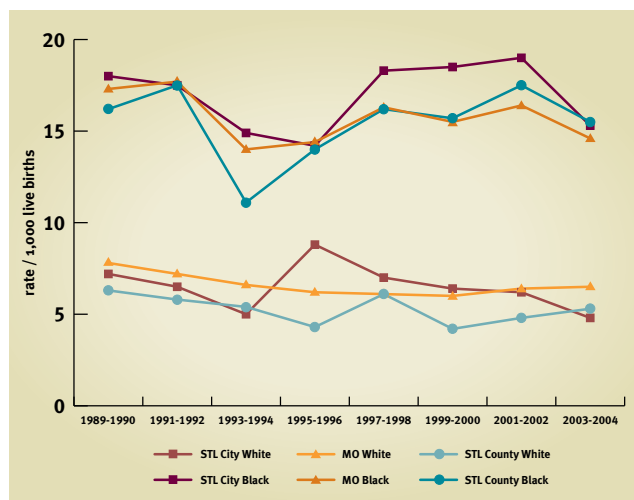


Louise H. Flick, DrPH
Professor, School of Nursing
Southern Illinois University Edwardsville

The St. Louis FIMR collaborates with Louise H. Flick, DrPH, of Southern Illinois University Edwardsville School of Nursing, and Terry L. Leet, Ph.D., of St. Louis University School of Public Health, to monitor infant mortality in St. Louis City and County, to analyze risk factors, and to create maps of neighborhood-specific distributions of infant mortality and risk factors. The purpose of these analyses is to track trends over time and to identify modifiable risk factors specific to St. Louis City and County that are important for public health policy and practice. The maps produced will identify areas to target for intervention.

While past analyses covered the time frame from 1989 to 1999, current year updated surveillance data analyzed by Dr. Flick and Dr. Leet includes data from the 2000 to 2004 time period. All data are from the Missouri Department of Health and Senior Services linked birth and death data file. This surveillance tracked infant mortality for the City of St. Louis and St. Louis County as well as fetal deaths and intermediate outcomes such as preterm birth. Risk factors such as smoking during pregnancy were also tracked. In addition, infant mortality data from 2000 to 2004 was analyzed using multivariate logistic regression to identify the relative importance of particular risk factors. Results were compared to results from a similar analysis of data from 1995 to 1999.

Figure 1 - INFANT MORTALITY



Infant Mortality

Infant mortality rates for whites have declined steadily during the 16 years (Figure 1). Rates for African Americans increased from 1995 to 2002 in all three geographic areas — St. Louis City, County and Missouri — and were higher in 2003-2004 than in the previous decade. Analyses of neonatal and post-neonatal mortality suggest that neonatal mortality accounts for trends in African American infant mortality rates. While the most recent infant mortality rates for all groups during the last 10 years are slightly better than the earliest rates, we have lost, or at least not gained, ground on infant mortality. The St. Louis City and County trends have been similar to those at the state level, although the increase in mortality in the last decade was sharper for African American infants in St. Louis City. At the most recent data point (2003-2004) there is little difference by locality within each race group but St. Louis City and County show greater racial disparity, with three times as many African American infant deaths than white, compared to two times as many for Missouri as a whole.

“The challenge is to decipher which factors indicate risk vs. cause and then which factors are amenable to intervention by way of the Community Action Team. Recurrent issues have already been addressed, and we are hopeful that systemic change will result from the FIMR process.”

Lori Behrens
Executive Director
SIDS Resources

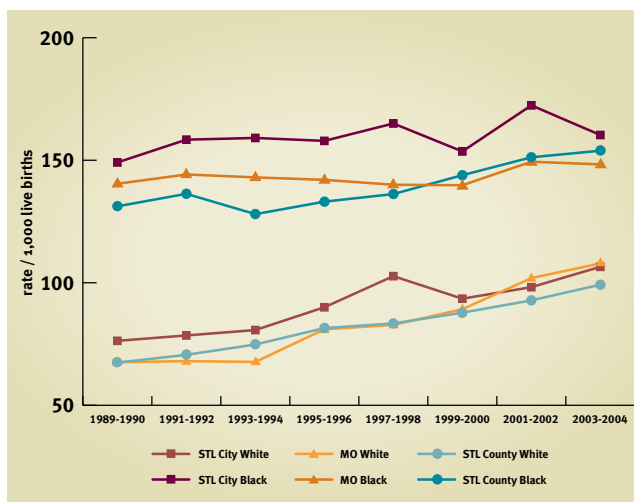
Low Birth Weight

Low birth weight has increased steadily in both races in all three geographic areas. African American rates are about twice that of whites. Examination of moderately low birth weight (1500 to less than 2500 grams) and very low birth weight (less than 1500 grams) births suggests that white rates have increased in both categories while most of the difference in trends for African Americans occurs in the very low birth weight group. African American births show a gradually increasing rate of very low birth weight births in all three areas.

Preterm Births

White preterm births (Figure 2) have increased in all three geographic areas, with a greater rate of increase in the last decade. African American rates have increased in the most recent four years (2000 to 2004). Sub-analyses suggest that moderately preterm births (32 to less than 36 weeks) account for most of the trend in preterm births. While moderately preterm births account for most of the increase in numbers of preterm births, very preterm births (less than 32 weeks) are relatively rare but have higher mortality rates than moderately preterm so even modest trends can significantly affect mortality rates. Very preterm births have been largely stable among African Americans but have increased in the last decade for whites. Racial disparities in preterm births overall have decreased because white rates are increasing at a faster rate than African American.

Figure 2 - PRETERM DELIVERY



“The program identified a cluster of “crib deaths” related to non-parent caretakers who did not know about the “back to sleep” program for babies. This stimulated an ongoing community education program.”

D. Michael Nelson, M.D., Ph.D.

Virginia Lang Professor and Vice Chair
Department of Obstetrics and Gynecology
Washington University School of Medicine

Small for Gestational Age (SGA) Births

SGA births have decreased since the mid-1990s for both races in all three geographic areas. There is little racial disparity with white rates slightly higher than African American.

Risk Factor Analyses

Significant risk factors in both time periods (2000 to 2004 and 1995 to 1999) include the absence of fathers' information on the birth certificate; poor mothers enrolled in fewer than three of the three possible government assistance programs; inadequate prenatal care utilization; adequate plus prenatal care utilization (assumed to be medically complicated pregnancies); inadequate gestational weight gain; and multiple births. A lack of information on the father probably indicates a high level of social risk factors. Surveillance shows this has increased in recent years. The number of government assistance programs in which mothers are enrolled, among those who are enrolled in at least one, has shown a protective effect with two being better than one and three showing the greatest protective effect. In the prior five-year period examined, this was significant only in St. Louis City. For the more recent five years it was significant in both St. Louis City and County. Inadequate prenatal care utilization was predictive of post-neonatal mortality only. One would expect prenatal care utilization to have its greatest impact on neonatal mortality, but adequacy of prenatal care reflects both social risk factors associated with either late entry to care or missed appointments and the effects of inadequate medical monitoring. The association with post-neonatal mortality suggests the effect here reflects social circumstances.

While inadequate gestational weight gain predicted only neonatal mortality in the earlier analyses, in the current analyses (2000 to 2004) it predicted both neonatal and post-neonatal mortality. This was in spite of a declining prevalence in inadequate gestational weight gain in the surveillance data, although the rate of decline has slowed among African American women. Not surprisingly, multiple births remain an important predictive factor and they have been increasing among white births during the entire 16 years and among African American births since 1997-1998.

Several risk factors that were not significant in the multivariate risk analyses are important because the surveillance data suggest they may be important in the future. For instance, the prevalence of births to young mothers has been declining for some time but that decline appears to be leveling off and may begin to increase again. In addition, the apparent emerging trend of increasing tobacco use among pregnant African American women is of concern (Figure 3). Educational efforts, messages from prenatal care providers and warnings about pregnancy risk on tobacco products have brought about major declines in tobacco use in pregnancy in both races during the 16-year period. (Even so, tobacco use in pregnancy in Missouri remains higher than in most other states.) But, the observed increasing tobacco use among pregnant African Americans may reflect the success of recent marketing campaigns by tobacco companies.

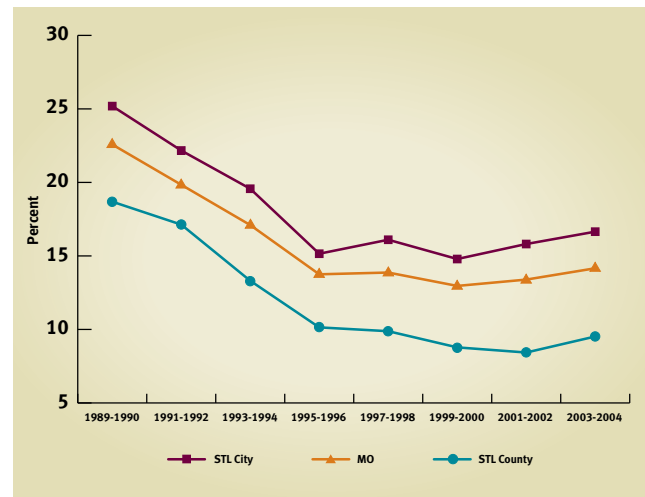
“From the very beginning, the FIMR program has made a difference in the lives of families. FIMR serves as a holistic approach to address the problem of infant mortality.”

Judy Wilson-Griffin, RNC, MSN
 Perinatal Clinical Nurse Specialist
 Barnes-Jewish Hospital

“What is yet to come....continued cooperation, coordination and collaboration from the community at large in FIMR-related initiatives and projects.”

Betty Jefferson, RN, MSN
 Clinical Service Manager
 Lead Prevention Remediation Program
 Grace Hill Neighborhood Health Centers, Inc.

Figure 3 - SMOKING IN PREGNANCY AMONG AFRICAN AMERICANS





Thanks to the hard work and dedication of all persons involved in the St. Louis FIMR program, we will continue to work toward reducing infant mortality rates, and we remain committed to saving the lives of babies. Join us, and together we can make a difference in the St. Louis community.





Maternal, Child and Family Health Coalition

Funding to produce the 2007 FIMR annual report was received from the Missouri Foundation of Health.

Funding to pilot the FIMR program in the 63113, 63120 and 63136 zip codes and expansion to include the entire St. Louis City and County area was received from the U.S. Department of Health and Human Services, Public Health Service, Health Resources and Services Administration, Maternal Child Health Bureau, Division of Healthy Start, the Missouri Department of Health and Senior Services, and the Missouri Foundation for Health.