

## Office of Health Transformation **Reduce Infant Mortality**

### **Background:**

In 2010 in Ohio, 1,068 babies died before their first birthday. Ohio's infant mortality rate was 7.7 percent compared to the national rate of 6.1 percent.<sup>1</sup> Ohio has the 11<sup>th</sup> highest infant mortality rate in the nation according to the National Center for Health Statistics.

Infant mortality impacts Ohio families differently depending on their race and location. In 2010 the black infant mortality rate was 15.5 percent, more than twice the white rate of 6.4 percent. Sixty-two percent of all of the babies that die within the first year of life are born in Cleveland, Cincinnati, or Columbus. Black babies are more likely to die within the first year of life even when social and economic factors are considered. Ohio's metropolitan areas have high rates of infant mortality compared to the state as a whole. Counties with the highest infant mortality rates are concentrated in the southern portion of the state. Babies born in Appalachia are more likely to die in the first year of life than those born in the rest of the state. Infants born to teenage mothers (ages 15-17) are also more likely to die.

In March 2011, Governor Kasich made reducing low birth weight babies a priority in his State of the State address, and reinforced that priority again in 2012. The Governor's Office of Health Transformation, working with Ohio Medicaid, the Ohio Department of Health (ODH) and other human services agencies initiated several new programs to improve care coordination for at-risk mothers and children and reduce the number of low-birth weight babies.

- ***Support life-saving research at Ohio's children's hospitals.*** In 2012, Governor Kasich announced \$2 million to expand life-saving research at Ohio's children's hospitals. These funds will be used for two projects: to compare and understand the effectiveness of strategies currently used for the treatment of acute asthma and recommend a better treatment response; and to document current treatment plans for neonatal abstinence syndrome ("drug addicted babies") and standardize treatment associated with the best outcomes. These groundbreaking projects were proposed by Ohio's children's hospitals, working together to apply their individual strengths to benefit Ohioans statewide.
- ***Expand "pathways" for maternal and child health.*** Richland County achieved a 30 percent reduction in low-weight births in targeted populations by using a Community Pathways Model to improve care coordination for women in difficult-to-serve areas. The model coordinates care for women and children within targeted medical "pathways." One pathway (pregnancy and postpartum) employs community health workers to identify pregnant women early in their pregnancies and then uses a simple checklist to identify the barriers to a woman delivering a full-birth-weight infant. OHT invested

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<sup>1</sup> The Infant Mortality Rate is the number of babies who die in the first year of life, per 1000 live births.

\$350,000 and partnered with Integrated Professionals for Appalachian Children and the Nationwide Children's Hospital to replicate the Community Pathways Model in southeast Ohio. An initial evaluation showed a 30 percent reduction in low-birth weight births using the pathways model. Based on the success of the pathways model to date, OHT is developing a plan to expand maternal and child pathways in more locations throughout the state.

- **Support Best Baby Zones and Perinatal Regionalization.** In June 2012, the Kellogg Foundation announced that it would support four "Best Baby Zones" nationally, including Cincinnati. The Best Baby Zone model was developed in New York City as a comprehensive approach to lowering infant mortality rate by addressing education, economic development, community development, systems integration, policy development, and evaluation. There are several similar projects in Ohio that already have achieved significant reductions in infant mortality. For example, Healthy Babies/Healthy Start in Cleveland has a 1.3 percent infant mortality rate in a community where one might have expected a rate of 15 percent or more. Ironically, some of the highest infant mortality rates are also where major medical centers are located. The Best Baby Zone concept creates an opportunity for individual communities to focus resources in a way that creates the healthiest possible start for its youngest and most vulnerable citizens. Ohio Medicaid will build on this concept and, through its health plans, ensure that very ill or very small babies are born and cared for in hospitals that are able to provide the most appropriate care.
- **Improve maternal care management and care between births.** All women on Medicaid are served through managed care organizations. Ohio Medicaid has negotiated new contracts with the health plans that go into effect on July 1, 2013 and include enhanced care management requirements for pregnant women. Ohio Medicaid is considering an enhanced maternal care management package which will address the major prematurity risk factors and strengthening post-partum care requirements. Some of the health plans already are partnering with the pathways projects described above. Ohio Medicaid will further strengthen its requirements in subsequent contracting periods, and is working on a maternity care "bundle" of services that can be linked to improving health outcomes. Also, because one of the most reliable predictors that a woman will have a low birth weight baby is that she previously had a low birth weight baby, Ohio Medicaid will rely on its health plans to maintain close contact with these at-risk mothers and prevent the likelihood of additional pregnancies being low birth weight.
- **Expand access to patient-centered medical homes.** Evidence is growing that patient-centered medical homes significantly improve health outcomes for individuals in their care, including pregnant women and babies. Women who receive ongoing health care in a patient centered medical home are more likely to receive preconception health care. Providing an enhanced complement of services for women at risk of poor pregnancy outcomes that is coordinated from a "maternity care home" is a model proposed in Ohio's Strong Start initiative. In 2012, OHT and ODH invested \$1 million to assist 50

primary health-care practices around the state transition to a patient-centered medical home (PCMH) model of care.

- **Expand Medicaid Presumptive Eligibility for Pregnant Women and Children.** Governor Kasich's first budget provided temporary Medicaid coverage so that a child or pregnant woman can receive medical care while their Medicaid application is officially processed. It also recognized new qualified entities that may establish Medicaid eligibility. By simplifying the eligibility and enrollment processes, and including additional points of access for children and pregnant women, medical attention will be provided in the early stages of life when intervention is the most successful. Ohio Medicaid has piloted this eligibility in three sites in Ohio, and the pilot has gone smoothly. Ohio Medicaid plans to expand the number of sites where presumptive eligibility may be determined.
- **Improve quality measurement.** Quality measurement and reporting is the key to improving health outcomes. The ability to analyze potential improvements depends on the availability of high quality data. Ohio Medicaid recently improved its quality measurement framework by moving to a national Healthcare Effectiveness Data and Information Set (HEDIS) but in some cases HEDIS does not capture the information needed to improve maternal and child health outcomes. To augment the HEDIS data, Ohio Medicaid is working with the ODH and Office of Minority Affairs and national organizations such as the Medicaid Quality Measures Program, CMS Expert Panel, the HHS Secretary's Advisory Committee on Infant Mortality, and the Association of State and Territorial Health Officials. In addition work is underway through Ohio's BEACON initiative – Best Evidence for Advancing Childhealth in Ohio Now – to improve the quality of data collected by hospitals and reported to the state.

## **Executive Budget Proposal and Impact:**

The Executive Budget includes a package of new initiatives to reduce infant mortality. These are coordinated with existing programs and new initiatives funded by OHT. In combination, these initiatives focus on the three areas that account for 95 percent of infant deaths: infants born prematurely, infants born with birth defects, and infants who die of sleep-related causes.

### **PREVENT PREMATURE BIRTH**

A preterm infant is one born to a mother who has been pregnant less than 37 weeks. Ninety-five percent of babies born before 32 weeks and weighing less than 1500 grams (3 lbs., 5 oz.) will die. Ohio's 2009 preterm birth rate was 12.2 percent and is comparable to the national rate of 12.3 percent. Low birth weight births are those weighing less than 2,500 grams (5 lbs., 8 oz.). Ohio's 2009 low birth weight rate was 8.6 percent, slightly above the national rate of 8.2 percent. Many low birth weight births are also preterm. Underweight babies are more likely to be at risk for developmental delay, and may endure lifelong consequences such as blindness,

chronic lung disease, cerebral palsy, autism and vision or hearing impairments. The March of Dimes estimates that the average low-birth weight baby has \$29,000 in medical expenses and \$48,000 in longer term expenses, 10 times higher than a baby born at full term. Both preterm birth and low birth weight increase the risk of infant mortality.

- **Reduce scheduled deliveries prior to 39 weeks.** Perinatal leaders, doctors and nurses, ODH, Ohio Medicaid, and other policymakers in Ohio joined together in March 2007 to create the Ohio Perinatal Quality Collaborative (OPQC). OPQC's efforts are reducing scheduled early deliveries in Ohio by making sure hospitals have access to best methods of care for pregnant women, increasing collaboration among hospitals, and providing the research and evidence that perinatal leaders and clinicians need to test and implement effective strategies. From 2008 to 2010, OPQC worked closely with 20 Ohio maternity hospitals, which deliver more than 47 percent of babies born in the state, to prevent unnecessary scheduled early deliveries. The 20 participating hospitals observed a 50 percent decrease in the rate of births between 36 and 38 weeks 6 days gestational age. Project gains have been sustained since that time. As of October 2012, 26,300 births have moved from less than 39 weeks gestation to 39 weeks or greater gestation, thereby preventing an estimated 789 NICU admissions. OPQC is currently expanding this project to all maternity hospitals in Ohio.
- **Provide Antenatal Corticosteroids.** A second initiative of the Ohio Perinatal Collaborative is to ensure that all pregnant women at risk of delivering a baby between 24 and 34 weeks gestation receive Antenatal Corticosteroids (ANCS), an evidence-based therapy shown to reduce mortality and morbidity among preterm infants. This therapy is designed to promote lung development in newborn infants, and thus reduce the incidence of respiratory distress, a common reason for infant stays in neo-natal intensive care. To date, participating hospitals have consistently met the goal of eligible women receiving at least one dose of ANCS prior to delivery at least 90 percent of the time. The Ohio Medicaid budget includes funding for ANCS therapy.
- **Progesterone Prematurity Prevention Project.** Recent studies have shown that providing progesterone to women at risk is a highly effective way to prevent preterm birth. Standard medical practice is to treat women who have had a previous preterm birth with progesterone if it has been determined that shortened cervix was the cause. An active program to identify and treat women in Ohio who have a shortened cervix early in pregnancy and in first time pregnancies has the potential to reduce the incidence of preterm birth by as much as 15 to 20 percent, and specifically to reduce the number of infants born before 32 weeks, the period in which rates of infant mortality and morbidity are the highest. In order to identify a woman at risk, ultrasound technicians must be trained statewide to measure cervical length. This strategy has the potential to reduce pre-term births by as much as 20 percent and save the state and private insurers substantial cost. The budget includes \$6.5 million over two years for this project.

- **Prenatal Smoking Cessation.** Smoking during pregnancy remains one of the most common preventable causes of infant mortality. Among women giving birth Ohio, 16 percent smoke while pregnant, a rate that is double that of the nation as a whole. Rates are highest among low-income, including those on Medicaid, with one in three smoking throughout pregnancy. Smoking during pregnancy contributes to poor pregnancy outcomes such as miscarriage, premature delivery, stillbirth, low birth weight, and some birth defects. ODH currently administers a successful, evidence-based intervention through 13 Women, Infants and Children (WIC) projects and all direct-care prenatal Child and Family Health Services clinics. This intervention – called “5 A’s” for ask, advise, assess, assist and arrange – has been documented to increase smoking cessation among pregnant smokers by 30-70 percent. The budget includes \$2 million over two years to expand the 5 A’s program to more pregnant smokers.
- **Promote human milk as medicine.** In 2008, the most recent year for which national comparisons are available, Ohio had the 45<sup>th</sup> lowest breastfeeding initiation rate of the 50 states. Human milk contains antibodies that help to fight germs and breastfeeding is linked to decreased risk of Sudden Infant Death Syndrome, necrotizing enterocolitis, ear infections, gastrointestinal infections, celiac disease, inflammatory bowel disease, obesity, diabetes, childhood leukemia and lymphoma, and better neuro-developmental outcomes. This year, OPQC neonatal teams are increasing the use of human milk to reduce bloodstream infections in premature infants. The goal is to begin human milk feedings in 80 percent of 22-29 week gestational age infants by 72 hours of life. Ohio will align its various programs to promote human milk as medicine, including Ohio Medicaid support of the OPQC project and emphasizing breastfeeding through ODH’s Women, Infants and Children program and Help Me Grow home visits. For example, Help Grow Home visiting data shows that 24 percent of women who did not intend to breastfeed initiated breastfeeding as a result of their home visits.

## PREVENT BIRTH DEFECTS

One in 33 babies is born with a birth defect in the United States and nearly 20 percent of all infant deaths in Ohio are due to birth defects. Birth defects, or congenital anomalies, are abnormal conditions that happen before or at the time of birth. Many birth defects are caused early in pregnancy. While some birth defects are mild, some are very serious such as heart defects or Spina Bifida. Some, like Down Syndrome are caused by genetic factors; others are caused by certain drugs, medicines, or by lifestyle choices. Not all birth defects can be prevented, but there are strategies for women of childbearing age to increase their chances of having a healthy baby, such as maintaining a healthy weight, taking a multivitamin with folic acid daily, and not using alcohol, tobacco or illicit drugs during pregnancy.

- **Expand congenital heart disease newborn screening.** Of those infants that die before their first birthday due to a birth defect, about 20 percent have critical congenital heart disease (CCHD). The U.S. Secretary of Health and Human Services added newborn screening for CCHD to the recommended national uniform panel for state newborn

screening programs in 2011. Many newborns with certain CCHDs do not develop clinically appreciable symptoms until after nursery discharge. Newborn screening for CCHD is an important public health issue due to the benefits of early diagnosis of CCHD, including the costs saved by decreasing morbidity associated with later diagnosis. The state's vital statistics budget includes funding for CCHD screening.

- ***Increase knowledge and use of multivitamins and folic acid supplements.*** Folic acid is crucial to prevent neural tube defects (NTDs), which occur in 1 per 1000 pregnancies. The Journal of the American Medical Association recently reported that women who take folic acid supplements before and during early pregnancy were about 40 percent less likely to have a baby later diagnosed with autism. All women of reproductive age are encouraged to take a daily multivitamin or folic acid supplement. However, 2010 data from the Pregnancy Risk Assessment Monitoring System (PRAMS) show that only 32 percent of mothers took a multivitamin every day before becoming pregnant. This indicates the importance of education about folic acid by health care providers. In order to increase knowledge about folic acid, ODH developed an online self-study course for nurses titled "Folic Acid in the Prevention of NTDs." Course content includes information about common risk factors for NTDs and populations at risk. Nurses who complete the course can receive continuing education credit. The budget includes \$700,000 over two years to promote the use of multivitamin and folic acid supplements.
- ***Obesity prevention in pregnant women.*** Obese women are at higher risk for having babies born with serious birth defects such as neural tube defects (spina bifida) and heart problems. Twenty-four percent of women of childbearing age (18-44) in Ohio are obese. Obesity is a major risk factor for diabetes as well, and women with undiagnosed or uncontrolled diabetes at conception are also at increased risk of delivering a baby with birth defects. An obesity control pilot project for expecting mothers is being implemented by the ODH Reproductive Health and Wellness Program and the Ohio Connections for Children with Special needs birth defects system in the two Ohio counties with the highest rates of female obesity (Lawrence and Belmont). This project entails training clinic staff on the impact of maternal obesity on birth outcomes, and uses an intervention model for discussing weight and weight loss with women clients. Currently nearly 40 women clients are enrolled. Preliminary results show improvements in behavior and weight loss. If the evaluation indicates the program is effective, then ODH will roll it out to additional locations in 2013.

## **PREVENT SLEEP-RELATED DEATHS**

From 2006-2010, 42 percent of all infant deaths after the first month of life were sleep-related. Infant sleep-related deaths outnumber deaths of children of all ages from vehicular crashes. Fifty-six percent of sleep-related deaths likely could have been prevented if guidelines recommended by the American Academy of Pediatrics for safe sleep habits were followed.

- ***Build partnerships in preventing sleep related deaths.*** ODH will expand health provider education programs, especially those in maternity hospitals that educate health providers on their important role in educating new parents and modeling infant safe sleep practices. ODH will provide training for all coroners, medical examiners and law enforcement to expand their implementation of the Sudden Unexpected Infant Death Investigation protocol statewide. Also, ODH will partner with at least one baby product retailer to promote safe sleep to customers. The budget includes \$995,000 over two years to develop and implement a targeted education campaign on preventing sleep-related deaths and provide education materials to the public and in every environment pregnant women and parents of infants receive care and services.

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