



**Preventing
Infant Mortality
in Ohio:
Task Force Report**

November 2009



November 30, 2009

The Honorable Ted Strickland
Governor of Ohio
Riffe Center, 30th Floor
77 South High Street
Columbus, OH 43215-6108

Dear Governor Strickland:

Despite continuing statewide and local efforts, Ohio's infant mortality rate fails to meet the nationally established goal, exceeds the national rate and has not improved in more than a decade. Persistent disparities in birth outcomes and infant health within the first year of life exist between the population as a whole and certain subpopulations. Ohio recognizes that a new, science-based, coordinated approach to reducing infant mortality will create a better quality of life, assure healthier children, strengthen families and contribute to a more efficient and cost-effective use of medical services.

Toward that end, we are pleased to provide the final report of the Ohio Infant Mortality Task Force. In developing the recommendations and strategies contained in the report, major themes emerged: complete and coordinated health care throughout a woman's and child's life is essential to prevent infant mortality; disparities in infant mortality and their underlying causes including racism need to be eliminated; evidence-based practice and data must be used to drive decisions; and public education about infant mortality and ways to decrease it are needed. The recommendations and strategies contained in the report outline a beginning, not an end, to a process which must continue into the future on many fronts to improve the health of Ohio's women, infants and families. Establishing an ongoing consortium is key to continuing the work the task force has started.

We thank you for the opportunity to serve our state by addressing this important challenge and would like to acknowledge with deep gratitude the contributions our task force members and stakeholders have made. We recognize that broad-based, long-term partnerships – involving public health officials, policymakers, community members, health care providers, payers and others – are crucial for successfully addressing infant mortality and disparities. More than 70 participating members generously shared their expertise and were engaged and energized throughout this process.

We know you share our vision of creating a better future for our residents through better health for all of Ohio's women, infants and families.

Sincerely,



Thomas G. Breitenbach, Co-chair
CEO, Premier Health Partners, Inc.



Alvin D. Jackson, M.D., Co-chair
Director, Ohio Department of Health



Executive Summary1

What is Infant Mortality and Why Should We Care?5

Efforts to Address Infant Mortality in Ohio11

The Task Force and Its Process14

Recommendations and Strategies16

Appendices27

 Appendix A: Ohio Infant Mortality Task Force Recommendations Work Plan November 30, 2009

 Appendix B: Preventing Infant Mortality in Ohio: A Call to Action

 Appendix C: Infant Mortality Risk Factors and their Prevalence

 Appendix D: Infant Mortality by County Quartiles - Ohio, 2004-7

 Appendix E: Low Birth Weight Births by County and Selected Cities- Ohio, 2004-2006

 Appendix F: Levels of Racism: A Theoretic Framework and a Gardener’s Tale

 Appendix G: Efforts to Address Infant Mortality in Ohio: 1970-2008

 Appendix H: Ohio Programs Addressing Infant Mortality

 Appendix I: Research Addressing Infant Mortality in Ohio

 Appendix J: Timeline/Developing a Plan to Address Infant Mortality and Disparities in Ohio

 Appendix K: Excerpt from the Governor’s Task Force on Black and Minority Health

Glossary of Terms67

References69

Resources70

Infant Mortality Task Force and Committee Members74



"Infant deaths are at the heart of our inadequate health care system. Why should any infant die because their mother had no health insurance before she became pregnant, had little access to treat anemia, depression, asthma, diabetes or hypertension, or to safely space her last pregnancy? Infant deaths are preventable if we realign our priorities and our financial incentives. Thank you for allowing me to be part of this process to help set Ohio on a path to better health for women and children."

Patricia Temple Gabbe, MD MPH
Infant Mortality Task Force Member
Clinical Professor of Pediatrics
Ohio State University and Nationwide Children's Hospital
Senior Medical Director Advisor OSUMHCS

Executive Summary

The infant mortality rate is an important measure of how well we care for our women and children and the overall health of our society. This rate is calculated as the number of all live-born infants per 1,000 who die within the first year of life. The United States, at a rate of 6.4¹, has a higher infant mortality rate than 28 other developed nations¹. Ohio's rate of 7.8 (2006)², after steadily decreasing for years, has not substantially changed for more than a decade. The infant mortality rate in Ohio is the twelfth-highest in the country³ and exceeds the national goal of 4.5 established by the federal Department of Health and Human Services in the Healthy People 2010 initiative. Preterm birth (before 37 weeks of gestation) is the leading cause of Ohio's infant mortality, chiefly because of the high rate of preterm birth in African Americans. There are marked disparities (differences) in birth outcomes when comparing different racial, ethnic and geographic subpopulations.

Recognizing this situation to be unacceptable, in early 2009, Gov. Ted Strickland asked the Ohio Department of Health (ODH) to establish the Ohio Infant Mortality Task Force to (1) take a fresh look at the reasons behind Ohio's overall infant mortality rate and increasing disparities among different populations; and (2) develop recommendations and strategies to prevent infant mortality and disparities.

A group of about 70 individuals made up the task force, co-chaired by Thomas G. Breitenbach, CEO of Premier Health Partners, Inc., and ODH Director Alvin D. Jackson, M.D. Membership represented a wide range of public and private health providers, businesses, government agencies, associations, faith-based organizations, advocacy groups and consumers from across the state. Participants brought knowledge, experience and a shared commitment to make positive changes resulting in better health for Ohio women, infants and families. The task force was launched March 6, 2009, and held four plenary meetings and many committee meetings and conference calls throughout the summer.

The task force, in examining information from many different sources, was confronted head-on with the disturbing fact that Ohio's basic ability to take care of its women and children and assure healthy, full-term deliveries and infant health/safety lags behind, and in some cases *far behind*, that of most other states and developed nations. To briefly illustrate:

- Ohio's African-American infants die at more than twice the rate of white infants.
- Ohio's death rate for white infants alone is two to three times that of all infants in some nations⁴.
- A shortage of women's health providers in many areas of the state results in long waits for prenatal care and long drives to primary care and delivery hospitals for many Ohio women.
- Many Ohio women have no reproductive health care coverage.
- Medical interventions known to be effective in preventing premature delivery are not being applied universally.
- Gaps exist in data that affect our ability to fully understand and impact infant mortality.
- Many Ohioans are unaware of the relationship between preventive health care for women, and successful pregnancies which produce healthy infants.

What is the one thing we can do to reduce infant mortality and disparities right now?

Unfortunately, a single, simple answer doesn't exist.

Successfully addressing a complex challenge requires a variety of approaches working together over time. Infant mortality is tied to health and medical care, but also to societal norms, food, shelter, employment and more. Some of these factors can be influenced by government and the public health establishment. Others require changes in personal health choices, the practice of medicine, business and even the way we think about one another. The important first steps are to take action based on what we know works and abandon nonproductive approaches, as well as to raise general awareness and change the public's perceptions about infant mortality.

The task force attempted to determine why these conditions exist and what can and should be done about them.

Ten recommendations and accompanying strategies to reduce infant mortality and disparities in Ohio were identified reflecting the following overarching themes:

- complete and coordinated health care throughout a woman's and child's life is essential to prevent infant mortality;
- disparities in infant mortality and their underlying causes including racism exist and need to be eliminated;
- evidence-based practice and data must be used to drive decisions; and
- public education about infant mortality and ways to decrease it are needed.

The task force's recommendations and strategies can be found in the report as well as in the work plan (Appendix A) which includes projected time frames, suggested partners and potential costs. A key recommendation is to establish an ongoing consortium to assure effective implementation of task force recommendations and to evaluate progress in continued efforts to address infant mortality and disparities. This consortium is where the real work will begin.

RECOMMENDATION I:

Provide comprehensive reproductive health services and service coordination for all women and children before, during and after pregnancy.

Many of the causes of infant mortality are best addressed prior to pregnancy. Comprehensive medical services and community-based interventions have been successful in improving health outcomes.

RECOMMENDATION II:

Eliminate health disparities and promote health equity to reduce infant mortality.

Disparities in infant mortality are longstanding in Ohio and are reflective of the social determinants of health. These disparities can be geographic, economic, racial, and cultural.

RECOMMENDATION III:

Prioritize and align program investments based on documented outcome and cost effectiveness.

Widespread use of evidence-based practices, data analysis, evaluation, and statewide implementation should lead to a reduction in infant mortality. Use of limited resources should be prioritized based on proven effectiveness.

RECOMMENDATION IV:

Implement health promotion and education to reduce preterm birth.

Preterm birth is the No. 1 cause of infant mortality and can be reduced through education and interventions to reduce risk factors.

RECOMMENDATION V:

Improve data collection and analysis to inform program and policy decisions.

Quality data collection, analysis and interpretation are critical to the success of infant mortality reduction initiatives. Developing and sharing accessible data products are essential to making sound program and policy decisions.

RECOMMENDATION VI:

Expand quality improvement initiatives to make measurable improvements in maternal and child health outcomes.

Systematically applying quality of care improvement strategies to infant mortality reduction initiatives can play a pivotal role in improving birth outcomes.

RECOMMENDATION VII:

Address the effects of racism and the impact of racism on infant mortality.

Racial disparities in poor birth outcomes are well recognized yet remain poorly explained. Exploring the potential effects of racism on health will enable the development of appropriate interventions.

When addressing infant mortality or any public health issue, the question of money arises. How much does it cost to fix the problem? How can we afford to fix it? Conversely, how much will infant mortality cost if we don't fix it? There are no quick and easy answers. We can begin by examining prematurity (baby born before 37 weeks of gestation), the leading cause of infant death in Ohio:

- 19,438 babies (13% of live births) were born prematurely in Ohio in 2007.
- Nationally, the average hospital cost for premature babies is \$49,033 vs. \$4,551 for a full-term, healthy baby.
- Applying those figures to Ohio, premature babies in 2007 cost its citizens nearly \$1 billion. This does not include the costs associated with maternal hospitalizations or long-term health problems and disabilities.
- Medicaid, a joint federal-state program funded with tax dollars, pays for 40% of all births in Ohio.
- Low birth weight babies born to women on Medicaid account for over 50% of all Medicaid birth expenditures while representing only about 10% of all Medicaid births.
- Prematurity affects 10% of babies covered by employer health plans.
- Prematurity increases health care costs to employees by more than 300%.
- Prematurity costs companies thousands of dollars in absenteeism and lost productivity.

More information is needed to accurately assess the impact of a decreased infant mortality rate on these costs. When the cost of inaction is considered, preventive care to women before and during the child-bearing years begins to look like a bargain.

(Data from Ohio Department of Health, March of Dimes, and Ohio Department of Job and Family Services)



RECOMMENDATION VIII:

Increase public awareness on the effect of preconception health on birth outcomes.

Many causes of poor birth outcomes may successfully be addressed prior to pregnancy. Investment in culturally competent social marketing and education strategies may lead to improved outcomes.

RECOMMENDATION IX:

Develop, recruit and train a diverse network of culturally competent health professionals statewide.

Health professionals from many disciplines should reflect the racial, ethnic, and cultural makeup of Ohio's population.

RECOMMENDATION X:

Establish a consortium to implement and monitor the recommendations of the Ohio Infant Mortality Task Force (OIMTF).

Addressing the issue of infant mortality requires effective oversight. The charge of the consortium will be to implement and monitor the recommendations set forth by OIMTF.

Successfully addressing the challenges of infant mortality and disparities requires committed individuals working together. Local actions can begin now! See Appendix B, Preventing Infant Mortality in Ohio: A Call to Action.

References

1. 2004, National Center for Health Statistics
2. 2007, Ohio Department of Health Vital Statistics
3. Heron MP, Hoyert DL, Murphy SL, Xu JQ, Kochanek KD, Tejada-Vera B. Deaths: final Data for 2006. National vital statistics Reports; vol 57 no 14. Hyattsville, MD: National Center for Health Statistics. 2009.
4. CIA World Factbook <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2091rank.html>

What is infant mortality and why should we care?

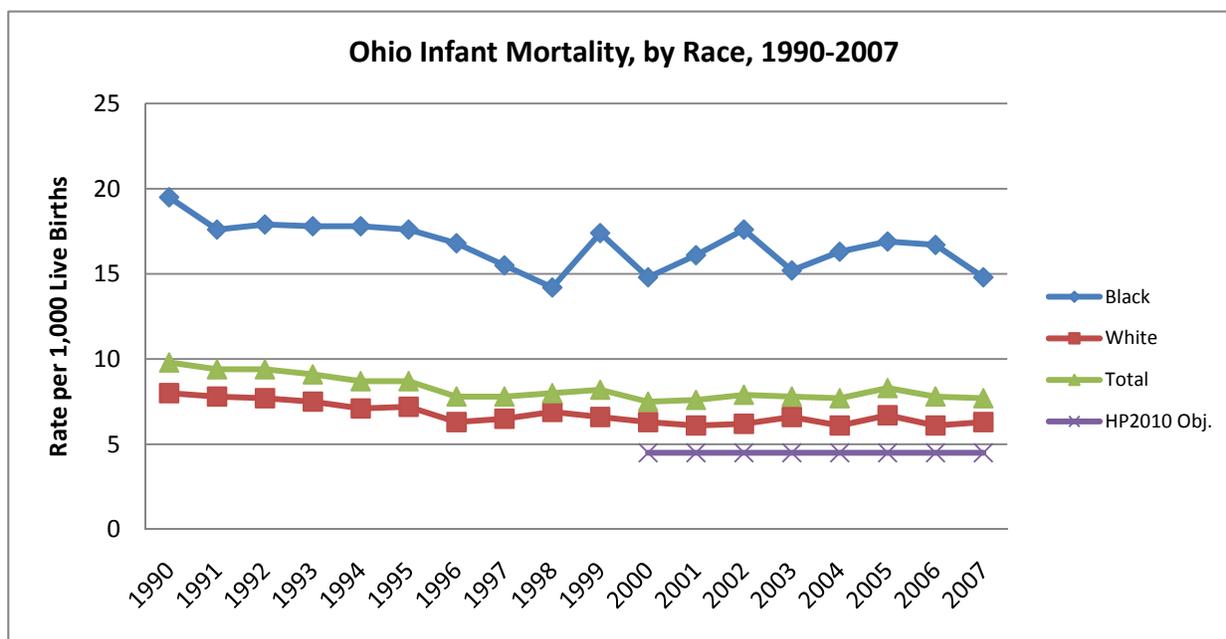
Infant mortality is the rate at which babies die before their first birthday. In Ohio, that equates to over 1,000 babies each year. Infant mortality is a way to gauge large trends in children's and women's health, the quality and availability of medical care, public health practices, and the overall economy¹. In the United States, the infant mortality rate is 6.4 per 1,000 live births, and is worse than 28 other developed nations².

How big is the problem in Ohio? Ohio's infant mortality, after steadily decreasing for years, has not substantially improved for more than a decade. The 2006 infant mortality rate in Ohio, 7.8³, is the twelfth-highest in the country⁴ and exceeds the goal for Healthy People 2010 (4.5). The states with rates worse than Ohio, as of 2006, were primarily southern states: Alabama, Arkansas, Delaware, Georgia, Indiana, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina and Tennessee.

Is everyone affected equally? In addition to the poor showing of the United States internationally and Ohio nationally, there are marked disparities within Ohio when comparing different racial, demographic and geographic subpopulations. As seen in Figure 1 below, the black population is disproportionately affected by high infant mortality. A black infant born in Ohio is two and one half times as likely to die in the first year of life compared to a white infant born in Ohio. The disparity has remained unchanged for more than a decade and is similar to the national ratio.

Other demographic groups that are disproportionately affected include adolescents (ages 15-17 years) of all races and ethnicities and those residing in Ohio's Appalachian counties. Other geographic communities show higher rates of infant mortality as well.

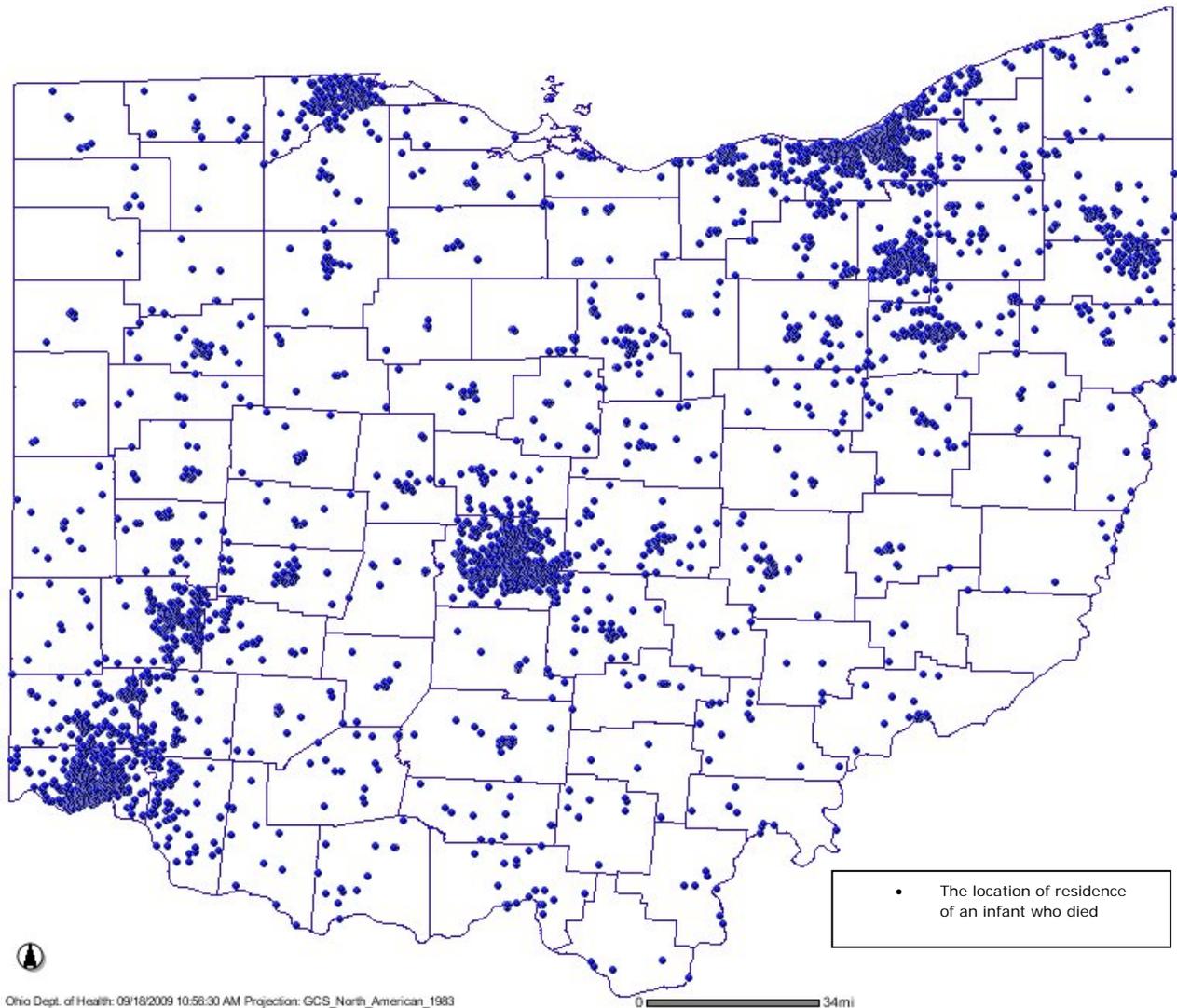
Figure 1



To investigate infant mortality through mapping, a multi-disciplinary team from the ODH State Epidemiology Office and the Center for Public Health Statistics and Informatics was formed. They identified an opportunity to use an existing ODH application, Ohio Public Health Analysis Network, which was being used to map cancer, rabies, and strategic national stockpile resources. This interactive tool maps infant death data by county or census block and also by race, ethnicity, age of death and other risk factors such as community poverty level (see Figure 2). Infant mortality risk factors and their prevalence can be found in Appendix C. The physical location of hospitals, health centers, and clinics is also possible. Additional maps can be found in Appendix D and E.

Figure 2

Infant Deaths in Ohio, 2004-2007



Why are infants dying? Prematurity and congenital anomalies are the leading causes of infant deaths, according to Ohio's Child Fatality Review program. In 2007, prematurity and congenital anomalies accounted for 62 percent of infant deaths from all causes and they account for 80 percent of the deaths to infants 0-28 days old.

To further understand the causes of infant mortality, disparities and opportunities for prevention, Ohio examined infant mortality using a new method called Perinatal Periods of Risk (PPOR) which identifies "excess" or preventable deaths and assigns the causes to one of four strategic prevention areas: maternal health/prematurity, maternal care, newborn care and infant health (see Figure 3).

What are "excess" infant deaths? Excess deaths are deaths that would have been prevented if all population groups in the state had death rates as low as the group in the state with best outcomes (a reference population). The premise is that all groups in the state can achieve the same outcomes as the group with the best outcomes in the state. Using the PPOR methodology, it was determined that approximately one third of all infant deaths in Ohio, almost 400 deaths per year, could be prevented if all groups achieved the same infant mortality rate as the group with the best outcomes.

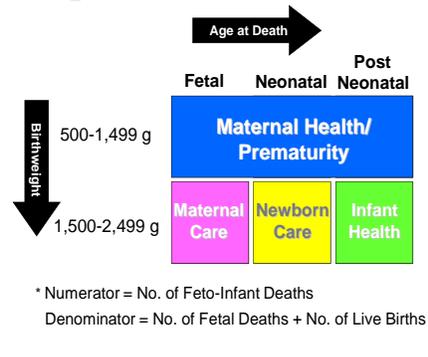
Excess deaths were examined separately for each of four strategic prevention areas. Compared to the group in the state with the best outcomes, the greatest amounts of excess fetal and infant deaths in Ohio (see Figure 4) were found among mothers who were:

- black women of all ages
- teens (15-17 years) of all races and ethnicities
- black teens

Ohio Looks at Infant Mortality in a New Way

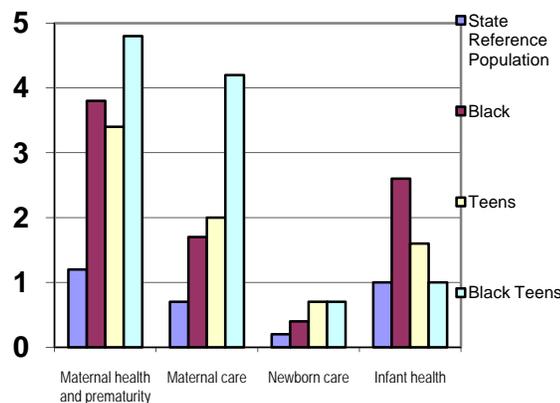
To further understand disparities in Ohio's infant mortality, an analysis was conducted using the perinatal periods of risk (PPOR) methodology. PPOR is a simple tool developed at the Centers for Disease Control and Prevention (CDC) to examine infant and fetal deaths. PPOR mapping enabled Ohio to identify populations with excess mortality, examine reasons for the excess mortality and further investigate areas in which there are the greatest opportunities for impact.

Figure 3 – Perinatal Periods of Risk



In this approach, deaths are grouped on a two-dimensional map into one of four *strategic prevention areas* depending on the weight and age of the infant at death (see Figure 3). The names of each of the four groups suggest the primary prevention direction for those deaths.

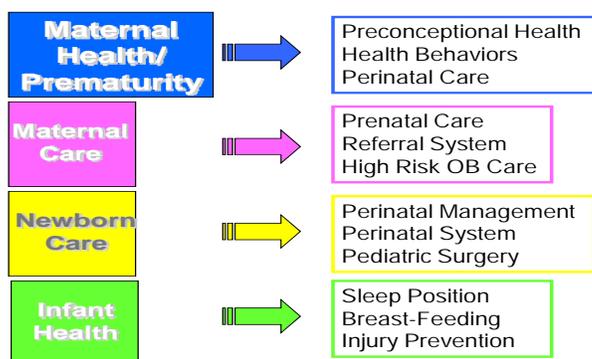
Figure 4 - Excess Infant Mortality as Compared to Reference Group Ohio 2000-2001



What are the reasons for excess deaths and how can we prevent them? Strategies to promote reproductive health for women and their babies should focus on populations at greatest risk for excess deaths. Each category of PPOR is associated with different causes of fetal and infant deaths. The category titles: maternal health/prematurity, maternal care, newborn care and infant health, suggest the direction for primary prevention of those deaths (Figure 5).

Figure 5

Primary Prevention Direction



Investigation into Ohio’s infant mortality using PPOR led to the identification of not only the populations with the greatest amount of excess deaths, but also the categories with the greatest opportunities for prevention.

➡ Maternal Health and Prematurity

Most excess deaths had causes related to maternal preconception health (the health of the mother before she became pregnant) and prematurity. A mother’s preconception health has a great impact on the health of her infant. Risk factors include smoking, late/inadequate prenatal care, high parity and multiple gestations. Prevention may need to focus on preconception health and avoiding unintended pregnancy. Many women in Ohio face challenges to good preconception health. For women who had babies born in Ohio in 2007, before becoming pregnant: 1 in 4 had no health insurance, 1 in 2 were not taking a vitamin, 1 in 5 were obese, an additional 1 in 4 were overweight, 1 in 2 were using alcohol, and 1 in 3 smoked. Of special note, the mothers of 1 in 2 infants were not intending to become pregnant at the time of conception⁵. Time since last pregnancy is a risk factor for premature birth; an inter-pregnancy interval of at least 24 months is recommended. However, approximately 15% of infants born in 2007 were born to mothers who had had another live birth within 24 months.

➡ Infant Health

The second-largest number of excess deaths in Ohio was attributed to infant health where deaths occur after the first 27 days of life. The largest number of deaths was attributed to sudden infant death syndrome (SIDS). Risk factors include smoking, lack of breastfeeding, and lack of a safe sleeping environment. Prevention may need to focus on sleep position education, breastfeeding promotion, access to medical homes and injury prevention.

Unfortunately, the prevalence of safe sleep position is lower than desirable. At least one third of infants sleep in the non-recommended prone position most of the time⁶. About 1 in 5 share a sleep surface with someone else. As of 2006 Ohio had the 4th lowest rate of breastfeeding initiation in the country, with only 59% of children ever breastfed compared to 74% nationally⁷. One in 10 children under the age of 6 years is exposed to smoking inside the home, a rate twice as high as the national rate. An additional 1 in 4 children under 6 live with a smoker who reports not smoking inside the home⁸. Almost one third of Ohio children through age 5 do not receive health care that meets the American Academy of Pediatrics (AAP) definition of medical home.⁸

Maternal Care

The third-largest number of excess deaths had causes related to the quality of prenatal care. Prevention needs to focus on early and continuous prenatal care and the specialized care of high risk pregnancies including management of diabetes, hypertension, seizures, or other medical problems. Of babies born in 2007, 17 percent of their mothers did not receive prenatal care in the first trimester. Improving access to care is not sufficient; quality improvement programs are also needed to ensure practitioner adherence to existing clinical standards and timely introduction of new guidelines into practice.

Newborn Care

In the category of newborn care, mortality rates for all groups studied were close to the best achievable rate. Technologic and pharmaceutical advances of the past three decades have contributed to successes in this area. Examples include development of neonatal intensive care units and use of artificial surfactant. For this category, prevention activities need to focus on maintaining the progress already seen in promoting regionalization of neonatal care so that very low birth weight (VLBW) and other at risk infants are born at hospitals with Level III nurseries; and on promoting the development of a state-wide birth defects surveillance system.

Common themes exist for all the categories. One of these is the need for improved access to health care before, during and after pregnancy for both mothers and babies. Another is the acknowledgement that smoking is a leading and preventable cause of poor birth outcomes, specifically, low birth weight, SIDS, prematurity due to preterm premature rupture of the membranes and placental abruption. Unfortunately, Ohio has one of the highest prenatal smoking rates in the country and actually showed a statistically significant increase between 2000 and 2005⁵.

Levels of Racism: A Theoretic Framework and A Gardener's Tale, Camara Phyllis Jones, MD, MPH, PhD

The author presents a theoretic framework for understanding racism on 3 levels:

Institutionalized - differential access to the goods, services, and opportunities of society by race;

Personally mediated - prejudice (differential assumptions) and discrimination (differential actions) by individuals towards others; and

Internalized - acceptance by members of the stigmatized races of negative messages about their own abilities and intrinsic worth. This framework is useful for raising new hypotheses about the basis of race-associated differences in health outcomes, as well as for designing effective interventions to eliminate those differences.

Dr. Jones then presents a helpful allegory, *The Gardener's Tale*, which illustrates the relationship among the 3 levels of racism and may guide our thinking about how to intervene to mitigate the impacts of racism on health. It may also serve as a tool for starting a national conversation on racism (*Am J Public Health*. 2000; 90:1212-1215).

See Appendix F, also

http://www.citymatch.org/UR_tale.php

What explains the racial disparity? The racial disparity seen in Ohio is found nationwide and studies have found that it persists even after controlling for known risk factors including health behaviors, teen pregnancy, marital status, education, poverty and genetics. In Ohio, a racial disparity remains even when accounting for socioeconomic factors and other known risk factors for infant mortality. For example, an infant born to a black mother in Ohio who has five or more years of college education still has a greater chance of dying (Infant mortality rate [IMR]=10.1⁹) when compared to an infant born to a white mother with a high school education or less (IMR=7.3⁹). It has also been shown that when foreign-born black women move to the United States and lived here for a generation, their infant mortality rates increase to that of American-born black women¹⁰. These studies suggest that it is not race itself, but something related to the experience of living in the United States as a black woman that causes the disparity. The leading hypothesis identifies that experience as racism and the stress that is caused by a lifetime of facing racial prejudice¹¹. Therefore, in addition to risk factors that are identified through methodology such as perinatal periods of risk (PPOR), any comprehensive efforts to reduce infant mortality and disparities must address racism and other conditions in which people are born, grow, live and work.

Racism is defined by Dr. Camara Jones, a leading researcher at the Centers for Disease Control and Prevention, as a system of structuring opportunity and assigning value based on the social interpretation of how we look. This system unfairly disadvantages some individuals and advantages others.

Historically, efforts to reduce or prevent infant mortality focused on access to prenatal care. While prenatal care is still important, there are other factors to consider. Preconception health and the opportunity to reduce risks before pregnancy are very important in improving birth outcomes. Other forces besides traditional biomedical risk factors such as chronic stress, poverty and racism may play a role in infant mortality.

The task force used the preceding data as well as the latest research and evidence-based interventions to craft their recommendations and strategies. The absence of data in some areas prompted recommendations for better data collection systems.

Efforts to Address Infant Mortality in Ohio

Many programs and initiatives in Ohio have focused on the issue of infant mortality over the past several decades, either directly or indirectly. These include community, county, and state-led efforts. While not an exhaustive account, Appendix G depicts these major programmatic, legislative, and public policy milestones over a forty-year period. Some of the highlights are described below.

In **1974**, the **Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)** was implemented at the Ohio Department of Health (ODH). The program is intended to reach income-eligible pregnant, postpartum and breastfeeding women, infants and children up to five years of age with a health or nutritional risk. Ohio WIC supports breastfeeding as an essential service by providing education, breast pumps and mother-to-mother counseling through the Ohio Peer Helper Program. Ohio WIC is the seventh-largest WIC program in the country, with a monthly average of 292,937 participants. Nearly 80 percent of Ohio's potentially eligible population was served last year and more than half of all infants born in the state received WIC services.

In **1974**, Ohio became one of the first states in the country to develop a genetics state plan promoting a regional approach to providing genetic services by coordinating testing, evaluation and counseling services. Today, ODH funds 7 **Regional Comprehensive Genetic Centers** throughout the state serving over 60,000 Ohioans annually for medical evaluation, genetic counseling and education. The number of women of childbearing age seeking preconception and prenatal genetic services has increased steadily over the years. Approximately 5,000 prenatal patients receive clinical genetics services each year.

In **1977**, ODH adopted state perinatal guidelines and with a subsequent review of the system in 1993, formed six **Regional Perinatal Centers**. The Regional Perinatal Center (RPC) program provides funding to support efforts in coordinating resources for prenatal, delivery/birth, postpartum, and newborn care. RPCs facilitate a Perinatal Data Use Consortium team and assist hospitals, local health departments and other public health entities with quality improvement activities, data collection protocols and quality assurance policies and procedures regarding issues in birth outcomes and perinatal care.

In response to health disparities between the majority and minority populations, the State of Ohio in **1986** created the **Governor's Task Force on Black and Minority Health**. Its goal was to examine the conditions under which gaps in health and health care services for black and minority communities exist and to recommend methods by which the gaps could be closed. Among the recommendations in the task force's final report was the creation of a **Commission on Minority Health** in 1987. The commission was the first concerted effort by a state to address the disparity in health status between majority and minority populations. The commission is an autonomous state agency with a biennial appropriation of \$3.5 million dollars of general revenue funds.

In **1988**, Ohio Medicaid initiated the **At-Risk Pregnancy Services Program** (now the **Pregnancy Related Services Program**) to improve and maintain the health of pregnant women, increase the chances for healthier babies and to promote positive birth outcomes. The program established a standardized prenatal risk assessment for pregnant Medicaid-eligible women and enhanced reimbursement for prenatal care. In **2000**, Medicaid eligibility for pregnant women increased to 150% of the federal poverty level, and in **2008**, eligibility increased to 200%.

There are 102 federally funded Healthy Start sites located across the country in communities with higher than average infant mortality rates. Service is provided during pregnancy and up to two years following delivery. The purpose of this project is to address the significant disparities in perinatal health experienced by the African-American community. Ohio is home to two Healthy Start projects: The Cleveland **Moms**



First Program has been federally funded since **1991** and the Columbus Public Health (CPH) Department **Caring for 2 Project** since **2000**.

In **1993**, ODH began a statewide program directed at women at the highest risk of poor birth outcomes—**The Ohio Infant Mortality Reduction Initiative**. It is designed as a community-based effort to eliminate health disparities, improve birth outcomes and improve the health status of women, infants and children in Ohio. The focus is on African-American populations in geographic areas at greatest risk of poor birth outcomes. In 2007, approximately 800 women were served at 13 sites throughout Ohio. A community health worker makes home visits on a regular basis during pregnancy and through the baby's second year of life, identifies and reinforces risk reduction behaviors, and collaborates with other agencies in making appropriate referrals when necessary to assure positive pregnancy and infant health outcomes. A combination of federal, state and local monies are provided through grants to local health departments, community action agencies or hospitals to implement this program.

The **Ohio Child Fatality Review (CFR) Program** was established in **2000** by the Ohio General Assembly and initiated statewide in 2001. The law mandates a review of the deaths of all children younger than 18 by a county or regional CFR board comprised of multidisciplinary groups of community leaders. The mission of CFR is to reduce the incidence of preventable child deaths in Ohio. A total of 1,676 reviews of 2007 child deaths were reported by 88 local CFR boards. This represents 94 percent of child deaths for 2007 reported by Ohio Vital Statistics. Deaths to infants younger than one year accounted for 65 percent (1,086) of the reviews. Prematurity was the most frequent cause of infant deaths, accounting for 48 percent (520). More than half of the 88 counties shared information about local prevention initiatives and activities that have resulted from the CFR process.

In **2001**, Ohio established the **Help Me Grow Program (HMG)**. HMG is Ohio's birth-to-age-three system that provides state and federal funds to county Family and Children First Councils to be used with state, local and other federal funds to implement and maintain a coordinated, community-based infrastructure that promotes transdisciplinary, family-centered services for expectant parents, newborns, infants and toddlers and their families.

In **2003**, First Lady of Ohio (Emeritus) Hope Taft, in partnership with members of the Ohio Family and Children First (OFCF) Cabinet Council, formed the **Fetal Alcohol Spectrum Disorders (FASD) State Steering Committee**. The FASD Steering Committee is comprised of representatives of 9 state agencies, 3 universities, public and private providers and families affected by FASD. The goals of the initiative are to reduce alcohol exposed pregnancies, improve screening and diagnosis for FASD, increase the availability and awareness of services for those affected by FASD, and maintain and enhance collaboration and integration of the

FASD initiative within state systems. FASD is the leading cause of preventable birth defects and is 100% preventable. Ohio's FASD website www.notasingledrop.org has received national attention.

In **2003**, ODH received funding from the Centers for Disease Control and Prevention (CDC) to implement Ohio Revised Code 3705.30, the establishment and implementation of **Ohio Connections for Children with Special Needs**, a statewide birth defects information system. This legislation mandates hospitals and physicians to report children from birth to five years of age with a congenital anomaly or birth defect to the ODH. The purposes of the system are to identify and describe congenital anomalies, to detect trends and epidemics in congenital anomalies, to quantify morbidity and mortality of congenital anomalies, to stimulate research, to identify risk factors, to facilitate access to treatment, and to inform and educate the public about birth defects and how they may be prevented. In Fall, 2007, all hospitals in Ohio began reporting to ODH. Birth defects occur in approximately 4% of live births. Over 16,000 children have been reported to Ohio's system.

Based on an analysis of Ohio's disparities in infant mortality and contributing factors, the **Birth Outcomes Improvement Initiative (BOII)** was begun in **2005**. The data suggested that the biggest opportunity for improving birth outcomes lies in developing pre/interconception care for reproductive-aged women. This initiative focuses on evidence-based strategies that include existing programs as well as new approaches to improve birth outcomes. This initiative brings together ODH's maternal and child health programs (Early Intervention, WIC, Genetics and Birth Defects programs, Family Planning and Perinatal Care) with community partners. BOII partners currently collaborate on strategies that align with the Center for Disease Control (CDC) *Recommendations to Improve Preconception Health and Healthcare* released in 2006.

The **Ohio Perinatal Quality Collaborative (OPOC)**, founded in March **2007**, is a group of providers, payers and state agencies that uses quality improvement (QI) methods to improve perinatal health statewide. OPOC is one of several improvement projects participating in the Ohio Child Health Improvement Partnership (OCHIP). Transformation Grant funding through ODJFS supports statewide data management systems (Web-based and ODH Vital Statistics), technical assistance from QI experts from the National Initiative for Child Health Care Quality (NICHQ) and the Center for Health Care Quality, statewide meetings and other administrative support. See page 27 for details on current projects.

Additional Infant Mortality Efforts

No available database exists to provide a comprehensive inventory of local and state projects/initiatives for issues related to infant mortality in Ohio. In an effort to develop such a resource, the OIMTF conducted two electronic surveys. One survey asked for information about programs; the other for information about related research projects. Queries were sent to all four-year institutions of higher learning in Ohio, both public and private. In addition, the surveys were sent to task force members to forward to colleagues within their organizations. The information obtained may be found in Appendix H and I. Ultimately, this information will be compiled into two repositories on the OIMTF Web site and updated at regular intervals.



The Task Force and Its Process

Despite the efforts described in the previous section, infant mortality rates in Ohio remain unacceptably high, particularly among certain populations. This concerned the governor. At the direction of Gov. Ted Strickland, the Ohio Department of Health (ODH) convened a 30-member Ohio Infant Mortality Task Force (OIMTF) to oversee the development of a comprehensive, coordinated state plan to address infant mortality. The co-chairs, Thomas G. Breitenbach, CEO of Premier Health Partners, Inc., and ODH Director Alvin D. Jackson, M.D., engaged another 40 experts/leaders in the fields of preconception, prenatal, neonatal, and postnatal health; representatives from state agencies, health provider and social service associations; advocacy organizations; faith-based organizations; businesses; universities and colleges, community members; and other interested stakeholders.

The charge of the workgroup was to develop recommendations and strategies that support and/or integrate into new and existing efforts to address the infant mortality issue at the state and local level. In fact, task force members were challenged by the co-chairs to be “bold and courageous” in strategizing ways to reduce an infant mortality rate that has remained unchanged for almost a decade.

A photograph of a woman with dark hair, wearing a white top, holding a baby. The image is faded and serves as a background for the text.

The task force was launched March 6, 2009, and held four plenary meetings and many committee meetings and conference calls throughout the summer (see Appendix J). Early on in the process the task force formed into four committees based on the categories of PPOR (see page 7): maternal health/prematurity, maternal care, newborn care and infant health. These committees met separately to work on their areas of concentration and came together for monthly task force meetings. Each committee reviewed evidence-based and best practices from the public health and medical literature and examined related indicators for infant mortality and associated risk factors as they developed preliminary recommendations and strategies.

In addition to establishing a Web site (see <http://www.odh.ohio.gov>) and a SharePoint site, ODH staff members supported the task force by developing and conducting surveys of infant mortality-related research efforts and programs throughout Ohio to provide information for the final report (see Appendix H and I). ODH staff also received technical assistance funding from the federal Maternal and Child Health Bureau within the US Department of Health and Human Services to engage an expert facilitator to coordinate task force meetings.

After preliminary recommendations were provided to the governor's office in late June 2009 ODH solicited input on the preliminary recommendations from a wide range of stakeholders across Ohio to incorporate into this final report. Almost 400 responses were received for review. The recommendations were further refined into their final format by small groups of task force members and ODH staff.

A key recommendation of the OIMTF is to establish an ongoing consortium to assure effective implementation of the final recommendations and to evaluate progress in continued efforts to address infant mortality and disparities. While much has been accomplished, the recommendations and strategies contained in the report outline a *beginning*, not an end, to a process which must continue.

Recommendations and Strategies

Our Understanding is Rapidly Changing. In the early task force meetings, participants came to realize that many prevailing notions of infant mortality prevention, primarily that early and regular prenatal care in and of itself will ensure successful pregnancies and healthy babies, are not fully substantiated in the scientific literature. While early and continuous prenatal care is still justifiably the standard, the task force learned of research demonstrating that many factors other than prenatal care powerfully influence birth outcomes. These factors are not yet fully understood, and the research often leads to more questions than answers. Why are premature births increasing? Why do some African-American women not in poverty have poor birth outcomes? How does a lifetime of environmental stress and marginal health care affect a woman and her unborn baby? As researchers worldwide look for answers, the task force considered the latest knowledge and approaches into their recommendations and strategies.

Ten recommendations and accompanying strategies to reduce infant mortality and disparities in Ohio were identified by the task force members and reflect the following overarching themes.

- Complete and coordinated health care throughout a woman's and child's life is essential to prevent infant mortality;
- Disparities in infant mortality and their underlying causes including racism exist and need to be eliminated;
- Evidence-based practice and data must be used to drive decisions; and
- Public education about infant mortality and ways to decrease it is needed.

RECOMMENDATION

Provide comprehensive reproductive health services and service coordination for all women and children before, during and after pregnancy.

Many of the causes of infant mortality are best addressed prior to pregnancy. Comprehensive medical services and community-based interventions have been successful in improving health outcomes.

Strategies

- Study and eliminate the gaps in access and payment for recommended health services before, during and after pregnancy. This should include studying the alignment between Medicaid Managed Care and state/federal public health funding as well as mechanisms to facilitate early Medicaid coverage and entry into prenatal care.
- Increase public utilization of resources such as the Ohio Benefit Bank to assist women and children with obtaining health care services.
- Obtain a Medicaid Family Planning Waiver from the Centers for Medicare and Medicaid Services by 2010 to provide broad reproductive health care coverage for patients/consumers who do not meet current Medicaid eligibility guidelines.
- Ensure access to providers, including advanced practice nurses, who accept Medicaid and provide family planning services and care for high-risk pregnancies in all parts of Ohio.
- Expand successful programs to identify and refer women at greatest risk for primary prevention, reproductive health services and care coordination.
- Ensure access to a community-based, culturally competent, family-centered medical home for all women and children. The desired outcome is coordination of health care and referrals to specialists for optimal health outcomes.
- Ensure access to medical specialists via telemedicine, including high-speed Internet access, for every provider in Ohio, to improve the quality of care for pregnant women and newborns.
- Institute a state-supported, universal early prenatal visit including: 1) a dating ultrasound, 2) prenatal battery of laboratory tests, 3) identification of a single care coordinator, 4) access to transportation, and 5) risk assessment.
- Ensure that all women of childbearing age and their families have access to appropriate mental health and substance abuse services.
- Ensure the availability of transportation for consumers to access reproductive health services.

Medicaid Family Planning Waiver- Better Outcomes, Substantial Savings

Twenty-six states have implemented Medicaid Family Planning Waiver programs that provide access to family planning services for persons not otherwise eligible for Medicaid or the State Children's Health Insurance Program. By providing access to family planning services, states help women and their families avoid unintended pregnancies and increase birth intervals, thus improving maternal health and reducing infant mortality and low birth weight births. Women with unintended pregnancies are less likely to adopt health behaviors that promote good birth outcomes. National research has shown that every dollar spent on family planning saves \$4.02 in Medicaid expenditures. Family planning waivers are required to be budget neutral and enable states to benefit from an enhanced federal matching rate for these services (90 percent versus 72 percent federal match). It has been estimated that using the same income eligibility for the waiver as for pregnancy-related care in Ohio would yield more than \$40 million in savings by year three of implementation.

Adapted from Cost Effectiveness of Medicaid Family Planning Demonstrations. Sara Sills, State Health Policy Briefing, National Academy for State Health Policy, September 2007

RECOMMENDATION



Eliminate health disparities and promote health equity to reduce infant mortality.

Disparities (differences between individuals or population groups) in infant mortality are longstanding in Ohio and are reflective of the social determinants of health. These disparities can be geographic, economic, racial, and cultural. Individual and systemic strategies applied within a broad-based approach to address the social determinants of health will assist in the elimination of health disparities.

Strategies

- Implement and evaluate a social marketing campaign to increase public awareness of the prevalence of infant mortality and the disparities that exist in Ohio.
- Develop partnerships to address the broader issue of health disparities throughout the life span.
- Expand strategies from a strict biomedical model to include strategies applied within a broad-based approach to address the social determinants of health from public health and community health models.
- Decrease hunger and its effects on infant mortality.
- Support the implementation of the recommendations of the Ohio Anti-Poverty Task Force, especially those with a public health focus such as safe housing and neighborhoods.

“We must assure access to quality health care, assure cultural competence in the health care workforce and understand how racial bias taints the delivery of health care in our society.”

Vernellia Randall,
M.S.N., J.D.
Professor of Law,
University of Dayton

RECOMMENDATION



Prioritize and align program investments based on documented outcome and cost effectiveness.

Widespread use of evidence-based practices, data analysis, evaluation, and statewide implementation should lead to a reduction in infant mortality. Use of limited resources should be prioritized based on proven effectiveness.

Strategies

- Integrate existing programs within state agencies that are involved in maternal and child health to improve infant mortality and reduce state expenditures.
- Support programs and policies that promote the important role of fathers in pregnancy and parenting.
- Disseminate and increase the adoption of innovative, evidence-based prenatal care models (e.g., nurse home visiting, community health workers, group pregnancy care).
- Launch a statewide safe sleep campaign to include efforts to standardize diagnosis of sudden, unexpected infant deaths; improve data collection; and to increase education and awareness for health care professionals, child care providers and retailers, in addition to parents and caregivers.
- Support breastfeeding for all Ohio mothers by: 1) implementing culturally sensitive breastfeeding education and promotion to families, health care and child care providers, and employers; 2) assuring availability of appropriate breast pumps; 3) providing lactation consultation and peer support in hospitals and after discharge; and 4) implementing safety guidelines for standardizing the regulation, inspection and review of breastfeeding equipment, facilities and breast milk, formula or breast milk-formula combination recipes, preparation and storage.
- Promote adoption among employers of policies which will support parents by providing lactation resources, paid maternity leave, and smoking cessation programs.
- Create partnerships among cabinet agencies, via state agency staff and relevant partner organizations to educate and raise awareness of Ohioans of the importance of using documented interventions and disinvesting in strategies shown to be ineffective.
- Require any agency or group that receives public funding for maternal and child health programs to identify measurable outcomes and publicly report their findings/outcomes.

RECOMMENDATION

IV

Implement health promotion and education to reduce preterm birth.

Preterm birth is the No. 1 cause of infant mortality and can be reduced through education and interventions to reduce risk factors.

Strategies

- Increase the number of primary care providers who emphasize preconception care, including those who provide pediatric and gynecologic care.
- Increase the number of providers who conduct comprehensive medical and psychosocial risk assessment at the initial prenatal visit and throughout pregnancy.
- Increase the number of providers and educators who provide comprehensive education and counseling about preterm birth prevention; breastfeeding; drug, alcohol, and tobacco cessation; obesity; domestic violence; mental health; sexually transmitted diseases; and birth spacing.
- Increase the number of men and women who develop a reproductive health plan, including introducing the concept in school health classes.
- Ensure appropriate management of chronic medical disorders before and during pregnancy to optimize birth outcomes by developing partnerships among private and public insurers, public health care agencies and quality care improvement initiatives.
- Distribute information and materials on risk reduction to educate women who have experienced a prior preterm delivery, including women in Level III maternity units.
- Educate providers about the use of 17-OH progesterone injections starting at 16 weeks gestation in patients with history of preterm delivery.
- Plan, pilot and evaluate hospital-based interventions on preventing future preterm delivery for women with babies in the neonatal intensive care unit.
- Ensure that all educational materials are culturally sensitive and easily understandable.
- Promote a culture of wellness through equitable reimbursement for preventive health services.

RECOMMENDATION



Improve data collection and analysis to inform program and policy decisions.

Quality data collection, analysis and interpretation are critical to the success of infant mortality reduction initiatives. Developing and sharing accessible data products are essential to making sound program and policy decisions.

Strategies

- Expand the current Child Fatality Review infrastructure at the Ohio Department of Health to operate statewide Maternal Mortality and Fetal Infant Mortality Review programs.
- Adopt the 2003 National Center for Health Statistics Fetal Death Certificate and computerize state fetal death records to allow analysis of causes of fetal death.
- Support Ohio Vital Statistics in improving data quality from birth and death certificates.
- Support an Ohio Perinatal Quality Collaborative project to improve accurate birth and death certificate data entry by hospitals.
- Enhance the Ohio Pregnancy Risk Assessment Monitoring System (PRAMS) so that county-level/regional data are available and African-American response rates are increased.
- Adequately fund the Ohio Connections for Children with Special Needs (birth defects surveillance system) so it can effectively identify and mitigate risk in specific populations and connect parents with services.
- Increase the investment in the state's capacity to investigate Ohio trends and factors underlying infant mortality and disparities.
- Develop data collection and analysis processes to identify and monitor progress in reducing infant mortality in special population groups such as migrant workers, the Amish and immigrant populations.
- Conduct an extensive evaluation of existing data depository systems to determine what currently exist and what data systems may need to be developed.
- Provide training to local health departments to improve capacity to provide local data reports for county or regional quality improvement projects.

Ohio Perinatal Quality Collaborative (OPQC)

OPQC is a statewide collaborative of perinatal care providers, parents, state agencies and the Child Policy Research Center and the Center for Health Care Quality at Cincinnati Children's Hospital Medical Center. OPQC has the following mission: Through collaborative use of improvement science methods, reduce preterm births and improve outcomes of preterm newborns in Ohio as quickly as possible. There are currently 20 obstetrics teams actively participating in OPQC. The obstetrics' aim is to, "In one year, reduce by 60%, the number of women in Ohio of 36.1 to 38.6 weeks gestation for whom initiation of labor or caesarean section is done in absence of appropriate medical or obstetric indication (Scheduled delivery)." There are currently 24 neonatal teams actively participating in OPQC. The neonatal aim is to, "In one year reduce late onset (>72 hours) blood stream/CSF infections in infants 22-29 weeks gestational age by 50% in Ohio NICUs."

RECOMMENDATION

VI

Expand quality improvement initiatives to make measurable improvements in maternal and child health outcomes.

Systematically applying quality of care improvement strategies to infant mortality reduction initiatives can play a pivotal role in improving birth outcomes.

Strategies

- Support the development and implementation of collaborative quality improvement efforts in women's health, obstetrics, newborn health and infant health (e.g., Ohio Perinatal Quality Collaborative).
- Focus on one neonatal and one obstetric topic annually (via the Ohio Perinatal Quality Collaborative) to facilitate the standardization of evidence-based care.
- Implement quality improvement activities to decrease late-preterm and early-term deliveries (avoid scheduled deliveries without medical indications prior to 39 weeks gestation).
- Ensure that Ohio's regionalized care system includes a quality improvement measurement requirement for yearly evaluation. This quality assessment, performed by each perinatal region, should include, but not be limited to reviewing the appropriateness of deliveries and level of care for newborns based on maternity licensure levels of care.
- Develop and implement a standardized education curriculum on prematurity and infant mortality required for prenatal and newborn health care providers (established by the Ohio Board of Regents).
- Establish standardized competencies for all health care providers caring for the ill neonate in special care and neonatal intensive care units. Integrate with physician maintenance of certification requirements.
- Ensure all Ohio child care providers demonstrate the competencies in the Health, Safety and Nutrition Module in the Ohio's Early Childhood Core Knowledge & Competencies document (e.g., safe sleep, child safety, nutrition and support for breast milk feeding).

RECOMMENDATION

VII

Address the effects of racism and the impact of racism on infant mortality.

Racial disparities in poor birth outcomes are well recognized yet remain poorly explained. Exploring the potential effects of racism on health will enable the development of appropriate interventions.

Strategies

- Identify and implement evidence-based methods to address the social determinants of birth outcomes/infant mortality impacted by individual and institutional racism.
- Support the implementation of the recommendations of the Partnership to Eliminate Disparities in Infant Mortality Action Learning Collaborative.
- Implement a statewide diversity training program to include the potential effects of racism on health care and infant mortality for health and social service providers in Ohio.
- Implement (via Ohio Department of Education) a standardized diversity program required by the state for all school and home-schooled programs for all grade levels to include the effects of racism on infant mortality and health care.
- Develop/compile instructional materials based on successful models such as CityMatCH and require public health partners to begin dialogue for reducing institutional racism and incorporating ongoing cultural competence training within their facilities.
- Develop public service announcements that address the effects of racism in general, and the impact of racism on infant mortality.

Action Learning Collaborative (ALC): Ohio's Partnership to Eliminate Disparities in Infant Mortality

Unwarranted optimism, flexibility and courage, and willingness to try “out of the box” ideas describe the core values of the ALC focused on addressing racism’s impact on infant mortality in urban areas. Columbus is one of six cities nationally selected (Columbus, Chicago, Denver [Aurora], Los Angeles, Milwaukee and Pinellas County, Florida) to participate in the ALC, a process bringing multi-disciplinary teams together for an 18-24 month period during which they develop and implement action plans, share strategies, and problem solve across communities. Columbus is working to develop/adapt tools to learn from health care consumers about their experiences of racism in health care settings; develop a community toolkit/presentation for engaging organizations and health care providers in anti-racism work; and participate on the Ohio Infant Mortality Task Force, bringing forth information and advocacy for addressing racism.

Partners include: Columbus Public Health (Co-lead); Ohio Department of Health (Co-lead); CPH National Healthy Start Project, Caring for 2; St. Stephen’s Community House; Council on Healthy Mothers and Babies; City of Refuge Point of Impact; Ohio State University; and others.

RECOMMENDATION

VIII

Increase public awareness about the effect of preconception health on birth outcomes.

The Life Course Approach

There is a growing recognition that birth outcomes are influenced not only by events that occur in the nine months of pregnancy but by health behaviors and life events that occur prior to pregnancy. This time period, known as the life course, encompasses a woman's entire reproductive years and even those before, including her own childhood and infancy. To improve birth outcomes, there must first be improvements in the mother's health. Unfortunately, many women do not have access to preventive health care at times other than pregnancy. In Ohio, Medicaid only covers women during pregnancy through six weeks after delivery. This disjointed coverage leads to lack of coordination of health care for chronic medical conditions and risk reduction for adverse behaviors such as smoking and weight control.

Reference: Lu MC, Halfon N. Racial and ethnic disparities in birth outcomes: a life course perspective. *MCH Journal* 2003; 7:13-30.

Many causes of poor birth outcomes may successfully be addressed prior to pregnancy. Investment in culturally competent social marketing and education strategies may lead to improved outcomes.

Strategies

- Develop and implement a comprehensive educational curriculum to help girls and boys understand reproductive health and the consequences of choices/behaviors to their own health and to the health of future children.
- Develop and implement social marketing strategies to help women and men of reproductive age make the link between lifestyle choices and healthy pregnancies (e.g., taking folic acid daily, stopping smoking, achieving a healthy weight before pregnancy).
- Establish a social networking/educational tool on the Web or via telephone so women and men are able to obtain health coaching information and services.
- Explore conventional and unconventional communication tools to reach unique populations (e.g., migrant workers, the Amish).
- Improve public and professional awareness of benefits/risks/effectiveness of newly developed contraceptive technologies.

RECOMMENDATION

IX

Develop, recruit and train a diverse network of culturally competent health professionals statewide.

Ohio needs a wide array of health professionals from many disciplines who reflect the racial, ethnic and cultural makeup of Ohio's population. Women in all areas of the state need ready access to reproductive health care. In addition, health care services and information should be provided in a manner compatible with consumers' cultural health beliefs, practices and preferred language.

Strategies

- Develop a statewide program to encourage high school students, especially members of minority populations, to explore the variety of career opportunities in health care.
- Implement Recommendation 7 of the Governor's Task Force on Black and Minority Health to increase the number of minority health professionals through the establishment of appropriate financial support and incentive programs, establishment of curricula on minority health, cultural issues and cultural competency (see Appendix K).
- Consider increased funding for the Minorities/Appalachian Loan Repayment Initiative and other programs to encourage racial or ethnic minority health professionals to continue serving predominately racial or ethnic minority patient populations.
- Identify/enhance appropriate incentives to attract obstetric and pediatric providers in areas of need.
- Ensure cultural competence/sensitivity in the delivery of health care to women of childbearing age.

"Health care providers should be made aware of racial and ethnic disparities in health care, and the fact that these disparities exist, often despite providers' best intentions."

Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare Institute of Medicine, 2002

RECOMMENDATION



Establish a consortium to implement and monitor the recommendations of the Ohio Infant Mortality Task Force (OIMTF).

Addressing the issue of infant mortality requires effective oversight. The charge of the consortium will be to implement and monitor the recommendations and strategies set forth by OIMTF. The consortium will be a broad-based, diverse group of parents/consumers, public health officials, policy makers, community members, health care providers and other stakeholders.

Strategies

- Establish committees, bylaws, membership and other structures necessary to carry out the work of the consortium.
- Develop a strategic plan that details recommendations, strategies, action steps and persons/agencies responsible for implementation, timelines and evaluation measures.
- Submit an annual report to the governor on the progress of implementing the recommendations. The report should include a capacity study on supply and distribution of women's wellness and prevention services, especially in areas of high infant mortality; an assessment of the financial factors that affect the implementation of the recommendations; and an accessible inventory of best/promising practices for reducing infant mortality in the state.
- Conduct ongoing needs assessment in infant mortality as part of the Title V Maternal and Child Health Program activities.
- Seek a variety of funding sources to ensure sustainability of the consortium.

“Developing the recommendations required diligence, patience, and hard work – but the hardest work is yet to follow as we strive to implement these sound strategies to save Ohio’s babies.”

Becky Johnson Rescola, MSW
Infant Mortality Task Force
Member
State Director of Program
Services
March of Dimes Ohio
Chapter



APPENDICES

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation I Provide comprehensive reproductive health services and service coordination for all women and children before, during and after pregnancy.			
Rationale Many of the causes of infant mortality are best addressed prior to pregnancy. Comprehensive medical services and community-based interventions have been successful in improving health outcomes.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Study and eliminate the gaps in access and payment for recommended health services before, during and after pregnancy. This should include studying the alignment between Medicaid Managed Care and state/federal public health funding as well as mechanisms to facilitate early Medicaid coverage and entry into prenatal care.	Short term	Hospitals; local health departments physicians; Ohioans; legislators	High
Increase public utilization of resources such as the Ohio Benefit Bank to assist women and children with obtaining health care services.	Short term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians; Ohioans	High
Obtain a Medicaid Family Planning Waiver from the Centers for Medicare and Medicaid Services by 2010 to provide broad reproductive health care coverage for patients/consumers who do not meet current Medicaid eligibility guidelines.	Short term	Hospitals; community-based organizations; local health departments; faith-based organizations; physicians	High
Ensure access to providers, including advance practice nurses, who accept Medicaid and provide family planning services and care for high-risk pregnancies in all parts of Ohio.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	High
Expand successful programs to identify and refer women at greatest risk for primary prevention, reproductive health services and care coordination.	Short term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	High

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation I Provide comprehensive reproductive health services and service coordination for all women and children before, during and after pregnancy.			
Rationale Many of the causes of infant mortality are best addressed prior to pregnancy. Comprehensive medical services and community-based interventions have been successful in improving health outcomes.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Ensure access to a community-based, culturally competent, family-centered medical home for all women and children. The desired outcome is coordination of health care and referrals to specialists for optimal health outcomes.	Long term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	High
Ensure access to medical specialists via telemedicine, including high-speed Internet access, for every provider in Ohio, to improve the quality of care for pregnant women and newborns.	Long term	Hospitals; local health departments; physicians	High
Institute a state-supported, universal early prenatal visit including: 1) a dating ultrasound, 2) prenatal battery of laboratory tests, 3) identification of a single care coordinator, 4) access to transportation, and 5) risk assessment.	Medium term	Hospitals; local health departments; professional organizations; physicians	High
Ensure that all women of childbearing age and their families have access to appropriate mental health and substance abuse services.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	High
Ensure the availability of transportation for consumers to access reproductive health services.	Medium term	Community-based organizations; local health departments; faith-based organizations	High

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation II			
Eliminate health disparities and promote health equity to reduce infant mortality.			
Rationale			
Disparities (differences between individuals or population groups) in infant mortality are longstanding in Ohio and are reflective of the social determinants of health. These disparities can be geographic, economic, racial, and cultural. Individual and systemic strategies applied within a broad-based approach to address the social determinants of health will assist in the elimination of health disparities.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Implement and evaluate a social marketing campaign to increase public awareness of the prevalence of infant mortality and the disparities that exist in Ohio.	Short term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	High
Develop partnerships to address the broader issue of health disparities throughout the life span.	Short term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	High
Expand strategies from a strict biomedical model to include strategies applied within a broad-based approach to address the social determinants of health from public health and community health models.	Long term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	High
Decrease hunger and its effects on infant mortality.	Medium term	Community-based organizations; local health departments; faith-based organizations	High
Support the implementation of the recommendations of the Ohio Anti-Poverty Task Force, especially those with a public health focus such as safe housing and neighborhoods.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	High

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation III Prioritize and align program investments based on documented outcome and cost effectiveness.			
Rationale Widespread use of evidence-based practices, data analysis, evaluation, and statewide implementation should lead to a reduction in infant mortality. Use of limited resources should be prioritized based on proven effectiveness.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Integrate existing programs within state agencies that are involved in maternal child health to improve infant mortality and reduce state expenditures.	Short term	Community-based organizations; Local health departments; Professional organizations; Faith-based organizations	Medium
Support programs and policies that promote the important role of fathers in pregnancy and parenting.	Medium term	Hospitals; Employers; Community-based organizations; Local health departments; Professional organizations; Faith-based organizations; Physicians; Ohioans	Medium
Disseminate and increase the adoption of innovative, evidence-based prenatal care models (e.g., nurse home visiting, community health workers, group care and group pregnancy care).	Medium term	Hospitals; Community-based organizations; Local health departments; Professional organizations; Faith-based organizations; Physicians; Ohioans; Legislators	Medium
Launch a statewide safe sleep campaign to include efforts to standardize diagnosis of sudden, unexpected infant deaths; improve data collection; and to increase education and awareness for health care professionals, child care providers and retailers, in addition to parents and caregivers.	Short term	Hospitals; Community-based organizations; Local health departments; Professional organizations; Faith-based organizations; Physicians; Ohioans; Legislators	Medium
Support breastfeeding for all Ohio mothers by: 1) implementing culturally sensitive breastfeeding education and promotion to families, health care and child care providers, and employers; 2) assuring availability of appropriate breast pumps; 3) providing lactation consultation and peer support in hospitals and after discharge; and 4) implementing safety guidelines for standardizing the regulation, inspection and review of breastfeeding equipment, facilities and breast milk, formula or breast milk-formula combination recipes, preparation and storage.	Short term	Hospitals; Employers; Community-based organizations; Local health departments; Professional organizations; Faith-based organizations; Physicians; Ohioans; Legislators	Medium

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation III Prioritize and align program investments based on documented outcome and cost effectiveness.			
Rationale Widespread use of evidence-based practices, data analysis, evaluation, and statewide implementation should lead to a reduction in infant mortality. Use of limited resources should be prioritized based on proven effectiveness.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Promote adoption among employers of policies which will support parents by providing lactation resources, paid maternity leave, and smoking cessation programs.	Medium term	Employers; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians; Ohioans	Medium
Create partnerships among cabinet agencies, via state agency staff and relevant partner organizations to educate and raise awareness of Ohioans of the importance of using documented interventions and disinvesting in strategies shown to be ineffective.	Long term	Hospitals; employers; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians; Ohioans; legislators	Medium
Require any agency or group who receives public funding for maternal and child health programs to identify measurable outcomes and publicly report their findings/outcomes.	Medium term	Local health departments; legislators	Medium

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation IV Implement health promotion and education to reduce preterm birth.			
Rationale Preterm birth is the No. 1 cause of infant mortality and can be reduced through education and interventions to reduce risk factors.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Increase the number of primary care providers who emphasize preconception care, including those who provide pediatric and gynecologic care.	Short term	Community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Increase the number of providers who conduct comprehensive medical and psychosocial risk assessment at the initial visit and throughout pregnancy.	Short term	Hospitals; local health departments; professional organizations; physicians	Medium
Increase the number of providers and educators who provide comprehensive education and counseling about preterm birth prevention; breastfeeding; drug, alcohol, and tobacco cessation; obesity; domestic violence; mental health; sexually transmitted diseases; and birth spacing.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Increase the number of men and women who develop a reproductive health plan, including introducing the concept in school health classes.	Short term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Ensure appropriate management of chronic medical disorders before and during pregnancy to optimize birth outcomes by developing partnerships among private and public insurers, public health care agencies and quality care improvement initiatives.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Distribute information and materials on risk reduction to educate women who have experienced a prior preterm delivery, including women in Level III maternity units.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Educate providers about the use of 17-OH progesterone injections starting at 16 weeks gestation in patients with history of preterm delivery.	Long term	Hospitals; local health departments; professional organizations; physicians	Medium
Plan, pilot and evaluate hospital-based interventions on preventing future preterm delivery for women with babies in the neonatal intensive care unit.	Long term	Hospitals; professional organizations; physicians	Medium
Ensure that all educational materials are culturally sensitive and easily understandable.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Promote a culture of wellness through equitable reimbursement for preventive health services.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation V Improve data collection and analysis to inform program and policy decisions.			
Rationale Quality data collection, analysis and interpretation are critical to the success of infant mortality reduction initiatives. Developing and sharing accessible data products are essential to making sound program and policy decisions.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Expand the current Child Fatality Review infrastructure at the Ohio Department of Health to operate a state-wide Fetal Infant Mortality Review program.	Short term	Hospitals; local health departments; legislators	Medium
Adopt the 2003 National Center for Health Statistics Fetal Death Certificate and computerize state fetal death records to allow analysis of causes of fetal death.	Short term	Hospitals; local health departments; physicians	Medium
Support Ohio Vital Statistics in improving data quality from birth and death certificates.	Short term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians; Ohioans legislators	Medium
Support an Ohio Perinatal Quality Collaborative project to improve accurate birth and death certificate data entry by hospitals.	Short term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Enhance the Ohio Pregnancy Risk Assessment Monitoring System (PRAMS) so that county-level/regional data are available and African-American response rates are increased.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physician	Medium
Adequately fund the Ohio Connections for Children with Special Needs (birth defects surveillance system) so that it can effectively identify and mitigate risk in specific populations and connect parents with services.	Medium term	Legislators	Medium

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation V			
Improve data collection and analysis to inform program and policy decisions.			
Rationale			
Quality data collection, analysis and interpretation are critical to the success of infant mortality reduction initiatives. Developing and sharing accessible data products are essential to making sound program and policy decisions.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Increase the investment in state capacity to investigate Ohio trends and factors underlying infant mortality and disparities.	Short term	Legislators	Medium
Develop data collection and analysis processes to identify and monitor progress in reducing infant mortality in special population groups such as migrant workers, the Amish and immigrant populations.	Long term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Conduct an extensive evaluation of existing data depository systems to determine what currently exist and what data systems may need to be developed.	Long term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Provide training to local health departments to improve capacity to provide local data reports for county or regional quality improvement projects.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation VI			
Expand quality improvement initiatives to make measurable improvements in maternal and child health outcomes.			
Rationale			
Systematically applying quality of care improvement strategies to infant mortality reduction initiatives can play a pivotal role in improving birth outcomes.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Support the development and implementation of collaborative quality improvement efforts in women's health, obstetrics, newborn health and infant health (e.g., Ohio Perinatal Quality Collaborative).	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Focus on one neonatal and one obstetric topic annually (via the Ohio Perinatal Quality Collaborative) to facilitate the standardization of evidence-based care.	Medium term	Hospitals; local health departments; professional organizations; physicians	Medium
Implement quality improvement activities to decrease late-preterm and early-term deliveries (avoid scheduled deliveries without medical indications prior to 39 weeks gestation).	Medium term	Hospitals; local health departments; professional organizations; physicians	Medium
Ensure that Ohio's regionalized care system includes a quality improvement measurement requirement for yearly evaluation. This quality assessment, performed by each perinatal region, should include, but not be limited to reviewing the appropriateness of deliveries and level of care for newborns based on maternity licensure levels of care.	Medium term	Hospitals; local health departments; professional organizations; physicians; legislators	Medium
Develop and implement a standardized education curriculum on prematurity and infant mortality required for prenatal and newborn health care providers (established by the Board of Regents).	Short term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians; Ohioans; legislators	Medium
Establish standardized competencies for all health care providers caring for the ill neonate in special care and neonatal intensive care units. Integrate with physician maintenance of certification requirements.	Short term	Hospitals; local health departments; professional organizations; physicians	Medium
Ensure all Ohio child care providers demonstrate the competencies in the Health, Safety and Nutrition Module in the Ohio's Early Childhood Core Knowledge & Competencies document (e.g., safe sleep, child safety, nutrition and support for breast milk feeding).	Short term	Community-based organizations; local health departments; professional organizations; faith-based organizations; physicians; Ohioans; legislators	Medium

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation VII Address the effects of racism and the impact of racism on infant mortality.			
Rationale Racial disparities in poor birth outcomes are well recognized yet remain poorly explained. Exploring the potential effects of racism on health will enable the development of appropriate interventions.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Identify and implement evidence-based methods to address the social determinants of birth outcomes/infant mortality impacted by individual and institutional racism.	Medium term	Hospitals; employers; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians; Ohioans	Medium
Support the implementation of the recommendations of the Partnership to Eliminate Disparities in Infant Mortality Action Learning Collaborative.	Medium term	Hospitals; employers; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians; Ohioans	Medium
Implement a statewide diversity training program to include the potential effects of racism on health care and infant mortality for health and social service providers in Ohio	Medium term	Hospitals; employers; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians; Ohioans; legislators	Medium
Implement (via Ohio Department of Education) a standardized diversity program required by the state for all school and home-schooled programs for all grade levels to include the effects of racism on infant mortality and health care.	Short term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians; legislators	Medium
Develop/compile instructional materials based on successful models such as CityMatCH and require public health partners to begin dialogue for reducing institutional racism, and incorporating ongoing cultural competence training within their facilities.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Develop public service announcements that address the effects of racism in general, and the impact of racism on infant mortality.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians; Ohioans; legislators	Medium

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation VIII			
Increase public awareness on the effect of preconception health on birth outcomes.			
Rationale			
Many causes of poor birth outcomes may successfully be addressed prior to pregnancy. Investment in culturally competent social marketing and education strategies may lead to improved outcomes.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Develop and implement a comprehensive educational curriculum to help girls and boys understand reproductive health and the consequences of choices/behaviors to their own health and to the health of future children.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Develop and implement social marketing strategies to help women and men of reproductive age make the link between lifestyle choices and healthy pregnancies (e.g., taking folic acid daily, stopping smoking, achieving a healthy weight before pregnancy).	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Establish a social networking/educational tool on the Web or via telephone so women and men are able to obtain health coaching information and services.	Medium term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Explore conventional and unconventional communication tools to reach unique populations (e.g., migrant workers, the Amish).	Long term	Hospitals; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium
Improve public and professional awareness of benefits/risks/effectiveness of newly developed contraceptive technologies.	Short term	Hospitals; employers; community-based organizations; local health departments; professional organizations; faith-based organizations; physicians	Medium

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation IX Develop, recruit, and train a diverse network of culturally competent health professionals statewide.			
Rationale Ohio needs a wide array of health professionals from many disciplines who reflect the racial, ethnic and cultural makeup of Ohio's population. Women in all areas of the state need ready access to reproductive health care. In addition, health care services and information should be provided in a manner compatible with consumers' cultural health beliefs, practices and preferred language.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Develop a statewide program to encourage high school students, especially members of minority populations, to explore the variety of career opportunities in health care.	Short term	Hospitals; community-based organization; local health department; professional organizations; faith-based organizations; physicians; Ohioans legislators	Medium
Implement Recommendation 7 of the Governor's Task Force on Black and Minority Health to increase the number of minority health professionals through the establishment of appropriate financial support and incentive programs, establishment of curricula on minority health, cultural issues and cultural competency.	Medium term	Hospitals; community-based organization; local health department; professional organizations; faith-based organizations; physicians Ohioans; legislators	Medium
Consider increased funding for the Minorities/Appalachian Loan Repayment Initiative and other programs to encourage racial or ethnic minority health professionals to continue serving predominately racial or ethnic minority patient populations.	Medium term	Hospitals; community-based organization; local health department; professional organizations; faith-based organizations; physicians Ohioans; legislators	Medium
Identify/enhance appropriate incentives to attract obstetric and pediatric providers in areas of need.	Long term	Hospitals; professional organizations legislators	Medium
Ensure cultural competence/sensitivity in the delivery of health care to women of childbearing age.	Medium term	Hospitals; community-based organization; local health department; professional organizations; faith-based organizations; physicians	Medium

Appendix A

Ohio Infant Mortality Task Force Recommendations Work Plan, November 30, 2009

Recommendation X			
Establish a consortium to implement and monitor the recommendations of the Ohio Infant Mortality Task Force (OIMTF).			
Rationale			
Addressing the issue of infant mortality requires effective oversight. The charge of the consortium will be to implement and monitor the recommendations and strategies set forth by OIMTF. The consortium will be a broad-based, diverse group including parents/consumers, public health officials, policy makers, community members, health care providers, and other stakeholders.			
Strategies	Projected Time frame Short within 1 year Medium 1-3 years Long 3-5 years	Suggested Partners	Potential Cost High Medium Low
Establish committees, bylaws, membership and other structure and functions necessary to carry out the work of the consortium.	Short term	Hospitals; community-based organization; local health department; professional organizations; faith-based organizations; physicians; Ohioans	Low
Develop a strategic plan that details recommendations, strategies, action steps and persons/agencies responsible for implementation, timelines and evaluation measures.	Short term	Hospitals; community-based organization; local health department; professional organizations; faith-based organizations; physicians; Ohioans	Low
Submit an annual report to the governor on the progress of implementing the recommendations. The report should include a capacity study on supply and distribution of women's wellness and prevention services, especially in areas of high infant mortality; an assessment of the financial factors that affect the implementation of the recommendations; and an accessible inventory of best/promising practices for reducing infant mortality in the state.	Long term	Hospitals; community-based organization; local health department; professional organizations; faith-based organizations; physicians; Ohioans	Low
Conduct ongoing needs assessment in infant mortality as part of the Title V Maternal and Child Health Program activities.	Long term	Hospitals; community-based organization; local health department; professional organizations; faith-based organizations; physicians; Ohioans	Low
Seek a variety of funding sources to ensure sustainability of the consortium.	Short term	Hospitals; community-based organization; local health department; professional organizations; faith-based organizations; physicians; Ohioans	Low

Appendix B

Preventing Infant Mortality in Ohio: A Call to Action

Ten recommendations and accompanying strategies to prevent infant mortality in Ohio have been laid out in this report. Successfully addressing the challenges of infant mortality and disparities requires committed individuals working together. Local actions in your practice, your agency, your hospital, your community, your church or workplace, among your friends and family, can and should begin now. Following is a list of just a few ways you can implement the task force recommendations and strategies and help reduce infant mortality and disparities in Ohio.

What Can You Do NOW?

"A small group of thoughtful people could change the world. Indeed, it's the only thing that ever has." Margaret Mead

If you are a hospital

- Provide culturally sensitive information to staff and patients on a variety of topics that affect a woman's health and her baby's health such as obesity/nutrition, alcohol/tobacco/drug use, physical activity, breastfeeding and infant sleeping positions.
- Support and initiate collaborative quality improvement efforts in areas that affect prenatal and infant care in the hospital setting.
- Provide cultural diversity training for staff.
- Develop partnerships with community and government organizations to address the health needs of women of childbearing age in the community.
- Promote the use of telemedicine to ensure access to medical specialists.

If you are a local health department

- Provide culturally sensitive information to residents on a variety of topics that affect a woman's health and her baby's health such as obesity/nutrition, alcohol/tobacco/drug use, physical activity, breastfeeding and infant sleeping positions.
- Provide cultural diversity training for staff.
- Develop partnerships with community organizations to address the health needs of women of childbearing age in the community.
- Provide health screenings/tests and referral information to residents.
- Increase public utilization of resources such as the Ohio Benefit Bank to assist women and children with obtaining health care services.

***If you are a
community-based
organization***

- Provide culturally sensitive information to constituents on a variety of topics that affect a woman's health and her baby's health such as obesity/nutrition, alcohol/tobacco/drug use, physical activity, breastfeeding and infant sleeping positions.
- Provide cultural diversity training for staff.
- Develop partnerships with other organizations to address the health needs of women of childbearing age in the community.
- Offer evidence-based services that reduce the risk for infant mortality/pre-term births such as community health workers or home visiting programs.

***If you are a
professional organization***

- Provide culturally sensitive information to members on a variety of topics that affect a woman's health and her baby's health such as obesity/nutrition, alcohol/tobacco/drug use, physical activity, breastfeeding and infant sleeping positions.
- Support and initiate collaborative quality improvement efforts in areas that affect prenatal and infant care in the health care setting.
- Provide cultural diversity training for members.
- Develop partnerships with state and local organizations to collaborate on broad issues affecting the health of women of childbearing age and infants.

***If you are an
employer***

- Provide culturally sensitive information to employees on a variety of topics that affect a woman's health and her baby's health such as obesity/nutrition, alcohol/tobacco/drug use, physical activity, breastfeeding and infant sleeping positions.
- Provide cultural diversity training for staff.
- Provide quality health insurance benefits to employees including preventive health, medical, prescription medications, dental and mental health services.
- Support employees by providing maternity leave, leave for medical appointments and a sensitive environment for breastfeeding mothers in the workplace.
- Support programs that promote the important role of fathers in pregnancy and parenting.

***If you are a
school/university***

- Provide culturally sensitive information to faculty and students on a variety of topics that affect a woman's health and her baby's health such as obesity/nutrition, alcohol/tobacco/drug use, physical activity, breastfeeding and infant sleeping positions.
- Promote curricula to help young students understand reproductive health and the consequences of their lifestyle choices on their health and the health of their future children.
- Promote curricula on the important role of fathers in pregnancy and parenting.
- Provide opportunities for students to learn about careers in health care fields.
- Develop partnerships with other organizations to address the health needs of women and children in the community.

***If you are a
faith-based organization***

- Provide culturally sensitive information to members on a variety of topics that affect a woman's health and her baby's health such as obesity/nutrition, alcohol/tobacco/drug use, physical activity, breastfeeding and infant sleeping positions.
- Develop partnerships with other organizations to address the health needs of women and children in the community.
- Offer space for meetings or health fairs.
- Encourage members to volunteer with their local hospital, health department or other community services agencies.
- Support programs that promote the important role of fathers in pregnancy and parenting.

***If you are a
physician***

- Provide culturally sensitive information to patients and staff on a variety of topics that affect a woman's health and her baby's health such as obesity/nutrition, alcohol/tobacco/drug use, physical activity, breastfeeding and infant sleeping positions.
- Maximize opportunities to discuss preconception health with patients and their families.
- Educate yourself and your staff about resources and referral agencies available in your community to refer patients for mental health services, smoking cessation, substance abuse treatment, Medicaid, WIC, food pantries, lactation support, child care, etc.
- If you are a women's health provider – encourage women to schedule appointments for preconception counseling and early prenatal care.
- Encourage men and women to develop a reproductive health plan.

***If you are a
legislator***

- Make your constituents aware of the need for improved preconception health and the impact on infant mortality.
- Support or sponsor legislation that improves the health of women and infants.
- Adequately fund statewide surveillance systems related to infant mortality and increase the state's infrastructure to collect, monitor, analyze and utilize data for policy and strategy development.
- Ensure that women and children in Ohio have access to quality health care to improve health outcomes.
- Support the implementation of recommendations of the Ohio Anti-Poverty Task Force.
- Support programs that promote the important role of fathers in pregnancy and parenting.

***If you are an
Ohioan***

- Make sure you/your partner are as healthy as possible before becoming pregnant.
- Encourage friends and family members who are of childbearing age to be as healthy as possible before becoming pregnant.
- Volunteer and support your local hospital, health department, faith community or community services agencies.
- Support your friends and family members who recently had a baby by encouraging safe sleeping positions, breastfeeding and helping them get to follow-up appointments.

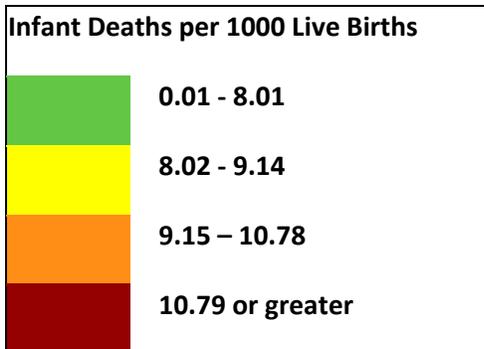
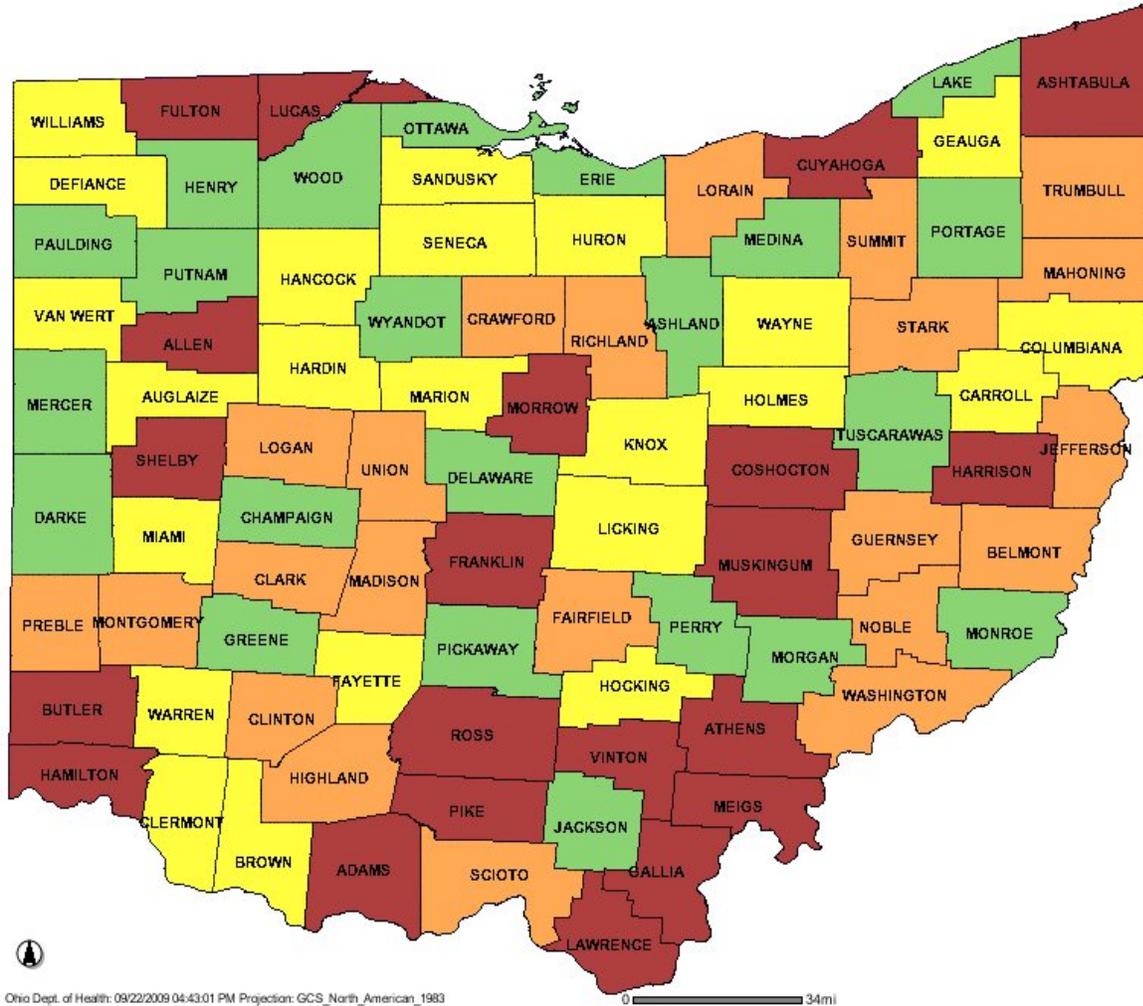
Appendix C

Infant Mortality Risk Factors and their Prevalence

Risk Factor	Live Births (N=147,146)	Infant Deaths (N=1,109)
Maternal age (mean--years)	27.1 years	25.9 years
< 19 years	9,238 (6.3%)	114 (10.3%)
> 35 years	18,116 (12.3%)	136 (12.3%)
Maternal race, white	119,668 (81.3%)	704 (63.5%)
Maternal race, black	23,731 (16.1%)	385 (34.7%)
Maternal race, other	3,747 (2.6%)	20 (1.8%)
Birth weight (mean)	3,268 grams	2,099 grams
LBW (< 2500 grams)	12,741 (8.7%)	687 (61.9%)
VLBW (< 1500 grams)	2,352 (1.6%)	521 (47.0%)
ELBW (1000 grams)	1,133 (0.8%)	489 (44.1%)
Gestational age (mean)	38.6	31.4
< 37 weeks	18,826 (12.8%)	719 (64.8%)
< 32 weeks	2,974 (2.0%)	575 (51.8%)
< 28 weeks	1,166 (0.8%)	502 (45.3%)
Multiple gestation	5,341 (3.6%)	160 (14.4%)
Parity (0)	55,991 (38.1%)	410 (37.0%)
Parity (1-5)	86,126 (58.5%)	658 (59.3%)
Parity (> 5)	1,631 (1.1%)	22 (2.0%)
Inter-pregnancy interval (mean)	44.3 months	39 months
Inter-pregnancy interval < 24 months	22,891 (15.6%)	248 (22.4%)
Tobacco use	25,605 (17.4%)	275 (24.8%)

Appendix D

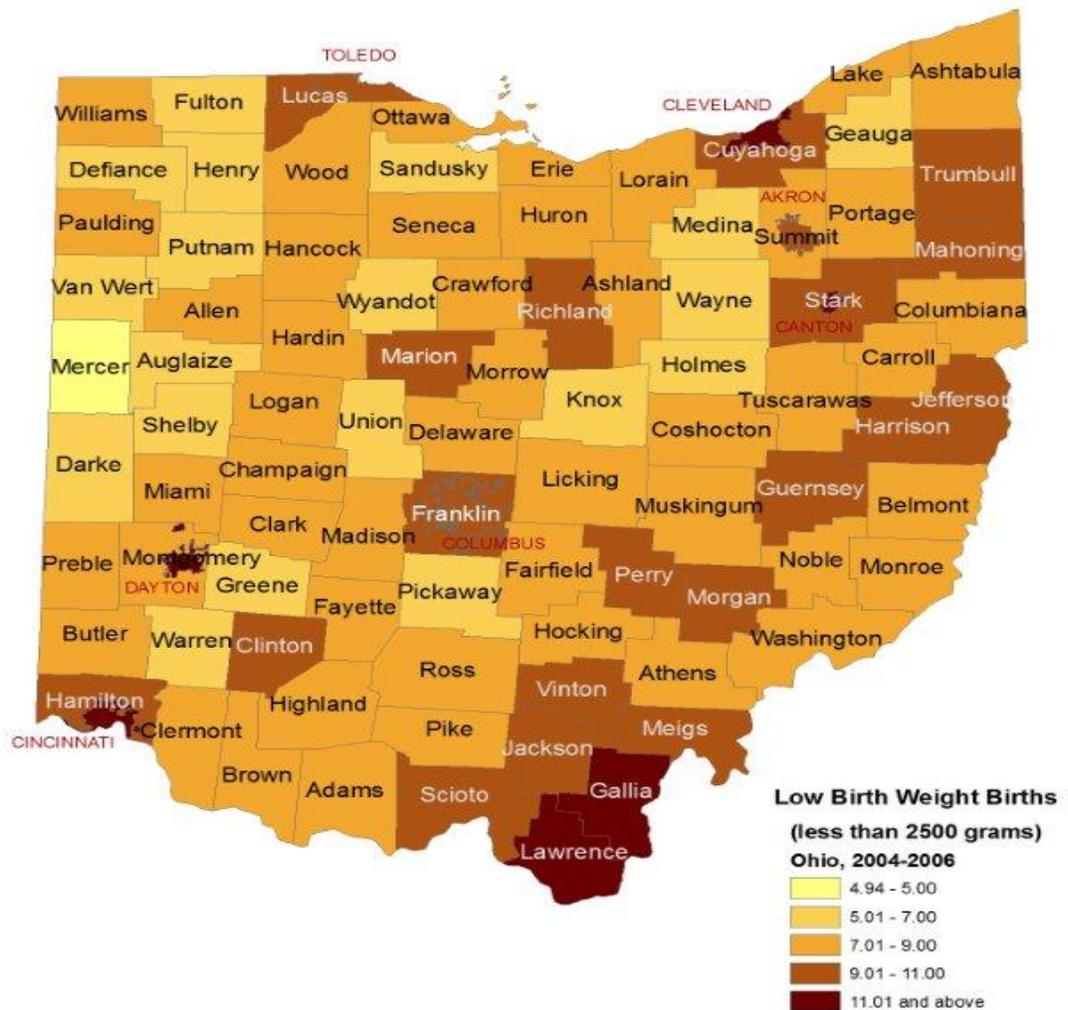
Infant Mortality Rate by County Quartiles – Ohio, 2004-07



This map compares the rates of infant mortality among Ohio's 88 counties for 2004 through 2007. Counties in **red** had infant mortality rates in the **top 25%** of all counties while counties in green had rates in the lowest quartile. This map must be interpreted with caution as for almost half of Ohio's counties the total number of deaths is too low to produce **rates that are considered statistically stable**, including most of those in SE Ohio.

Appendix E

Low Birth Weight Births (Less than 2500 grams) by County and Selected Cities, Ohio, 2004-2006



Healthy People 2010 Goal: 5.0 percent
 Infant Mortality Rate for Ohio 2004-2006: 8.7 percent
 Source: Ohio Vital Statistics

Going Public

Levels of Racism: A Theoretic Framework and a Gardener's Tale

Camara Phyllis Jones, MD, MPH, PhD

ABSTRACT

The author presents a theoretic framework for understanding racism on 3 levels: institutionalized, personally mediated, and internalized. This framework is useful for raising new hypotheses about the basis of race-associated differences in health outcomes, as well as for designing effective interventions to eliminate those differences.

She then presents an allegory about a gardener with 2 flower boxes, rich and poor soil, and red and pink flowers. This allegory illustrates the relationship between the 3 levels of racism and may guide our thinking about how to intervene to mitigate the impacts of racism on health. It may also serve as a tool for starting a national conversation on racism. (*Am J Public Health*. 2000;90:1212–1215)

Race-associated differences in health outcomes are routinely documented in this country, yet for the most part they remain poorly explained. Indeed, rather than vigorously exploring the basis of the differences, many scientists either adjust for race or restrict their studies to one racial group.¹ Ignoring the etiologic clues embedded in group differences impedes the advance of scientific knowledge, limits efforts at primary prevention, and perpetuates ideas of biologically determined differences between the races.

The variable race is only a rough proxy for socioeconomic status, culture, and genes, but it precisely captures the social classification of people in a race-conscious society such as the United States. The race noted on a health form is the same race noted by a sales clerk, a police officer, or a judge, and this racial classification has a profound impact on daily life experience in this country. That is, the variable "race" is not a biological construct that reflects innate differences,^{2–4} but a social construct that precisely captures the impacts of racism.

For this reason, some investigators now hypothesize that race-associated differences in health outcomes are in fact due to the effects of racism.^{5,6} In light of the Department of Health and Human Services' Initiative to Eliminate Racial and Ethnic Disparities in Health by the Year 2010,^{7,8} it is important to be able to examine the potential effects of racism in causing race-associated differences in health outcomes.

Levels of Racism

I have developed a framework for understanding racism on 3 levels: institutionalized, personally mediated, and internalized. This framework is useful for raising new hypotheses about the basis of race-associated differences in health outcomes, as well as for designing effective interventions to eliminate those differences. In this framework, *institutionalized racism* is defined as differential ac-

cess to the goods, services, and opportunities of society by race. Institutionalized racism is normative, sometimes legalized, and often manifests as inherited disadvantage. It is structural, having been codified in our institutions of custom, practice, and law, so there need not be an identifiable perpetrator. Indeed, institutionalized racism is often evident as inaction in the face of need.

Institutionalized racism manifests itself both in material conditions and in access to power. With regard to material conditions, examples include differential access to quality education, sound housing, gainful employment, appropriate medical facilities, and a clean environment. With regard to access to power, examples include differential access to information (including one's own history), resources (including wealth and organizational infrastructure), and voice (including voting rights, representation in government, and control of the media). It is important to note that the association between socioeconomic status and race in the United States has its origins in discrete historical events but persists because of contemporary structural factors that perpetuate those historical injustices. In other words, it is because of institutionalized racism that there is an association between socioeconomic status and race in this country.

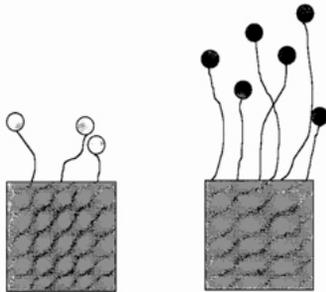
Personally mediated racism is defined as prejudice and discrimination, where prejudice means differential assumptions about the abilities, motives, and intentions of others accord-

The author is currently with the Department of Health and Social Behavior, Department of Epidemiology, and the Division of Public Health Practice, Harvard School of Public Health, Boston, Mass. She will soon begin working with the Centers for Disease Control and Prevention, Atlanta, Ga.

Requests for reprints should be sent to Camara Phyllis Jones, MD, MPH, PhD, Centers for Disease Control and Prevention, 4770 Buford Hwy, MS K45, Atlanta, GA 30341.

This article was accepted April 12, 2000.

Institutionalized racism



- Initial historical insult
- Structural barriers
- Inaction in face of need
- Societal norms
- Biological determinism
- Unearned privilege

ing to their race, and discrimination means differential actions toward others according to their race. This is what most people think of when they hear the word “racism.” Personally mediated racism can be intentional as well as unintentional, and it includes acts of commission as well as acts of omission. It manifests as lack of respect (poor or no service, failure to communicate options), suspicion (shopkeepers’ vigilance; everyday avoidance, including street crossing, purse clutching, and standing when there are empty seats on public transportation), devaluation (surprise at competence, stifling of aspirations), scapegoating (the Rosewood incident,^{9,10} the Charles Stuart case,^{11–14} the Susan Smith case^{15–18}), and dehumanization (police brutality, sterilization abuse, hate crimes).

Internalized racism is defined as acceptance by members of the stigmatized races of negative messages about their own abilities and intrinsic worth. It is characterized by their not believing in others who look like them, and not believing in themselves. It involves accepting limitations to one’s own full humanity, including one’s spectrum of dreams, one’s right to self-determination, and one’s range of allowable self-expression. It manifests as an embracing of “whiteness” (use of hair straighteners and bleaching creams, stratification by skin tone within communities of color, and “the white man’s ice is colder” syndrome); self-devaluation (racial slurs as nicknames, rejection of ancestral culture, and fratricide); and resignation, helplessness, and hopelessness (dropping out of school, failing to vote, and engaging in risky health practices).

The following allegory is useful for illustrating the relationship between the 3 levels of racism (institutionalized, personally mediated, and internalized) and for guiding our thinking about how to intervene. I use this story in my teaching on “race” and racism at the Harvard School of Public Health as well as in my public lectures.

Levels of Racism: A Gardener’s Tale

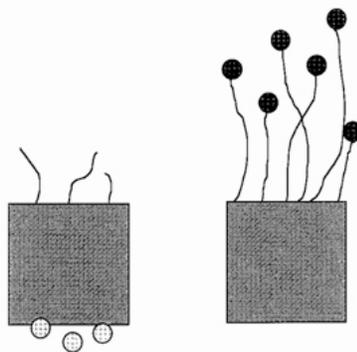
When my husband and I bought a house in Baltimore, there were 2 large flower boxes on the front porch. When spring came we decided to grow flowers in them. One of the boxes was empty, so we bought potting soil to fill it. We did nothing to the soil in the other box, assuming that it was fine. Then we planted seeds from a single seed packet in the 2 boxes. The seeds that were sown in the new potting soil quickly sprang up and flourished. All of the seeds sprouted, the most vital towering strong and tall, and even the weak seeds made it to a middling height. However, the seeds planted in the old soil did not fare so well. Far fewer seeds sprouted, with the strong among them only making it to a middling height, while the weak among them died. It turns out that the old soil was poor and rocky, in contrast to the new potting soil, which was rich and fertile. The dif-

ference in yield and appearance in the 2 flower boxes was a vivid, real-life illustration of the importance of environment. Those readers who are gardeners will probably have witnessed this phenomenon with their own eyes.

Now I will use this image of the 2 flower boxes to illustrate the 3 levels of racism. Let’s imagine a gardener who has 2 flower boxes, one that she knows to be filled with rich, fertile soil and another that she knows to be filled with poor, rocky soil. This gardener has 2 packets of seeds for the same type of flower. However, the plants grown from one packet of seeds will bear pink blossoms, while the plants grown from the other packet of seeds will bear red blossoms. The gardener prefers red over pink, so she plants the red seed in the rich fertile soil and the pink seed in the poor rocky soil. And sure enough, what I witnessed in my own garden comes to pass in this garden too. All of the red flowers grow up and flourish, with the fittest growing tall and strong and even the weakest making it to a middling height. But in the box with the poor rocky soil, things look different. The weak among the pink seeds don’t even make it, and the strongest among them grow only to a middling height.

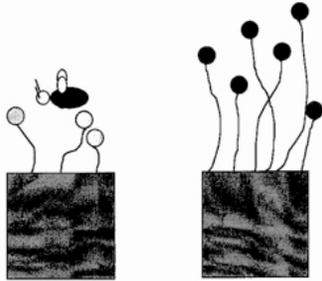
In time the flowers in these 2 boxes go to seed, dropping their progeny into the same soil in which they were growing. The next year the same thing happens, with the red flowers in the rich soil growing full and vigorous and strong, while the pink flowers in the poor soil struggle to survive. And these flowers go to seed. Year after year, the same thing happens. Ten years later the gardener comes to survey her garden. Gazing at the 2 boxes, she says, “I was right to prefer red over pink! Look how vibrant and beautiful the red flowers look, and see how pitiful and scrawny the pink ones are.”

Personally mediated racism



- Intentional
- Unintentional
- Acts of commission
- Acts of omission
- Maintains structural barriers
- Condoned by societal norms

Internalized racism



- Reflects systems of privilege
- Reflects societal values
- Erodes individual sense of value
- Undermines collective action

This part of the story illustrates some important aspects of institutionalized racism. There is the initial historical insult of separating the seed into the 2 different types of soil; the contemporary structural factors of the flower boxes, which keep the soils separate; and the acts of omission in not addressing the differences between the soils over the years. The normative aspects of institutionalized racism are illustrated by the initial preference of the gardener for red over pink. Indeed, her assumption that red is intrinsically better than pink may contribute to a blindness about the difference between the soils.

Where is personally mediated racism in this gardener's tale? That occurs when the gardener, disdaining the pink flowers because they look so poor and scraggly, plucks the pink blossoms off before they can even go to seed. Or when a seed from a pink flower has been blown into the rich soil, and she plucks it out before it can establish itself.

And where is the internalized racism in this tale? That occurs when a bee comes along to pollinate the pink flowers and the pink flowers say, "Stop! Don't bring me any of that pink pollen—I prefer the red!" The pink flowers have internalized the belief that red is better than pink, because they look across at the other flower box and see the red flowers strong and flourishing.

What are we to do if we want to put things right in this garden? Well, we could start by addressing the internalized racism and telling the pink flowers, "Pink is beautiful!" That might make them feel a bit better, but it will do little to change the conditions in which they live. Or we could address the personally mediated racism by conducting workshops with the gardener to convince her to stop plucking the pink flowers before they have had a chance to go to seed. Maybe she'll stop, or maybe she won't. Yet, even if she is convinced to stop plucking the pink flowers, we have still done

nothing to address the poor, rocky condition of the soil in which they live.

What we really have to do to set things right in this garden is address the institutionalized racism. We have to break down the boxes and mix up the soil, or we can leave the 2 boxes separate but fertilize the poor soil until it is as rich as the fertile soil. When we do that, the pink flowers will grow at least as strong and vibrant as the red (and perhaps stronger, for they have been selected for survival). And when they do, the pink flowers will no longer think that red pollen is better than pink, because they will look over at the red flowers and see that they are equally strong and beautiful. And although the original gardener may have to go to her grave preferring red over pink, the gardener's children who grow up seeing that pink and red are equally beautiful will be unlikely to develop the same preferences.

This story illustrates the relationship between the 3 levels of racism. It also highlights the fact that institutionalized racism is the most fundamental of the 3 levels and must be addressed for important change to occur. Finally, it provides the insight that once institutionalized racism is addressed, the other levels of racism may cure themselves over time. Perhaps the most important question raised by this story is *Who is the gardener?* After all, the gardener is the one with the power to decide, the power to act, and the control over the resources.

In the United States, the gardener is our government. As the story illustrates, there is particular danger when this gardener is not concerned with equity. The current Initiative to Eliminate Racial and Ethnic Disparities in Health by the Year 2010 is to be lauded as the first explicit commitment by the government to achieve equity in health outcomes.

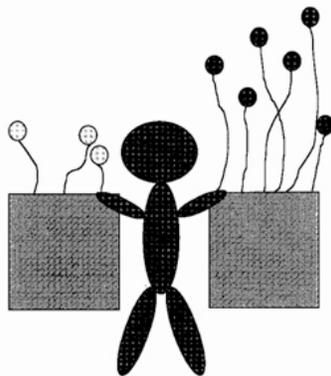
Many other questions arise from this simple story. What is the role of public health researchers in vigorously exploring the basis of pink-red disparities, including the differences in the soil and the structural factors and acts of omission that maintain those differences? How can we get the gardener to own the whole garden and not be satisfied when only the red flowers thrive? If the gardener will not invest in the whole garden, how can the pink flowers recruit or grow their own gardener?

The reader is invited to share this story with family members, neighbors, colleagues, and communities. The questions we raise and the discussions we generate may be the start of a much-needed national conversation on racism. □

References

1. Jones CP, LaVeist TA, Lillie-Blanton M. "Race" in the epidemiologic literature: an examination of the *American Journal of Epidemiology*,

Who is the gardener?



- Government
- Power to decide
 - Power to act
 - Control of resources

- Dangerous when
- Allied with one group
 - Not concerned with equity

- 1921–1990. *Am J Epidemiol.* 1991;134:1079–1084.
2. Cooper R, David R. The biological concept of race and its application to public health and epidemiology. *J Health Polit Policy Law.* 1986;11:97–116.
 3. Cavalli-Sforza LL, Menozzi P, Piazza A. *The History and Geography of Human Genes.* Princeton, NJ: Princeton University Press; 1994:19–20.
 4. Williams DR. Race and health: basic questions, emerging directions. *Ann Epidemiol.* 1997;7:322–333.
 5. Krieger N, Rowley DL, Herman AA, Avery B, Phillips MT. Racism, sexism, and social class: implications for studies of health, disease, and well-being. *Am J Prev Med.* 1993;9(6 suppl):82–122.
 6. Jones CP. *Methods for Comparing Distributions: Development and Application Exploring "Race"-Associated Differences in Systolic Blood Pressure* [dissertation]. Baltimore, Md: Johns Hopkins School of Hygiene and Public Health; 1994.
 7. President Clinton announces new racial and ethnic health disparities initiative [White House fact sheet]. Washington, DC: US Dept of Health and Human Services Press Office; February 21, 1998.
 8. US Dept of Health and Human Services. The Initiative to Eliminate Racial and Ethnic Disparities in Health. Available at: <http://raceandhealth.hhs.gov/>. Accessed May 29, 2000.
 9. Jones MD, Rivers LE, Colburn DR, Dye RT, Rogers WW. A documented history of the incident which occurred at Rosewood, Florida, in January 1923. Located at: State Library, Tallahassee, Fla. Also available at: <http://members.aol.com/klove01/rosehist.txt>. Accessed May 29, 2000.
 10. Love K. Materials on the destruction of Rosewood Florida. Available at: <http://members.aol.com/klove01/rostedest.htm>. Accessed May 29, 2000.
 11. Canellos PS, Sege I. Couple shot after leaving hospital: baby delivered. *Boston Globe.* October 24, 1989;Metro/Region section:1.
 12. Jacobs S. Stuart is said to pick out suspect. *Boston Globe.* December 29, 1989;Metro/Region section:1.
 13. Cullen K, Murphy S, Barnicle M, et al. Stuart dies in jump off Tobin Bridge after police are told he killed his wife: the Stuart murder case. *Boston Globe.* January 5, 1990;Metro/Region section:1.
 14. Graham R. Hoax seen playing on fear, racism: the Stuart murder case. *Boston Globe.* January 11, 1990;Metro/Region section:1.
 15. Davis R. Prayers lifted up for abducted boys: tots whisked off in S.C. carjacking Tuesday. *USA Today.* October 27, 1994:10A.
 16. Terry D. A woman's false accusation pains many blacks. *New York Times.* November 6, 1994;section 1:32.
 17. Harrison E. Accused child killer's family apologizes to blacks. Race relations: Susan Smith's brother says that his sister's false claim that an African American man kidnapped her sons was a "terrible misfortune." *Los Angeles Times.* November 9, 1994:A9.
 18. Lewis C. The game is to blame the blacks. *Philadelphia Inquirer.* November 16, 1994:A15.

Appendix G

EFFORTS TO ADDRESS INFANT MORTALITY IN OHIO: 1970-2008

1970-1985 IMR 18.6 – 10.4	1986-1994 IMR 10.4 - 8.7	1995-2000 IMR 8.7 - 7.5	2001-2005 IMR 7.6 – 8.3	2006 IMR 7.8	2007 IMR 7.7	2008
<p>1974: ODH WIC program begins</p> <p>1976: March of Dimes releases "Toward Improving the Outcome of Pregnancy I"</p> <p>1977: ODH adopts state perinatal guidelines and forms Regional Perinatal Centers</p> <p>1981: Title V of the Social Security Act is amended to provide MCH Block Grant funding to states</p> <p>1984: "Thanks Mom" Hotline for information on prenatal care offers free healthy baby booklet; encourages no drinking during pregnancy</p> <p>1985: ODH Child and Family Health Services (CFHS) Program begins</p> <p>1985: Institute of Medicine releases "Preventing Low Birth Weight" Report</p> <p>1986: GOVERNOR: Governor establishes Task Force on Black and Minority Health</p>	<p>1987: Ohio establishes Commission on Minority Health</p> <p>1988: Medicaid initiates Pregnancy Related Services</p> <p>1990: GOVERNOR: OH Task Force on Drug-Exposed Infants releases Report</p> <p>1991: Combined Program Application instituted for WIC, CFHS, BCMH and Medicaid</p> <p>1991: Cleveland Healthy Start begins</p> <p>1993: March of Dimes releases "Toward Improving the Outcome of Pregnancy II"</p> <p>1993: ODH convenes statewide working group to review the perinatal system</p> <p>1993: ODH Ohio Infant Mortality Reduction Initiative (OIMRI) begins</p> <p>1994: LEGISLATURE: Joint Select Committee on Infant Health and Family Support: Improving the Health Outcomes of Infants</p>	<p>1995: ODH and Medicaid initiates Helpline for early prenatal & well baby care</p> <p>1996: ODH Early Start home visiting to at-risk children under 3 begins</p> <p>1996: ODH releases Monograph: "Infants Born with Low Birth Weight in Ohio"</p> <p>1997-98: ODH releases position paper on FASD; incorporates FASD messages into ODH programs</p> <p>1990-1998: Cleveland Healthy Start reduces IM by 40% in target area</p> <p>2000: Columbus Healthy Start Caring for 2 begins</p> <p>2000: Medicaid coverage for pregnant women increases to 150% of poverty</p> <p>2000: Ohio General Assembly establishes Child Fatality Review</p> <p>2000: ODH Prenatal Smoking Cessation Program begins</p> <p>2000-2002: ODH/BCFHS contracts with Dartmouth to assess the strengths and weaknesses in Ohio's perinatal care system</p>	<p>2001: ODH awards Community Access Program grant and funds 6 pilot sites to improve community care coordination for at-risk pregnant women</p> <p>2002-2004: ODH develops and trains 6 Data Use Consortium (DUC) Regional Teams</p> <p>2003: GOVERNOR: Fetal Alcohol Spectrum Disorder Steering Committee forms</p> <p>2003: CDC funding for implementation of birth defects system</p> <p>2005: ODH CFHS Program refines focus on specific benchmarks and indicators; OIMRI joins CFHS to align prenatal care services with perinatal outreach</p> <p>2005: ODH Birth Outcomes Improvement Initiative (BOII) brings together partners seeking to improve birth outcomes</p> <p>2005-2006: ODH contracts for Ohio Vermont Oxford Network (VON) Report; 6 Regional Perinatal DUC Teams use the analyses, observations and conclusions</p>	<p>2006: MMWR releases "Recommendations to Improve Preconception Health and Health Care"</p> <p>2006: ODH initiates use of 2003 revisions to national birth certificate</p> <p>2006: ODH collaborates with March of Dimes on Prematurity Summit</p> <p>2006: Institute of Medicine releases "Preterm Birth: Causes, Consequences, and Prevention"</p> <p>2006: CDC releases Recommendations to Improve Preconception Care</p>	<p>2007: ODJFS, in conjunction with OPOC and ODH, applies for and is awarded CMS Neonatal Transformation Grant (\$2 million)</p> <p>2007: Ohio Perinatal Quality Foundation (OPOC) is founded using VON Ohio Small Group Combined Report</p> <p>2007: ODH participates in Lucas County Initiative to Improve Birth Outcomes</p> <p>2007: ODH releases "Ohio Looks at Infant Mortality in a New Way "</p> <p>2005-2007: ODH, in conjunction with Smoke Free Families National Dissemination Office pilots Ohio Partners for Smoke-Free Families in Ohio WIC and HMG sites.</p>	<p>2008: ODH and ODADAS presents <i>Women's Wellness Symposium: Wellness Across the Lifespan</i></p> <p>2008: Medicaid coverage for pregnant women is increased to 200% of poverty</p> <p>2008: ODH expands Ohio Partners for Smoke-Free Families in Ohio WIC sites</p>

Appendix H

Ohio Programs Addressing Infant Mortality

The Ohio Infant Mortality Program Inventory survey was activated in July 2009. Data for this table were imported in September 2009. The survey remains active at <http://www.odh.ohio.gov/odhPrograms/cfhs/imtf/imtf.aspx> and will be reviewed monthly - to update this document.

Program Initiative	Description	State / Local Target Counties	Funded by	Contact Information
Action Learning Collaborative: Columbus/Ohio's Partnership to Eliminate Health Disparities	We are one of six cities nationally (Columbus; Chicago; Denver [Aurora] Los Angeles; Milwaukee; Pinellas County, FL) learning together and working on strategies to address racism and its effects on infant mortality. Our main strategies include: develop/adapt tools to learn from health care consumers their experiences of racism in health care settings; develop a community toolkit/presentation for engaging our organizations and health care providers in anti-racism work; participate on the Ohio Infant Mortality Task Force, bringing forth information and advocacy for addressing racism.	State/Local Initiative 1 Ohio county: Franklin Tools developed will be available for other counties / states	Funding from Kellogg Foundation to cover costs of 4 persons to team training over the collaborative.	Columbus Public Health Carolyn B. Slack, MS, RN carolyns@columbus.gov 614-645-6263
Birth Outcomes Improvement Initiative	Brings together ODH Maternal and Child Health programs, including Early Intervention, Special Supplemental Nutrition Program for Women, Infants and Children (WIC), Genetics and Birth Defects programs, along with community partners and stakeholders, to collaborate on the action steps outlined in the <i>CDC Recommendations to Improve Preconception Health</i> .	State Initiative: 88 Ohio Counties	Maternal and Child Health Block Grant	Ohio Department of Health Bureau of Child & Family Health Services Beverly Wargo Beverly.wargo@odh.oh.gov 614-644-0139
Bright Future Lactation Resource Centre	Education and training for health professionals in breastfeeding; research in maternal-child health; consultation on birth practices and breastfeeding.	State Initiative: 88 Ohio Counties	Client Fees Insurance	Bright Future Lactation Resource Centre Linda J. Smith lindaj@bflrc.com 937-438-9458
Centering Pregnancy	Three components of care, assessment, education and support are provided within a group facilitated by a credentialed health provider and a co-facilitator. Centering model outcomes include: empowerment and community building, increased satisfaction with care, reduction in preterm birth and increased breastfeeding.	Local Initiative: 5 Ohio counties Hamilton, Franklin, Montgomery, Medina and Stark	Local funds	Summa Wadsworth-Rittman Hospital Centering Pregnancy program Kelli Viscounte kviscounte@wrhhs.org 330-331-1340

Program Initiative	Description	State / Local Target Counties	Funded by	Contact Information
Child and Family Health Services (CFHS)	An organized community effort to improve the health status of women and children in Ohio by identifying needs and implementing programs and services to address identified needs. CFHS projects may provide programs and services in up to five of the following components: Community Health Assessment and Planning (required), Child and Adolescent Health, Perinatal Health, Family Planning and the Ohio Infant Mortality Reduction Initiative.	State Initiative: 71 Ohio Counties	Maternal and Child Health Block Grant	Ohio Department of Health Bureau of Child & Family Health Services Lori Deacon Lori.deacon@odh.oh.gov 614-466-6056
Ohio Infant Mortality Reduction Initiative (OIMRI)	A component of CFHS that utilizes the community care coordination model to empower communities to eliminate disparities in infant mortality. The community care coordination model supports employing individuals from the community as trained advocates (community health workers) who empower individuals to access resources. The focus is on African-American populations in geographic areas at greatest risk of poor birth outcomes.	State Initiative: 13 Ohio Counties Allen, Butler, Clark, Cuyahoga, Franklin, Hamilton, Lorain, Lucas, Mahoning, Montgomery, Richland, Summit, Stark	Maternal and Child Health Block Grant	Ohio Department of Health Bureau of Child & Family Health Services Vivian Jackson Anderson Vivian.anderson@odh.oh.gov 614-466-2247
Child Fatality Review (CFR)	Local CFR boards review the deaths of all children from birth to age 18 years, make recommendations for the prevention of future deaths and share their findings with others in the community who can create the changes needed to protect children.	State Initiative: 88 Ohio Counties	No funding	Ohio Department of Health Bureau of Child & Family Health Services Merrily Wholf Merrily.wholf@odh.oh.gov 614-728-0773
Early Head Start	Early Head Start (EHS) is a federally funded community-based program for low-income families with infants and toddlers and pregnant women. Its mission is: (1) to promote healthy prenatal outcomes for pregnant women, (2) to enhance the development of very young children and (3) to promote healthy family functioning.	State Initiative: 40 Ohio Counties Adams, Allen, Auglaize, Brown, Butler, Champaign, Clark, Clermont, Cuyahoga, Darke, Fairfield, Geauga, Greene, Guernsey, Hamilton, Lake, Lawrence, Logan, Lorain, Madison, Mahoning, Medina, Miami, Monroe, Montgomery, Morgan, Noble, Ottawa, Pike, Preble, Richland, Sandusky, Seneca, Shelby, Summit, Van	Federal	Ohio Department of Health Bureau of Early Intervention Services BEIS@odh.ohio.gov 614-644-8389

Program Initiative	Description	State / Local Target Counties	Funded by	Contact Information
		Wert, Warren, Washington, Wayne, Wood		
EPA: Building Capacity to Address Environmental Health Issues during Pregnancy	Child and family health clinics in 4 counties distribute environmental risk assessment tools to women of childbearing age. The assessment tool addresses nine hazards: arsenic, cadmium, carbon monoxide, lead, mercury, mold, pesticides, radon and tobacco smoke. After determining their risk, the health care provider educates them and gives the women literature and other supplies (DVDs, carbon monoxide detectors, radon test kits, lead check swabs) to help them avoid environmental hazards and to keep themselves and their babies healthy.	State Initiative: Pilot 4 Ohio counties: Athens, Lucas, Montgomery and Stark	U.S. Environmental Protection Agency	Ohio Department of Health Bureau of Child and Family Health Services Amy Davis amy.davis@odh.ohio.gov 614-466-3335
Every Child Succeeds	Provides home visits, which take place from the time of pregnancy through the child's third birthday, are designed to ensure an optimal start for children both physically and emotionally. Sixteen local agencies provide the home visits, adhering to program; training and evaluation standards established by Cincinnati Children's Hospital Medical Center	Local Initiative: 1 Ohio county Hamilton	Private donors and public funds	Every Child Succeeds Cincinnati Children's Hospital Medical Center 3333 Burnet Avenue, ML 3005 Cincinnati, OH 45229-3039 Phone: 513-636-2830 Fax: 513-636-2460 Email: everychildssucceeds@cchm.c.org
Family Planning Program	Offers a broad range of effective and acceptable contraceptive methods on a voluntary and confidential basis and supports the delivery of related preventive health services, including patient education and counseling; breast and pelvic examinations; cervical cancer, sexually transmitted disease and HIV screening; and pregnancy diagnosis and counseling.	State Initiative: 75 Ohio counties	Maternal and Child Health Block Grant	Ohio Department of Health Bureau of Child & Family Health Services Judith Hauser Judith.hauser@odh.oh.gov 614-644-1107
Federal Healthy Start	Designed to eliminate disparities in perinatal infant and maternal health by: enhancing a community's health care infrastructure and service system and a state's infrastructure and directing resources and interventions to improve comprehensive perinatal and women's health services, particularly for women and infants at higher risk for poor health outcomes. These services include case management, home visiting and links to health care and other needed services; direct outreach and peer mentoring by trained community members; screening and referral for perinatal/postpartum depression; and strong coordination with and access to critical services.	Local Initiative: 2 Ohio counties Cuyahoga County- Cleveland Moms First Franklin County- Columbus Healthy Start/Caring for 2	Federal	Lisa M. Matthews lmattews@city.cleveland.oh.us (216) 664-4281 Grace Kolliesuah gmkolliesuah@columbus.gov 614-645-1697

Program Initiative	Description	State / Local Target Counties	Funded by	Contact Information
Federally Qualified Health Center (FQHC)	FQHCs are community-based organizations that provide comprehensive primary care and preventive care, including health, oral and mental health/substance abuse services to persons of all ages, regardless of their ability to pay.	State Initiative: 36 Ohio counties Adams, Allen, Athens, Belmont, Brown, Butler, Clermont, Columbiana, Cuyahoga, Darke, Fayette, Franklin, Hamilton, Harrison, Henry, Highland, Hocking, Lawrence, Logan, Lucas, Mahoning, Monroe, Montgomery, Perry, Pike, Richland, Ross, Sandusky, Scioto, Stark, Summit, Trumbull, Vinton	Federal	Ohio Department of Health Bureau of Community Health Services & Systems Development Heather Reed Heather.Reed@odh.ohio.gov 614-752-8935
Fetal Alcohol Spectrum Disorders (FASD) Statewide Initiative	Promotes prevention, improves screening and diagnosis of children with FASD, and provides services to those affected.	State Initiative: 88 Ohio counties	Federal	Ohio Department of Health Bureau of Early Intervention Services BEIS@odh.ohio.gov 614-644-8389
FIMR Case Review Team	FIMR conducts monthly reviews of infant deaths in Hamilton County. The review team is interdisciplinary, including neonatologists, OB/GYNs, social workers, nurses, the WIC director and various organizations. The review team is currently in the process of hiring home interviewers.	Local Initiative: 1 Ohio county Hamilton	Local	Angela Adam Hamilton County Public Health angela.adam@hamilton-co.org 513-946-7938
Help Me Grow	Provides home visiting that: identifies children with or at risk for developmental delays or disabilities; provides parents with up-to-date information during a newborn visit from a registered nurse on child health, development, safety and community resources; during the visit, a registered nurse conducts a physical assessment of the newborn and mother; provides screenings for health, hearing, vision and development; provides parents with information about their child's social and emotional development lays the foundation for later school success; assures that parents have information on the importance of early childhood immunizations and routine pediatric health care; and connects children with appropriate services at age 3.	State Initiative: 88 Ohio Counties	Federal	Ohio Department of Health Bureau of Early Intervention Services BEIS@odh.ohio.gov 614-644-8389
Molina Health Care of	Provides authorization for 17P injectable therapy for	Local Initiative:	State	Corina Tamalpias RN

Program Initiative	Description	State / Local Target Counties	Funded by	Contact Information
Ohio 17 P High Risk OB	women with history of PTL/PTD and telephonic case management with linking to social services if applicable.	Central and Southern (east and west) Ohio		Molina Healthcare Of Ohio corina.tamalpias@molinahealthcare.com 1-800-642-4168 ex 212389
Nurse Family Partnership (NFP)	Partners mothers with a registered nurse early in pregnancy and provides ongoing nurse home visits that continue through her child's second birthday.	Local Initiative: 4 Ohio counties Butler, Franklin Hamilton, and Montgomery	Help Me Grow (state and local/private funding)	Butler County Behavioral Health Services Center for Child and Family Advocacy at Columbus Children's Hospital Cincinnati Health Department Greater Dayton Area Hospital Association Kimberly Friedman kimberly.friedman@nursefamilypartnership.org
Office on Maternal and Infant Health and Infant Mortality Reduction	This office (one position) serves in a coordinating role for the many health care and social service organizations working to address infant mortality.	Local Initiative: 1 Ohio county Hamilton	Local	Cynthia Smith, Director cynthia.smith@hamilton-co.org 513-946-7901
Ohio Better Birth Outcomes	A community collaborative to reduce recurrent preterm births and provide inter-pregnancy care for women delivered of a preterm infant.	Local Initiative: 1 Ohio county Franklin	Local, Nationwide Children's Hospital	Patricia Temple Gabbe. MD Nationwide Childrens and OSU pat.gabbe@osumc.edu 614-722-3283
Ohio Partners for Birth Defects Prevention	Increases awareness about preventable birth defects to health professionals and women of childbearing age. This group is co-chaired by the Ohio Department of Health and March of Dimes, Ohio Chapter.	State Initiative: 88 Ohio counties	CDC birth defects, Genetics Grants (NBS Fee)	Ohio Department of Health\Bureau of Children with Medical Handicaps Anna Starr Anna.starr@odh.ohio.gov 614-995-5333
Perinatal Smoking Cessation Program (PSCP) Ohio Partners for Smoke-Free Families (OH-SFF)	Works with national, state and local partners to reduce the prevalence of smoking among women of reproductive age, including pregnant women. A component of PSCP that works with health care systems and providers to increase the adoption, reach and impact of evidence-based smoking cessation interventions. OH-SFF provides the tools, training and technical assistance needed to support providers to treat smokers effectively. OH-SFF is currently working with 60 Ohio WIC sites.	State Initiative: 88 Ohio counties State Initiative: 16 Ohio Counties Adams, Allen, Brown, Champaign, Clark, Erie, Geauga, Highland, Hocking, Holmes, Huron, Knox, Marion, Medina, Preble and Shelby	Maternal and Child Health Block Grant	Ohio Department of Health Bureau of Child & Family Health Services Beverly Wargo Beverly.wargo@odh.oh.gov 614-644-0139

Program Initiative	Description	State / Local Target Counties	Funded by	Contact Information
Prematurity Initiative	Program to reduce the premature birth rate in Cincinnati region. This is done by an annual forum and development of a regional database for research.	Local Initiative: 4 Ohio counties Hamilton, Clermont, Butler and Warren	Philanthropic, University, Hospital	David E. Jones CCHMC david.jones@cchmc.org 513-636-0235
Regional Perinatal Center (RPC) Program	Promotes access to evidence-based and risk-appropriate perinatal care to women and their infants through regional activities with the overall goal of reducing perinatal mortality and morbidity. Grantees work with regional community stakeholders to identify issues in birth outcomes and perinatal care; assist public health entities with quality improvement activities, data collection protocols and quality assurance policies and procedures.	State Initiative: 88 Ohio counties divided into 6 perinatal regions	Federal	Ohio Department of Health Bureau of Child & Family Health Services Beverly Wargo Beverly.wargo@odh.oh.gov 614-644-0139
Perinatal Data Use Consortium (PDUC)	As part of the work of the Regional Perinatal Centers, seven PDUC teams utilize data-sets (e.g., Perinatal Periods of Risk-PPOR, Vermont Oxford Network-VON, and Medicaid) in a collaborative learning process to advance data knowledge and improve the quality of perinatal practices across systems of health care.	State Initiative: 88 Ohio counties divided into 6 perinatal regions 7 PDUC Teams 1 State Team 6 Regional Teams		
Resource Mothers Program	Serves the most vulnerable members of our society. Staff will serve as mentors, teachers, advocates and friends helping pregnant and parenting clients achieve healthier lifestyles. Designed to improve and enhance family life by providing health-related information and resources to expectant parents before, during and after birth to promote healthier babies. The resource mothers are certified as community health workers, and services are available in Spanish.	Local Initiative: 1 Ohio county Lorain	March of Dimes	Ohio Department of Health Bureau of Child and Family Health Services Vivian Jackson Anderson Vivian.anderson@odh.ohio.gov 614-466-2247
Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)	Helps pregnant and breastfeeding women, women who recently had a baby, infants and children up to five years of age who are at health risk due to inadequate nutrition. The program improves pregnancy outcomes by providing or referring to support services necessary for full-term pregnancies; reduces infant mortality by reducing the incidence of low birth weight) and provides infants and children with a healthy start in life by improving poor or inadequate diets. WIC provides nutrition education, breastfeeding education and support; supplemental, highly nutritious foods such as milk, eggs, cheese,	State Initiative: 88 Ohio counties	Federal- US Department of Agriculture	Ohio Department of Health Bureau of Nutrition Services OHWIC@odh.ohio.gov 614-644-8006

Program Initiative	Description	State / Local Target Counties	Funded by	Contact Information
	juice, cereal, beans, peanut butter and iron-fortified infant formula; referral to prenatal and pediatric health care and other maternal and child health and human service programs (examples: Head Start, Medicaid and Food Stamps).			
The Birthing Center	Hospital Maternity Unit	Local Initiative: 5 Ohio counties Washington, Morgan, Athens, Noble and Monroe	Federal, State, Client Fees Insurance Billing	Susan Knotts Marietta Memorial Hospital sknotts@mmhospital.org 740-374-1630
The Community Health Access Project (CHAP)	Provides community-based prenatal care coordination as a means of improving the basic health and social outcomes of individuals in economically disadvantaged neighborhoods.	Local Initiative: 2 Ohio counties Knox and Richland	Osteopathic Heritage Foundations, the Ohio Department of Jobs and Family Services and other grants and contracts	Mark Redding reddingz@att.net 419-525-2555
The Lucas County Initiative to Improve Birth Outcomes (LCIIBO)	A collaboration of multiple local partners designed to reach deep into the county's most at-risk communities to save the lives babies who might otherwise have been lost due to low birth weight complications and to teach at-risk women how to take better care of themselves. The initiative uses a community care coordination model with local culturally connected workers.	Local Initiative: 1 Ohio county Lucas	The Toledo Community Foundation; The Stranahan Foundation; The Cleveland Community Foundation's Medical Mutual Fund; March of Dimes; US Department of Health & Human Services/ Health Resources & Services Administration Region V (Provides Technical Support)	The Hospital Council of Northwest Ohio Jan Ruma jruma@hcno.org Maggie Welty 419-842-0800
The Ohio Infant Mortality Program Inventory survey was activated in July 2009. Data for this table was imported in September 2009. The survey remains active at http://www.odh.ohio.gov/odhPrograms/cfhs/imtf/imtf.aspx and will be reviewed monthly to update this document.				

Appendix I

Research Addressing Infant Mortality in Ohio

The Ohio Infant Mortality Research survey was activated in July 2009. Data for this table were imported in September 2009. The survey remains active at <http://www.odh.ohio.gov/odhPrograms/cfhs/imtf/imtf.aspx> and will be reviewed monthly - to update this document.

Project Research Question	Methodology	Results/Conclusions/Next Steps	Publications	Primary Investigator Evaluator
<p>17 OHPC Project</p> <p>Does getting 17 OHPC to women with a prior history of preterm birth at 16 wks and weekly until 36 wks improve birth outcomes?</p>	Quantitative & Qualitative	No results to report at this time.		<p>Hetty Walker</p> <p>walker.56@osu.edu</p> <p>The Ohio State University</p>
<p>Lipid Bodies and Prostaglandin Production in Labor</p> <p>What is the role of lipid storage droplets in arachidonate metabolism and eicosanoid synthesis within intrauterine tissues, as may be relevant to the mechanisms of human labor and preterm birth?</p>	Quantitative	Still gathering key data.	Biology of Reproduction, Placenta	<p>William E. Ackerman IV MD</p> <p>The Ohio State University</p>
<p>Alloimmunization in Pregnancy</p> <p>How do different maternal red blood cell antibodies affect fetuses and newborns?</p>	Quantitative	All red blood cell antibodies with the exception of anti-K have a critical maternal titer of 32. Hemolytic disease of the fetus and newborn can be managed with maternal monitoring and antenatal interventions to avoid long term consequences and premature birth. Continue to query the 50-year-old database of clinical data to contribute to the knowledge of this complication of pregnancy.	Journal of Reproductive Medicine, American Journal of Obstetrics and Gynecology, Obstetrics and Gynecology, Transfusion	<p>Richard O'Shaughnessy (Contact Karen Rossi)</p> <p>rossi.34@osu.edu</p> <p>The Ohio State University</p>
<p>Late Preterm Infant Research Based Practice Project-- Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN)</p> <p>What is the impact of educating nurses and mothers of late preterm infants about complications associated with late preterm upon the integration of evidence-based practice guidelines?</p>	Quantitative & Qualitative	Study in progress through 2009.		<p>Jane Lamp</p> <p>jlamp@ohiohealth.com</p> <p>Riverside Methodist Hospital</p>

Project Research Question	Methodology	Results/Conclusions/ Next Steps	Publications	Primary Investigator Evaluator
<p>Cervilenz</p> <p>How does Cervilenz (the FDA-approved, disposable device for measuring cervical length) compare to ultrasound?</p>	Quantitative	No results to report, however, if this device is comparable it could be used in institutions not only in USA, but also other countries to help assess risk for preterm birth, analyze outcomes.		<p>Hetty Walker</p> <p>walker.56@osu.edu</p> <p>The Ohio State University</p>
<p>Development of a Low Birth Weight Registry for Dayton, Ohio</p> <p>What are the local, modifiable maternal risk factors associated with Low Birth Weight? Can a registry help identify such risk factors and be used to create strategic community interventions?</p>	Quantitative	<p>High rates of modifiable maternal risk factors are associated with a stressful lifestyle (smoking, drinking, substance abuse) and poverty (Medicaid clients, single mothers).</p> <p><i>Next Steps:</i> The Nurse Family Partnership (NFP) nurse home visiting program, which provides health education and one-on-one support for the mother, needs to be expanded to combat the consequences of stress and poverty. Stress management and education on the development of healthy coping skills, or referrals for such education, need to be explicitly incorporated into existing prenatal care programs. Future goals of the project include the development of a control group and the creation of evidence-based community interventions.</p>	In submission	<p>Dr. David Uddin</p> <p>(937) 208-2239</p> <p>Wright State University</p>
<p>Evaluation of the Performance of a Non-invasive Test for Fetal RhD Genotype on the Sequenom Massarray System</p> <p>Can fetal sex and RhD blood type be reliably obtained using maternal blood?</p>	Quantitative	Just opened 5/09.		<p>Richard O'Shaughnessy</p> <p>(Contact Karen Rossi)</p> <p>rossi.34@osu.edu</p> <p>The Ohio State University</p>
<p>Impact of Nutrition Education and Exercise Program on Gestational Weight Gain in Obese Pregnant Women</p> <p>Do nutrition education and exercise improve the perinatal outcomes in obese pregnant women?</p>	Quantitative, Randomized Control Trial	Ongoing.		<p>Wanjiku Musindi</p> <p>(614) 293-3773</p> <p>The Ohio State University</p>

Project Research Question	Methodology	Results/Conclusions/ Next Steps	Publications	Primary Investigator Evaluator
<p>Long Term Follow up of Children Diagnosed with Bladder Disorders before Birth</p> <p>What is the quality of life, including required medical care for children who were diagnosed prenatally with serious renal abnormalities and does it vary with in-utero treatment?</p>	Qualitative	Continue to enroll surviving children.		Richard O'Shaughnessy (Contact Karen Rossi) rossi.34@osu.edu The Ohio State University
<p>Long Term Outcomes of Twin-Twin Transfusion</p> <p>What is the morbidity and mortality of twin-twin transfusion syndrome based on different therapies?</p>	Quantitative	Continue to enroll all eligible patients treated at OSU.		Richard O'Shaughnessy (Contact Karen Rossi) rossi.34@osu.edu The Ohio State University
<p>Mechanisms of Parturition: Inflammation and Human Labor</p> <p>How can regulatory proteins that govern the transition from intrauterine quiescence to labor be better defined?</p>	Quantitative	Recent work by Drs. Douglas Kniss and William Ackerman, in collaboration with researchers at the Perinatology Research Branch of the NICHD, has helped to clarify the contribution of an inflammatory signally cascade (NFkappaB) to the process of human labor. Using a systems biology approach, ongoing work is being directed at defining the mechanisms which naturally supress NFkappaB activity during the greater part of pregnancy.	Biology of Reproduction, Reproductive Sciences	William E. Ackerman IV MD The Ohio State University
<p>Multiple Quality Improvement Projects</p> <ol style="list-style-type: none"> 1. What is the impact of gestational age on risk of infant death? 2. To what degree is preconception care being accessed among the poor? 3. What is the effect of community-based quality improvement collaborative on risk of infant death in Hamilton County? 4. What is the effect of statewide QI collaborative on risk of preterm birth? 5. What is the effect of statewide QI collaborative on risk of hospital-associated neonatal infection? 	Quantitative, Working Group Formation	Projects are ongoing/complete each project and publish results.	Pending	Edward F. Donovan edward.donovan@cchmc.org Cincinnati Children's Hospital Medical Center

Project Research Question	Methodology	Results/Conclusions/ Next Steps	Publications	Primary Investigator Evaluator
<p>Natural History Registry for Pregnancies Complicated by Prenatally Diagnosed Lower Urinary Tract Obstruction with Normal Amniotic Fluid Volume</p> <p>Do fetuses with prenatally diagnosed, but untreated, urinary tract obstruction with normal amniotic fluid have impaired renal function?</p>	Quantitative	Continue enrollment and outcome data collection.		Richard O'Shaughnessy (Contact Karen Rossi) rossi.34@osu.edu The Ohio State University
<p>NICHHD Network of Maternal Fetal Medicine Research Units</p> <p>1. TSH Trial: a masked RCT of thyroid supplementation vs. placebo in women with subclinical hypothyroidism or hypothyroxinemia to determine the effect on IQ of the child at age 7. 2. SCAN Study: An RCT of supplemental 17 alpha-hydroxy-progesterone caproate vs. placebo in nulliparous women with short cervix. 3. APEX: A prospective observational study of events in labor/delivery units to identify predictors of serious maternal or fetal morbidity and mortality.</p>	Quantitative	All NICHHD MFMU trials are prospective. Outcomes are not revealed or analyzed until data collection from the needed sample size is completed. NICHHD MFMU funding is in jeopardy.	A list of all publications from the NICHHD MFMU is available online at: http://www.bsc.gwu.edu/mfmu/	Jay Iams jay.iams@osumc.edu The Ohio State University Medical Center
<p>Outcome of Radio Frequency Ablation for Twin Reversed Arterial Perfusion Sequence</p> <p>What are the survival rates of the healthy twin after this procedure?</p>	Quantitative	Presented January 2009 at conference, Procedure has better survival rates in diamniotic twins than monoamniotic twins.	Pending publication by North American Fetal Treatment Network	Richard O'Shaughnessy (Contact Karen Rossi) rossi.34@osu.edu The Ohio State University
<p>Oxidative Stress in Fetuses with Decompensated Alloimmune Hemolytic Disease of the Fetus and Newborn</p> <p>Do fetuses who require intrauterine blood transfusions for anemia due to maternal red blood cell antibodies have high levels of oxidative stress? Do the mothers have high levels of markers of oxidative stress?</p>	Quantitative	Encourage enrollment by members of the North American Fetal Therapy Network.		Richard O'Shaughnessy (Contact Karen Rossi) rossi.34@osu.edu The Ohio State University

Project Research Question	Methodology	Results/Conclusions/ Next Steps	Publications	Primary Investigator Evaluator
Perinatal Registry Are the clinical findings during pregnancy related to neonatal outcomes when fetal defects are diagnosed prenatally?	Quantitative	Continue to collect data on all pregnancies found to have a fetal defect and their neonatal outcomes.		Richard O'Shaughnessy (Contact Karen Rossi) rossi.34@osu.edu The Ohio State University
Predictive Markers in Twin-Twin Transfusion Syndrome Are there biomarkers in amniotic fluid or maternal blood that predict the severity (and survival) of fetuses affected by twin-twin transfusion syndrome?	Quantitative	Continue enrollment along with other North American Fetal Therapy Network sites.		Richard O'Shaughnessy (Contact Karen Rossi) rossi.34@osu.edu The Ohio State University
Prenatal Cytogenetic Diagnosis by Array-based Copy Number Analysis Can microarray during pregnancy predict abnormalities of the subsequent newborn?	Quantitative	Enroll pts from OSU in this North American Fetal Therapy Network study.		Richard O'Shaughnessy (Contact Karen Rossi) rossi.34@osu.edu The Ohio State University
Preventive IVIG Therapy for Congenital Heart Block, OSU is a Site for this Multi-site Trial from New York University Will IVIG given during pregnancy decrease the incidence of heart block in the fetus and newborn in mothers with prior affected fetus or newborn due to maternal antibodies?	Qualitative	Enrollment will continue after interim analysis in 2008. Notify all local providers in Ohio of availability of this treatment protocol for future pregnancies in affected women.		Philip Samuels (Contact Karen Rossi) rossi.34@osu.edu The Ohio State University Medical Center
Randomized Multi-center Study of Antenatal Treatment of Alloimmune Thrombocytopenia from Cornell Medical College with OSU Being a Site for Enrollment Does twice a week IVIG or weekly IVIG with Prednisone better prevent intracranial hemorrhage in fetuses/newborns affected by maternal platelet antibodies?	Quantitative	Three phases of this trial have been completed. Currently enrolling for the fourth phase IVIG and prednisone provide protection to the fetus from intracranial hemorrhage. Continue enrolling in phase four.	Published by the PI from Cornell, James Busell	Richard O'Shaughnessy (Contact Karen Rossi) rossi.34@osu.edu The Ohio State University
SHAPE (Stress Health and the Pregnancy Experience) What is the effect of chronic stress on risk of preterm delivery?	Quantitative & Qualitative	Ongoing.	Not Applicable	Janelle Walton, janelle.walton@osumc.edu The Ohio State University Medical Center

Project Research Question	Methodology	Results/Conclusions/ Next Steps	Publications	Primary Investigator Evaluator
<p>SHAPE (Stress Health and the Pregnancy Experience)</p> <p>What are the effects of stress on health in non-Hispanic blacks and Caucasians in the non-pregnant state? African-Americans have a 2 fold increase in preterm birth than Caucasians. This is not true for Africans; however, 1st generation Africans raised in America have an increased risk.</p>	Quantitative	Some of the data are currently available, however, they have not yet been analyzed as enrollment is ongoing. Study the same population in pregnancy and post partum.		<p>Hetty Walker walker.56@osu.edu The Ohio State University</p>
<p>SHAPE (Stress, Health And the Pregnancy Experience)</p> <p>Hypotheses: 1. The rate of preterm birth is related to biological markers of maternal immune dysregulation. 2. Immune dysregulation will occur more commonly in Non-Hispanic Black mothers with 1 or more prior preterm births than in a) NHB mothers with no PTB and 1 or more term births, and b) NHW mothers with 1 or more PTB and c) NHW mothers with no PTB and 1 or more term births.</p>	Quantitative	Application for additional funding, expansion to include markers of immune dysregulation in pregnancy.		<p>Jay Iams jay.iams@osumc.edu The Ohio State University Medical Center</p>
<p>The Associations between Pre-pregnancy Weight and Preterm Birth and Pre-Pregnancy Weight and NICU Admission-- Ohio, 2000-2007</p> <p>What is the relationship between prepregnancy weight status and preterm birth and prepregnancy weight status and NICU admission among Ohio mothers?</p>	Quantitative	Ongoing.		<p>Elizabeth Conrey elizabethj.conrey@odh.ohio.gov The Ohio Dept. of Health</p>
<p>Twin-Twin Pregnancies after Laser Therapy: Prediction of Fetal/Neonatal Death</p> <p>Do ultrasound findings predict fetal or neonatal death from Twin-Twin Transfusion Syndrome (TTTS)?</p>	Quantitative	Submit data to North American Fetal Treatment Network for compilation.		<p>Richard O'Shaughnessy (Contact Karen Rossi) rossi.34@osu.edu The Ohio State University</p>
<p>The Ohio Infant Mortality Research survey was activated in July 2009. Data for this table was imported in September 2009. The survey remains active at http://www.odh.ohio.gov/odhPrograms/cfhs/imtf/imtf.aspx and will be reviewed monthly - to update this document.</p>				

Appendix K

From the Report of the Governor's Task Force on Black and Minority Health, 1985:

RECOMMENDATION 7: INCREASE THE NUMBER OF MINORITY HEALTH PROFESSIONALS:

- A) THE GOVERNOR SHOULD DIRECT THE BOARD OF REGENTS TO PREPARE WITHIN ONE YEAR A PLAN FOR INCREASING AND RETAINING THE NUMBER OF MINORITY HEALTH CARE PROFESSIONALS. THE PLAN SHOULD INCLUDE ESTABLISHING APPROPRIATE FINANCIAL SUPPORT AND INCENTIVES FOR GOAL ATTAINMENT.

Numerous studies have documented that physicians treat more patients of their own race and ethnic group. The Ohio applicant pool for minority students continues to decrease. Additionally, the National Health Services Corp (NHSC), a federally funded scholarship program is being reduced.

NHSC financed physician education and placed physicians in Medically Underserved Areas. By 1990, the number of placements in Ohio will dwindle, threatening the supply of clinicians available to provide medical services to low-income populations. Approximately 20 percent of the NHSC physicians assigned to Ohio were minorities.

According to the Association of American Medical Colleges, between July 1983 and June 1984, of Ohio's 825 reported Medical School graduates only 39 were Black, 36 Asian/Pacific Islanders, 4 Native American Indians and 10 Hispanics.

The under representation of minorities in the medical profession will become more dramatic in the future, thereby impacting negatively on the availability of practitioners to minority populations unless a comprehensive plan is developed to increase the number of minority health professionals.

This under representation permeates the health professions, including nurses, health educators, psychologists, nutritionists, speech pathologists and audiologists.

The plan should include strategies to expose minority students, preferably at the Junior High level, to health care career options, academic counseling and exploration of potentially available financial resources.

A mentorship program between minority health professionals and students could facilitate recruitment and retention for health care occupations.

- B) PROFESSIONAL SCHOOLS SUPPORTED BY THE STATE SHOULD ESTABLISH A MINORITY SCHOLARS CHAIR TO DEVELOP AND COORDINATE CURRICULUM ON MINORITY HEALTH AND CULTURAL ISSUES TO IMPROVE HEALTH STATUS.

To improve the acceptability of health services to the minority community and the availability of culturally sensitive providers, cross-cultural training should be included in academic curricula. It is imperative that students be made cognizant of the special needs of minorities, problems of minority populations and cultural differences as a part of their formal training.

- C) THE STATE SHOULD DEVELOP A CULTURAL COMPETENCY CURRICULUM, FUND RESEARCH AND DEVELOP A TRAINING SITE FOR OUTREACH WORKERS AND HEALTH PROFESSIONALS AT CENTRAL STATE UNIVERSITY.

Health care professionals need to know significant aspects of diverse cultures in order to provide treatment regimes and information, which are acceptable to minority citizens.

It is not practical to expect that a training location could be established in every community in the State. It is feasible to establish one site to accommodate the training needs of professionals and paraprofessionals statewide. Central State University, the only State supported minority college in Ohio, is the most logical choice to provide short-term cultural competency training.

A curriculum, developed by Eastern Michigan University, provides a structured format to train health care providers. Information includes a historical perspective of the various minorities and their beliefs and practices, which might be in conflict with traditional health care models and proposes program designs based on cultural diversity.

Glossary of Terms

Action Learning Collaborative – a multidisciplinary state/local team working to increase capacity of community, state, and local entities to address the impact of racism on birth outcomes and infant health

CHW/Community Health Worker – a trained advocate from the targeted community who empowers individuals to access community resources through education, outreach, home visits, and referrals

CMS/Centers for Medicare and Medicaid Services – the federal agency that administers Medicare, Medicaid and the Children’s Health Insurance Program

CFR/Child Fatality Review – a collaborative process in which multidisciplinary, multiagency boards review child deaths to consider comprehensive information to determine the circumstances leading to the death and how best to respond as a community

CityMatCH – a freestanding national membership organization of city and county health departments’ maternal and child health (MCH) programs and leaders representing urban communities in the United States, with the mission to improve the health and well-being of urban women, children and families by strengthening the public health organizations and leaders in their communities

Eclampsia – an acute and life-threatening complication of pregnancy characterized by the appearance of convulsions in a patient who had developed preeclampsia; rarely does eclampsia occur without preceding preeclamptic symptoms (see preeclampsia)

FIMR/Fetal Infant Mortality Review – a process in which multidisciplinary boards review fetal and infant deaths to identify the factors associated with these deaths, determine if they represent system problems that require change, develop recommendations for change and assist in the implementation of change

Gestation – the period of development of the young from the time of conception until birth. For humans the full gestation period is normally 9 months.

Healthy People 2010 – a national promotion and disease prevention initiative sponsored by the federal Department of Health and Human Services which includes a set of health objectives for the nation to achieve over the first decade of the new century

Inequity/Inequality – inequity refers to differences that are unnecessary and avoidable but, in addition, are also considered unfair and unjust. Not all inequalities are unjust, but all *inequities* are the product of unjust inequalities

Infant Mortality – the death of a child before his/her 1st birthday, measured by the number of deaths per 1,000 infants

ICC/Interconception Care – the health care and ancillary services provided to a woman from the birth of one child to the birth of her next child

Level III Hospital – an Ohio hospital that meets specific requirements for the provision of advanced obstetric and infant care and to which the highest-risk mothers and infants are directed

Low Birth Weight – a newborn weight of less than 2,500 grams or 5 pounds, 9 ounces (see very low birth weight)

Maternal and Child Health Block Grant Title V – funding received by the Ohio Department of Health from the Maternal and Child Health Bureau (MCHB) in the Health Resources and Services Administration (HRSA) for promoting and improving the health of mothers and children, including children with special health care needs

Medicaid Family Planning Waiver – a program designed to reduce unintended pregnancies and improve the well-being of children and families by extending eligibility for family planning services to women and sometimes men in specified age groups who meet the eligibility requirements for participation

Neonatal Intensive Care Unit (NICU) – a unit of a hospital specializing in the care of ill or premature newborn infants

Ohio Benefit Bank – a Web-based computer program to connect low- and moderate-income Ohioans with access to work supports such as tax credits, public benefits, health care coverage, home energy assistance, child care subsidies and Food Stamps

Payer – the entity that pays for health care, such as employer-based insurance, private insurance, or Medicaid

PCC/Preconception Care – the care of women of reproductive age before a first pregnancy or between pregnancies to ensure that conditions and behaviors which may pose a risk to mothers and infants are identified and managed

PPOR/Perinatal Periods of Risk – a simple approach that can be used by communities to mobilize and prioritize infant mortality prevention efforts, one aspect of which is to divide fetal-infant mortality into four strategic prevention areas: maternal health/prematurity, maternal care, newborn care and infant health

Preeclampsia – a medical condition in which elevated blood pressure arises in pregnancy in association with significant amounts of protein in the urine and edema

PRAMS/Pregnancy Risk Assessment Monitoring System – a surveillance project of the Centers for Disease Control and Prevention (CDC) and state health departments to collect state-specific, population-based data on maternal attitudes and experiences before, during and shortly after pregnancy

Prematurity – a baby born before 37 weeks of gestation, counting from the first day of the last menstrual period (LMP)

Preterm births – a delivery before 37 weeks of gestation; full term infants are born between 38 and 42 weeks

Prevention – in medicine, any activity that reduces the burden of death or sickness from disease; this takes place at primary, secondary and tertiary levels: **Primary prevention** avoids the development of a disease. Most population-based health promotion activities are primary preventive measures. **Secondary prevention** activities are aimed at early disease detection, thereby increasing opportunities for interventions to prevent progression of the disease and emergence of symptoms. **Tertiary prevention** reduces the negative impact of an already established disease by restoring function and reducing disease-related complications

Racism – the belief that race is the primary determinant of human traits and capacities, and that racial differences produce an inherent superiority of a particular race; a program or practice of racial discrimination based on these beliefs; a system of structuring opportunity and assigning value based on the social interpretation of how we look which unfairly disadvantages some individuals and advantages others

Telemedicine – a rapidly developing application of clinical medicine in which medical information is transferred via telephone, the Internet or other networks for the purpose of consulting, and sometimes remote medical procedures or examinations

Very Low Birth Weight – a newborn weight of less than 1,500 grams or 3 pounds, 5 ounces

References

1. KIDS COUNT Indicator Brief: *Reducing the Infant Mortality Rate*, The Annie E. Casey Foundation, July 2003
2. 2004, National Center for Health Statistics
3. 2007, Ohio Department of Health Vital Statistics
4. Heron MP, Hoyert DL, Murphy SL, Xu JQ, Kochanek KD, Tejada-Vera B. Deaths: final Data for 2006. National vital statistics Reports; vol 57 no 14. Hyattsville, MD: National Center for Health Statistics. 2009.
5. Centers for Disease Control and Prevention (CDC). Trends in Smoking Before, During, and After Pregnancy — Pregnancy Risk Assessment Monitoring System (PRAMS), United States, 31 Sites, 2000–2005. *Surveillance Summaries*, May 29, 2009. MMWR 2009;58 (No. SS-4)
6. PRAMS Annual Data Summary 2007
<http://www.odh.ohio.gov/ASSETS/1788CE8FAF5B4C10BEA188AC40116E2C/PRAMSDataSummary2004-2007.pdf>
7. CDC National Immunization Survey. Breastfeeding Among US Children Born 1999-2005
http://www.cdc.gov/BREASTFEEDING/DATA/NIS_data/index.htm
8. Child and Adolescent Health Measurement Initiative. *2007 National Survey of Children's Health*, Data Resource Center for Child and Adolescent Health website. Retrieved from www.nschdata.org.
9. 2000-2005 linked birth and death files, Ohio Department of Health Vital Statistics
10. Mathews TJ, Menacker F, MacDorman MF; Centers for Disease Control and Prevention, National Center for Health Statistics. Infant mortality statistics from the 2002 period: linked birth/infant death data set. *Natl Vital Stat Rep*. 2004 Nov 24;53(10):1-29.
11. <http://www.unnaturalcauses.org>

Resources

Birth Outcomes:

American Academy of Pediatrics, Committee on Fetus and Newborn. Hospital stay for healthy term newborns. *Pediatrics* 2004;113:1434-1436.

Gabbe SG, Niebyl JR, Simpson JL. *Obstetrics: Normal and Problem Pregnancies* (5th Edition). Philadelphia: Elsevier. 2007.

National Center for Health Statistics, National Governors Association, Dec. 2005-Feb. 2006. Retrieved September 21, 2007 www.marchofdimes.com/peristats

Position of the American Dietetic Association and American Society for Nutrition: Obesity, Reproduction, and Pregnancy Outcomes, *Journal of the American Dietetic Association*, May 2009, Vol. 109, No. 5.

Lu, Michael C., Lu, Jessica S. *Maternal Nutrition and Infant Mortality in the Context of Relationality. The Courage to Love: Infant Mortality Commission*. Joint Center for Political and Economic Studies, Health Policy Institute, Washington, D.C. 2007.

Breastfeeding:

Academy of Breastfeeding Medicine. Available online at <http://www.bfmed.org/>

American Dietetic Association. *Guidelines for Preparation of Formula and Breastmilk in Health Care Facilities*. Pediatric Nutrition Practice Group of the American Dietetic Association, 2003. Available online at http://www.eatright.org/cps/rde/xchg/ada/hs.xsl/nutrition_1562_ENU_HTML.htm

Best Practices for Expressing, Storing and Handling Human Milk in Hospitals, Homes and Child Care Settings, Human Milk banking Association of North America, 2nd edition 2006.

Donna J Chapman, Grace Damio, et al. Effectiveness of Breastfeeding Peer Counseling in a Low-Income, Predominantly Latina Population: A Randomized Controlled Trial. *Archives of Pediatrics and Adolescent Medicine*, 2004. American Medical Association. Available online at <http://archpedi.ama-assn.org/cgi/content/abstract/158/9/897>

Jeanette H. Magnus Magnus, MD, PhD¹, Meshawn Tarver, MPH¹, et al. Health Care Providers Can Impact Breastfeeding Initiation and Duration. American Public Health Association Public Health and the Environment Conference Presentation. Washington D.C 2004. Abstract available online at http://apha.confex.com/apha/132am/techprogram/paper_89785.htm

Jim A Sikorski, Mary J Renfrew, et al. Support for Breastfeeding Mothers: A Systematic Review. *Pediatric and Perinatal Epidemiology*. 17(4):407-417; October 2003.

Karen A Bonuck, Michelle Trombley, et al. *Randomized, Controlled Trial of a Prenatal and Postnatal Lactation Consultant Intervention on Duration and Intensity of Breastfeeding up to 12 months*. *Pediatrics*. 116:6:1413-1426, December 2005.

Stanley Ip, M.D., Mei Chung, M.P.H., et al. Breastfeeding and Maternal and Infant Health Outcomes in Developed Countries. Agency for Healthcare Research and Quality. Publication No. 07-E007. April 2007. Available online at http://www.ifanz-ibfan.org.nz/documents/health-outcomes-in-developed-countries_Apr'07.pdf

Surgeon General's Report on Breastfeeding. *Public Health Reports*; May-June 2009. Volume 24. Available online at http://www.publichealthreports.org/userfiles/124_3/356-358.pdf

Various Articles. *Breastfeeding Medicine*. Academy Of Breastfeeding Medicine. September 2007, 2(3): 168-169. doi:10.1089/bfm.2007.9989. Published in Volume: 2 Issue 3: October 1, 2007 <http://www.lieber-tonline.com/toc/bfm/2/3>

Position Statements on Breastfeeding:

<http://www.aafp.org/online/en/home/policy/policies/b/breastfeedingpolicy.html>

[http://www.bfmed.org/Media/Files/Documents/pdf/ABM%20Position%20Statement%20\(12-2008\).pdf](http://www.bfmed.org/Media/Files/Documents/pdf/ABM%20Position%20Statement%20(12-2008).pdf)

<http://aappolicy.aappublications.org/cgi/content/full/pediatrics;115/2/496>

http://www.midwife.org/siteFiles/position/Breastfeeding_05.pdf

http://www.awhonn.org/awhonn/binary.content.do?name=Resources/Documents/pdf/5H2a_PS_Breastfeeding07.pdf

<http://www.acog.org/departments/underserved/breastfeedingstatement.pdf>

Health Insurance:

Oleske, DM, Edwards, SL, Nachman, KL, et al. Effect of Medicaid managed care on pregnancy complications. *Obstetrics and Gynecology* 2000;95(1):6-13.

Roadblocks to Health Care: Why the current health care system does not work for women Meena Seshamani, MD, PhD, Office of Health Reform, Department of Health and Human Services <http://www.healthreform.gov/reports/women/index.html>

Sills S, Cost-Effectiveness of Medicaid Family Planning Demonstrations, National Academy for State Health Policy *State Health Policy Briefing* Volume 1, Issue 3, September 2007 http://www.nashp.org/Files/shpbriefing_familyplanning.pdf

Home Visitation:

Brooten D, Youngblut JM, Brown L, et al. A randomized trial of nurse specialist home care for women with high-risk pregnancies: outcomes and costs. *American Journal of Managed Care* 2001;7:793-803.

Berthold, T, Avila-Esparza, A, Miller, J. *Foundations for Community Health Workers*. ISBN: 978-0-470-17997-0; Paperback; 592 pages; August 2009.

Boonstra, HD, Home Visiting for At-Risk Families: A Primer on a Major Obama Administration Initiative. *Guttmacher Policy Review*, Summer 2009, Volume 12, Number 3.

Carabin H, Cowan LD, Beebe AL, et al. Does participation in a nurse visitation programme reduce the frequency of adverse perinatal outcomes in first-time mothers? *Paediatric and Perinatal Epidemiology* 2005;19:194-205.

CDC. First reports evaluating effectiveness of strategies for preventing violence: Early childhood home visitation. Findings from the Task Force on Community Preventive Services. *MMWR* 2003; 52(RR-14), 1-9.

Donovan EF, Ammerman RT, Besl J, et al. Intensive home visiting is associated with decreased risk of infant death. *Pediatrics* 2007;119;1145-1151.

Drummond JE, Weir AE, Kysela GM. Home visitation programs for at risk young families: A systemic literature review. *Canadian Journal of Public Health* 2002; 93(2), 153-158.

Eunju Lee, Susan D. Mitchell-Herzfeld, Ann et al. Reducing Low Birth Weight Through Home Visitation: A Randomized Controlled Trial. *American Journal of Preventive Medicine*, Volume 36, Issue 23, Pages 154-160 (February 2009). Available online at [http://www.ajpm-online.net/article/S0749-3797\(08\)00845-3/abstract](http://www.ajpm-online.net/article/S0749-3797(08)00845-3/abstract)

Kitzman H, Olds DL, Sidora K, et al. Enduring effects on nurse home visitation on maternal life course: a 3-year follow-up of a randomized trial. *JAMA: Journal of the American Medical Association* 2000;283:1983-1989. Memphis.

Norr KF, Crittenden KS, Lehrer EL, et al. Maternal and infant outcomes at one year for a nurse-health advocate home visiting program serving African-Americans and Mexican-Americans. *Public Health Nursing* 2003;20(3), 190-203.

Olds, D.L. Prenatal and infancy home visiting by nurses: From randomized trials to community replication. *Prevention Science* 2003;3(3), 153-172.

Olds, D.L., Robinson, J. O'Brien, R., et al. Home visiting by paraprofessionals and by nurses: A randomized controlled trial. *Pediatrics*, 2002; 110 (3), 486-496.

Partners for a Healthy Baby Home Visiting Curriculum, Florida State University Center for Prevention and Early Intervention Policy <http://www.cpeip.fsu.edu/books.cfm?assetID=74>

Paul IM, Phillips TA, Widome MD, et al. Cost-effectiveness of postnatal home nursing visits for prevention of hospital care for jaundice and dehydration. *Pediatrics* 2004;114:1015-1022.

Sweet M, Appelbaum M. Is home visiting an effective strategy? A meta-analytic review of home visiting programs for families with young children. *Child Development* 2004;75(5), 1435-1456.

Viswanathan, M, Kraschnewski, J, Nishikawa, B, Morgan, LC, et al. *Outcomes of Community Health Worker Interventions*. RTI International-University of North Carolina Evidence-based Practice Center, Agency for Healthcare Research and Quality, U.S. DHHS, AHRQ Pub No. 09-E014, June 2009.

Community Health Workers National Workforce Study. U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, March 2007.

Whitely EM, Everhart R, Wright R. *Measuring Return on Investment on Outreach by Community Health Workers*. *Journal of Health Care for the Poor and Underserved*. February, 2006 17, pp 6-15.

Dower C, Knox M, Lindler V, O'Neil E. *Advancing Community Health Workers Practice and Utilization: The Focus on Financing The Center for Health Professions*. University of California, San Francisco. 2006. nter for the Health Professions

Community Health Workers Develop "Pathways" to Facilitate Access to Needed Services For At-Risk Populations, Leading to Improved Outcomes. AHRQ. <http://www.innovations.ahrq.gov/content.aspx?id=2040>

Intervention:

Black MM, Nair P, Kight C, et al. Parenting and Early Development Among Children of Drug-Abusing Women: Effects of Home Intervention. *Pediatrics* 1994 October;94(4):440-448.

Chang J, et al. Pregnancy Related Mortality Surveillance. *Morbidity and Mortality Weekly Report* 2003.

Karoly LA, Greenwood PW, Everingham SS, et al. *Investing in our children: What we know and don't know about the costs and benefits of early childhood interventions*. Santa Monica, CA: RAND, 1998.

Escobar GJ, Gonzales VM, Armstrong MA, et al. Rehospitalization for neonatal dehydration: a nested case-control study. *Archives of Pediatric and Adolescent Medicine* 2002;156:155-161.

Infant Mortality and Pregnancy Loss Knowledge Path. The Maternal and Child Health Library at Georgetown University http://www.mchlibrary.info/KnowledgePaths/kp_infmort.html

Maisels MJ, Kring E. Early discharge from the newborn nursery—effect on scheduling of follow-up visits by pediatricians. *Pediatrics* 1997;100:72-74.

Wiley CC, Lai N, Hill C, et al. Nursery practices and detection of jaundice after newborn discharge. *Archives of Pediatric and Adolescent Medicine* 1998;152:972-975.

Prenatal Care:

Braveman P, Bennett T, C Lewis, et al. Access to prenatal care following major Medicaid eligibility expansions. *JAMA: Journal of the American Medical Association* 1993;269(10):1285-1289.

Nothnagle M, Marchi K, Egerter S, et al. Risk factors for later or no prenatal care following Medicaid expansions in California. *Maternal and Child Health Journal* 2000; 4(4):251-259.

Rosenberg D, Handler A, Rankin KM, et al. Prenatal care initiation among very low-income women in the aftermath of welfare reform: does pre-pregnancy Medicaid coverage make a difference? *Maternal and Child Health Journal* 2007 Jan; 11(1):11-7.

Taggart L, Mattson S. *Delay in Prenatal Care as a Result of Battering in Pregnancy: Cross-cultural Implications*. *Health Care for Women International*. 1996 Jan-Feb;17(1):25-34.

Vintzileos AM, Ananth CV, Smulian JC, et al. The impact of prenatal care in the United States on preterm births in the presence and absence. *American Journal of Obstetrics and Gynecology* 2002;187(5):1254-1257.

Prevention:

Aos S, Lieb R, Mayfield J, et al. Benefits and costs of prevention and early intervention programs for youth. Olympia: Washington State Institute for Public Policy, 2004.

Baldwin L, Larson EH, Connell F, et al. The effect of expanding Medicaid prenatal services on birth outcomes. *American Journal of Public Health* 1998 Nov;88(11):1623-9.

Donovan EF, Iams JD, Rose BL. *What We Know About the Prevention of Preterm Birth* Child Policy Research Center Policy Brief, Volume 1, Issue 1, October 2008.

Institute of Medicine. Preventing low birthweight. Washington, D.C., National Academy, 1985,132-49.

Kaestner R, Dubay L, Kenney G. Managed care and infant health: an evaluation of Medicaid in the US. *Social Science & Medicine* 2005;60:1815-1833.

Koniak-Griffin D, Anderson NLR, Brecht ML, et al. Public health nursing care for adolescent mothers: impact on infant health and selected maternal outcomes at 1 year postbirth. *Journal of Adolescent Health* 2002;30:44-54.

Laura Blue. Preventing Premies. *Time Magazine*. Available online at: http://www.time.com/time/specials/packages/article/0,28804,1912201_1912244_1912245-1,00.html

Meis PJ, Klebanoff M, Thom E, et al. Prevention of recurrent preterm delivery by 17 alpha-hydroxyprogesterone caproate. *New England Journal of Medicine* 2003;348,2379-2385.

Preconception and Pregnancy Knowledge Path. The Maternal and Child Health Library at Georgetown University http://www.mchlibrary.info/KnowledgePaths/kp_pregnancy.html

Recommendations to improve preconception health and health care. United States: a report of the CDC/ATSDR preconception Care Work Group and the Select Panel on Preconception Care. Centers for Disease Control and Prevention (CDC). *Morbidity and Mortality Weekly Report* 2006; 55 (No. RR-6).

Racism/Racial Disparities:

Barnes-Josiah, D.L.. Undoing Racism in Public Health: A Blueprint for Action in Urban MCH. Omaha, NE: CityMatCH at the University of Nebraska Medical Center, 2004.

Brian D Smedley, Adrienne Y Stith, Alan R Nelson. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. Institute of Medicine of the National Academies. The National Academies Press Washington, D.C. 2002.

Brennan Ramirez, LK, Baker, EA, Metzler, M. Promoting Health Equity A Resource to Help Communities Address Social Determinants of Health. Centers for Disease Control and Prevention. U.S. Department of Health and Human Services

CriticalMASS for Eliminating health Disparities. Center for Community Health Education, Research and Service, Inc. www.chers.org

Goldenberg RL, Cliver SP, Mulvihill FX, et al. Medical, psychosocial, and behavioral risk factors do not explain the increased risk for low birth weight infants among black women. *American Journal of Obstetrics & Gynecology* 1996;175:1317-1324.

Governor's Task Force Report on Black and Minority Health, 1985 <http://mih.ohio.gov/RECOMMENDATIONS.pdf>

Mead, H, Cartwright-Smith, L, Jones, K, et al. Racial and Ethnic Disparities in U.S. Health Care: A Chartbook. Department of Health Policy, School of Public Health and Health Services. The George Washington University, March 2008.

Michael C Lu, MD, MPH. Racial Ethnic Disparities and Infant Mortality: A Life-course Perspective. Presentation at the Reducing Infant Mortality in Michigan Summit, May 5, 2008. Available online at: <http://mediasite.mihealth.org/mediasite/Viewer/?peid=1d4b2746-ebf1-465a-9264-bacfb7bc888b>

Vernallia Randall, J.D., *Dying While Black*, Seven Principals Press, 2006. <http://www.dyingwhileblack.org/>

Infant Mortality Task Force and Committee Members

We wish to acknowledge and thank the following individuals and organizations for their generous donation of time and energy to make life better for Ohio's women, infants and families.

Co-chairs

Thomas G. Breitenbach
Alvin D. Jackson, M.D.

CEO, Premier Health Partners, Inc.
Director, Ohio Department of Health

Maternal Health/Prematurity Committee

Co-chair, Arthur Ollendorff, M.D.

Co-chair, Jewel L. Bell, C.CHW

Lesley Breech, M.D.

Edward F. Donovan, M.D.

Becky Johnson Rescola, M.S.W.

Liz Klein, Ph.D., M.P.H.

Courtney D. Lynch, Ph.D., M.P.H.

Linda Post, M.D.

Tanikka Price

Sarah Redding, M.D., M.P.H.

Liliana Rojas-Guyler, Ph.D., CHES

Barbara Rose, R.N., M.P.H.

Joe San Filippo, CEBS

Carol E. Ware

University of Cincinnati, ACOG-Ohio Section

Ohio Community Health Workers Association

Cincinnati Children's Hospital

Cincinnati Children's Hospital MC, Child Policy Research Center

March of Dimes, Ohio Chapter

OSU College of Public Health

OSU Colleges of Public Health & Medicine

Ohio Association of Health Plans

Parent Advocate

Community Health Access Project

University of Cincinnati Health Promotion and Education

Cincinnati Children's Hospital MC, Child Policy Research Center

Nationwide Better Health

Ohio Department of Job and Family Services, Medicaid

Maternal Care Committee

Chair, Robert Flora, M.D., M.B.A, M.P.H.

Frederick Eruo, M.D.

Patricia Gabbe, M.D.

Jay Iams, M.D.

Marie A. Jones, L.S.W., M.Div.

Marilyn McFadgen, M.S.M.

Michelle M. Mills

J. Tracy Robinson

Jan Ruma

Elizabeth Ruppert, M.D.

Carolyn Slack, M.S., R.N.

Chana Trimble

Linda Upp, M.D.

Summa Health System, ACOG-Ohio Section

EURO OBGYN INC.

Nationwide Children's Hospital & OSU Managed Healthcare System

The Ohio State University Medical Center

North East Ohio Neighborhood Health Services, Inc.

Public Health Dayton and Montgomery County

President/CEO, St. Stephen's Community House

Ohio Commission on Fatherhood

Hospital Council of Northwest Ohio

University of Toledo

Columbus Public Health

Ohio Department of Job and Family Services, Medicaid

Women's Health Center Summa Health Systems

Newborn Care Committee

Co-chair, Leif Nelin, M.D.

Co-chair, Gail Bagwell, R.N., M.S.N.

Mary Applegate, M.D., FAAP, FACP

Nathan Bell

Adeline Caines, C.N.S.

Bridget Gargan

Karen Keller

Elizabeth Maseth, R.N., IBCLC

Kathleen Messer, R.N.

Nancy Nevin-Folino, R.D., L.D.

Sara Paton, Ph.D.

Charlie Solley

Victoria Sowards

L. Ryan Steele, M.S.W.

Nationwide Children's Hospital

Nationwide Children's Hospital

State Medicaid Medical Director

Parent Advocate

Nationwide Children's Hospital

Ohio Hospital Association

Ohio Department of Job and Family Services, Medicaid

Akron Children's Hospital Ohio Lactation Consultants Assn.

Service Employees International Union

Dayton Children's Hospital

Wright State University

Ohio Hospital Association

Ohio Health Plans

Nationwide Children's Hospital

Infant Health Committee

Co-chair, Harvey D. Doremus, M.A.

Co-chair, Viola Gomez

Rob Edmund

YoLanda S. Lewis, M.S.

Kara Miller

Amy Swanson, M.P.A.

Jackie Swick

Judith Van Ginkel, Ph.D.

Joanne K. Yates, R.N., B.S.N., C.C.E.

Leslie Yaussy, R.N., B.S.N.

Ohio Department of Job and Family Services, Medicaid

PathStone Corporation

Ohio Business Roundtable

City of Refuge Point of Impact

Ohio Department of Job and Family Services, Medicaid

Voices for Ohio's Children

Ohio Business Roundtable

Cincinnati Children's Hospital Med Center & Every Child Succeeds

Pomerene Hospital

Delaware General Health District

Other Contributors

Cheryl A. Boyce, M.S.

William D. Hayes, Ph.D.

Thomas Burwinkler, M.D.

Ohio Commission on Minority Health

Health Policy Institute of Ohio

American College of Obstetricians & Gynecologists-Ohio Section

Ohio Department of Health Staff

Chip Allen, M.P.H.

Jo Bouchard, M.P.H.

James Bryant, M.D.

Elizabeth Conrey, R.D., Ph.D.

Amy Davis, M.P.H.

Lori Deacon

Kim DeDino, M.S., R.D., L.D.

Vivian Jackson Anderson, M.A.

Karen Hughes, M.P.H.

Joel Knepp

Cynthia Shellhaas, M.D., M.P.H.

Michele Shipp, M.D., Dr.PH.

Anna Starr

Allyson Van Horn, M.Ed.

Merrily Wholf, R.N., M.P.H.

Beverly Wargo

Centers for Disease Control and Prevention/ODH

Facilitators

Virginia L. H. Crowe, R.N., Ed.D.

Bobbie Erlwein, M.P.H.

Hamilton Consulting, LLC

Centers for Disease Control and Prevention/ODH



SAFE



The Infant Mortality Task Force was supported by the Ohio Department of Health.