Right Start in Michigan — 2009
Maternal and Infant Well-Being in County Groups

INTRODUCTION

Michigan communities are now mobilizing through Great Start Collaboratives to improve the lives of young children so more of them can enter school eager to learn and ready to succeed. This effort must begin at the beginning—by improving the chances for more infants to have a healthy start. Investing in maternal and infant health will translate into long-term gains for the state in improving individual potential for more successful learners and earners. Research has demonstrated that the circumstances at the very beginning of life not only affect early development but often have lifelong consequences.

STATE OVERVIEW

Maternal and infant health improved in Michigan on six of the eight key Right Start[1] measures over the 15-year trend period, and this pattern persisted into the new millenium. Only three measures reflected substantial gains between 1992 and 2007. Smoking during pregnancy, which dropped by over one-third, reflected the most dramatic decline. Substantial declines occurred in the percentages of teen births and repeat teen births; both decreased by over one-quarter. The two indicators that worsened—nonmarital births and low-birthweight babies—both rose by roughly 10 percent.

The three county groups defined by population size reflected little variation on these maternal and infant risk measures except for maternal smoking during pregnancy: The rural and mid-sized county group averages were roughly double the urban rate of 13 percent of total births. Trends on some measures over the 15 years differed among the county groups. While the urban group, which represented most of the state births, exactly mirrored state trends, the other two county groups also experienced a slight worsening in their preterm birth rates. In addition, the mid-sized county group saw no improvement in the percentage of pregnant women receiving late or no prenatal care.

The trends for each of the eight indicators are reviewed in more detail in the following discussion. (Table 1—available on the web: www.milhs.org—provides county rankings within each county group for each indicator.)

FRAMEWORK FOR OVERVIEW

This overview of maternal and infant well-being uses eight key measures to assess the relative status and progress of Michigan counties and county groups in providing children the "right start." These measures include six maternal characteristics that numerous studies have related to unhealthy births and two infant characteristics that elevate the risk of infant death. The maternal characteristics include conditions such as smoking during pregnancy that not only threaten a healthy birth but also the healthy development of a young child. The discussion reviews the long-range trends over the

[1] These eight measures were identified as Right Start by the national KIDS COUNT project

Source:
Michigan Department of Community Health,Vital Records and Health Data Development Section

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Partners in the *Kids Count in Michigan* project include:

- Michigan League for Human Services
- Michigan's Children.

15 years between 1992 and 2007, the latest year for which these data are available, as well as the more recent period, between 2000 and 2007.[2]

For purposes of this discussion county data are reviewed and ranked within three county groups defined by population size. The 28 Michigan counties with population over 65,000 are considered urban; the 36 counties with population between 20,000 and 65,000 are mid-sized; and the 19 counties with less than 20,000 residents are rural. (See Michigan map with county groups on page 8.) The urban group includes almost all counties in the southern half of the Lower Peninsula; the mid-sized group ranges across the entire state, while the rural counties are concentrated in the northeastern Lower Peninsula and the Upper Peninsula. Almost nine of ten births (86%) in the state occurred in the urban group.

Births to mothers in minority racial and ethnic groups were concentrated almost entirely in the urban group. One of three births in the urban county group was to a mother from a minority, primarily African-American, compared to almost one in ten in the mid-sized and rural county groups. African-American infants constitute the state's largest minority group (18%) followed by Hispanics who represented 7 percent of total Michigan births in 2007. African-American mothers and infants in Michigan are at significantly higher risk on all these measures except for smoking during pregnancy and in 2007 suffered triple the risk of infant death compared to white infants—16.3 deaths per 1,000 births vs. 5.8.

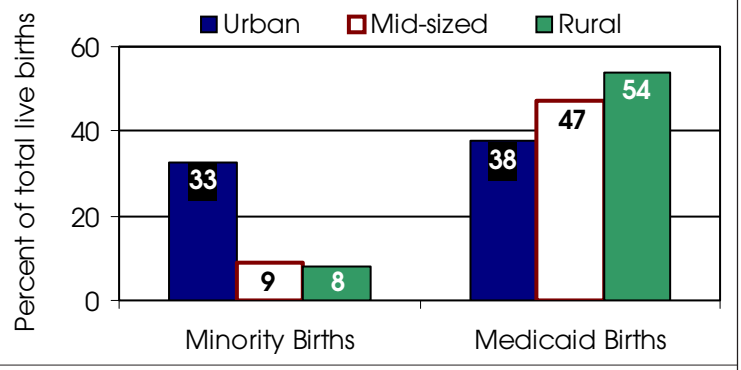
Medicaid, which is funded jointly by the state and federal governments, provides medical insurance for low-income families and some individuals. Pregnant women without health insurance qualify for Medicaid with family income at 185 percent of the federal poverty level ($27,000 for a married couple with no children in 2009). The majority of rural county women who gave birth in 2007 qualified for Medicaid funding to cover the cost of prenatal care and delivery compared with less than 40 percent in the urban county group. The percentage of Medicaid births rose as population density decreased across the county groups. Substantial differences in median income among the three county groups as well as unemployment rates may explain much of this pattern. Median income in the rural counties of Michigan ($36,400) is well below the average for the urban counties ($49,700). About half of women who give birth on Medicaid qualified due to meeting the higher income eligibility for the pregnancy.[3] (These women lose their Medicaid coverage within 60 days of delivery.)

TEEN BIRTHS

Why does it matter?

Children born to teens often start life with multiple disadvantages. Teen mothers are more likely to be unmarried, lack a high school

Minority births were concentrated in urban counties, and Medicaid births were highest in rural counties.



Source: Michigan Department of Community Health, Vital Records and Health Data Development

[2] Data referenced as 1992, 2000 and 2007 actually reflect a percentage based on pooled data over a three year period: 1990-92, 1998-2000, and 2005-07.

[3] Finding from analysis of the Michigan Pregnancy Risk Assessment Monitoring System (*PRAMS*), an ongoing survey project of post-partum mothers.

education, receive late or no prenatal care, and live in poverty than women who delay childbearing into their 20s. These young mothers face many challenges in completing their high school studies and getting the skills and training needed to obtain employment that will provide an income adequate to meet their basic needs. Children born to a teenager are more likely to be born too soon or too small, and to die as infants. They generally have less positive academic and behavioral outcomes than children born to mothers over the age of 20, and are more likely to become teen parents themselves.[4]

What do the data show?

Roughly one of ten births was to a teen mother in all county groups in 2007. All county groups saw substantial declines in the percentage of births that were to teens, but the decrease was sharpest in urban and rural county groups where the rates dropped by one-quarter over the 15 years. In the rural group all of the improvement occurred between 2000 and 2007 when teen births dropped from 14 percent of total births to 11 percent.

County group data mask the dramatic variation among the large communities (population over 65,000), within the large urban counties. For example, within Wayne County the percentage of total births to teenagers ranged from 3 percent in Livonia and Canton Township to 20 percent in the city of Detroit. Among these large communities within Wayne County the percentage of teen births declined by almost one-third in Dearborn over the 15 years while in Livonia it rose by 11 percent. (See Table 2 for data for communities by county group.) For the purposes of this discussion attention will focus only on county groups.

REPEAT TEEN BIRTHS

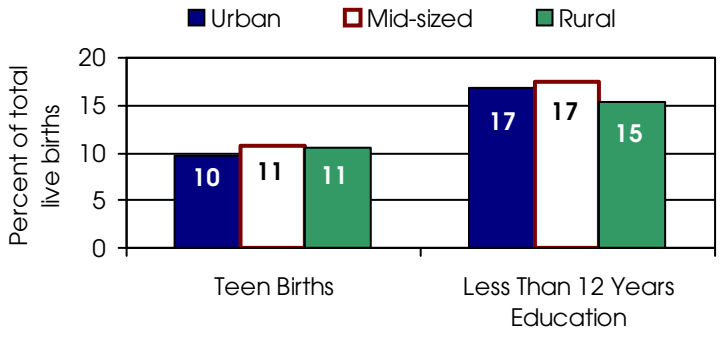
Why does it matter?

The disadvantages of children born to teen mothers are compounded by the birth of a second or third child while the mother is still under age 20. Children born to a teenager are more likely to be born too soon or too small, and to die as infants. They generally have less positive academic and behavioral outcomes than children born to mothers over the age of 20, and are more likely to become a teen parent themselves.[5] *A high rate of repeat teen births signals a problem with pregnancy prevention programs or access to care within communities.*

What do the data show?

Across all county groups almost one in five teen births was to a teenager who was already a parent; mid-sized counties had the lowest average with almost 17 percent of teen births to a teen already a parent compared to almost 19 percent in the other two groups. Urban (down 30%) and mid-sized (down 20%) county groups both reflected substantial improvement over the trend period compared to only slight improvement (8%) in the rural counties. In the most recent years the rural county rate remained essentially unchanged.

Michigan county groups reflected similar levels of risk by maternal age and education.



Source: Michigan Department of Community Health, Vital Records and Health Data Development

[4] ChildTrends DataBank [http://www.childtrendsdatabank.org/indicators/13TeenBirth.cfm]
[5] Ibid

NONMARITAL BIRTHS

Why does it matter?

Children born to unmarried women face a greater likelihood of growing up in mother-headed households, which have high risk of poverty. Never-married mothers are less likely than divorced single parents to be awarded child support or receive the support awarded. Financial stress can contribute to depression and anxiety that compromise parental capacity to nurture. Children of single mothers typically also have more limited social resources. Although about 40 percent of unmarried mothers are living with the child's father at the time of the birth, the risk of a relation-ship breakup for cohabiting couples within five years of a first birth is roughly double that of married couples—31 percent versus 16 percent.[6]

What do the data show?

Births to single women rose substantially in the mid-sized and rural counties—both were up by roughly eight percentage points between 1995 and 2007. Almost two of five births were to unmarried women in all three groups by 2007. In the mid-sized county group the trend accelerated in recent years.

Risk factors are often related as evidenced by the fact that only two of three unmarried Michigan mothers who gave birth in 2006 reported starting care in the first trimester compared to almost 90 percent of married mothers of newborns, according to the Pregnancy Risk Assessment Monitoring System.[7]

The largest number (19,200) of Michigan's nonmarital births occurred to women in their early 20s compared with any other age group. Almost two of every three births to women in this age group were nonmarital. Teen mothers still have the highest rate of nonmarital births—92 percent in 2007. Nonmarital births were up for all age groups (except for women over 44) between 1993 and 2007 but the increase was most dramatic for women in their late 20s—a jump of 46 percent. Almost 30 percent of Michigan mothers in their late 20s who gave birth in 2007 were unmarried, compared to 20 percent in 1993. Similar trends are occurring in the nation as well as other developed countries due to broad changes in society, contraception, and cultural norms.[9]

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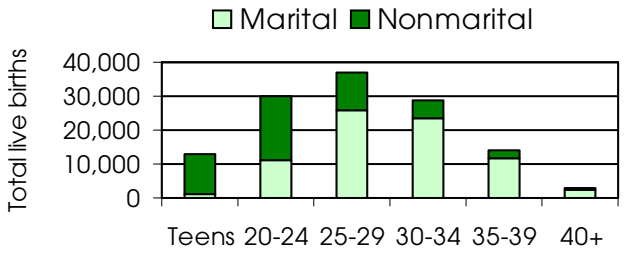
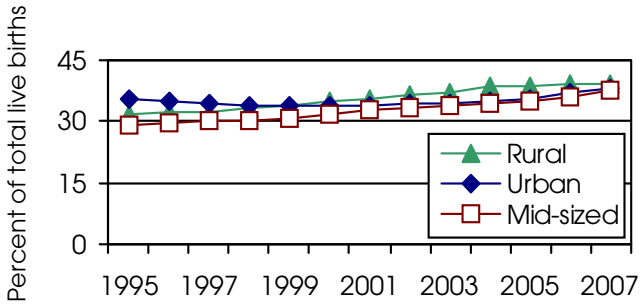


Source: Michigan Department of Community Health, Vital Records and Health Data Development

The percent of births to single women escalated in all Michigan county groups.



Source: Michigan Department of Community Health, Vital Records and Health Data Development

[6] Paul R. Amato. The Impact of Family Formation Change on the Cognitive, Social and Emotional Well-Being of the Next Generation. *Marriage and Child Well-Being*. The Future of Children series. Woodrow Wilson School of Public and International Affairs at Princeton University and the Brookings Institution. Vol.15, No. 2, Fall 2005.

[7] Protas B, Korzeniewski S, Grigorescu V. Michigan Department of Community Health; ''Racial Disparities in Prenatal Care'' MI PRAMS Delivery. Volume 7, Issue 2: October 2008. [http://www.michigan.gov/documents/mdch/PNCRacial_Approv_252150_7.pdf]

[8] These data by age of mother are based on a single year.

[9] Ventura SJ. *Changing patterns of nonmarital childbearing in the United States*. NCHS data brief, no. 18. Hyattsville, MD: National Center for Health Statistics. 2009.

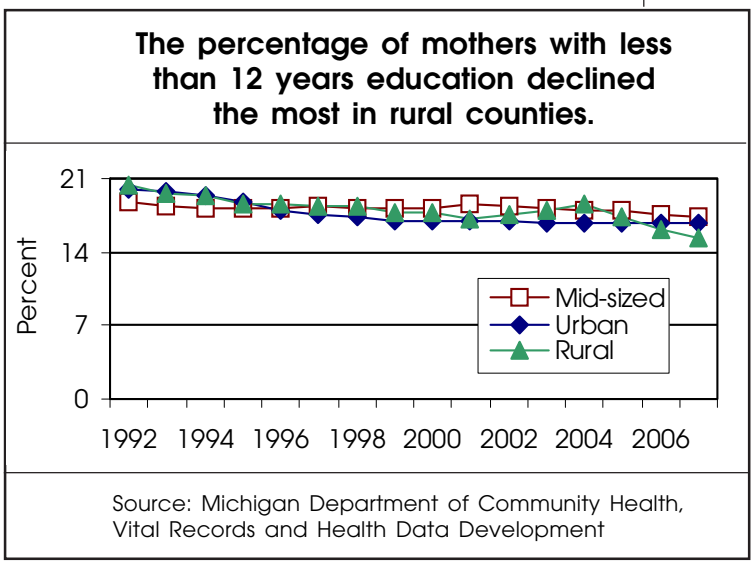
MOTHER WITH LESS THAN 12 YEARS EDUCATION

Why does it matter?

Children born to a mother with less than 12 years of education experience the highest risk of growing up in poverty. One-fifth of low-income children in Michigan lived with parents who had not completed 12 years of education compared with only 1 percent of higher income children.[10]

What do the data show?

Infants in rural counties are slightly less likely to be born to a woman without 12 years of education—15 percent compared with 17 percent in mid-sized and urban counties. The rural group made the most progress on this measure: the average dropped by almost one-quarter. In 1992 the rural group had the highest rate; by 2007 it had the lowest. In recent years progress on this measure stalled in the urban group. Analysis of survey data of new mothers by the Department of Community Health found that Michigan mothers with less than a high school education were six times more likely to receive late or no prenatal care than women with a college education.[11]



LATE OR NO PRENATAL CARE

Why does it matter?

Mothers who receive timely prenatal care are more likely to have a healthy pregnancy and delivery. Prenatal care provides an opportunity to educate women on multiple issues that will help them have a healthy pregnancy, delivery and baby as well as prepare for the process of caring for an infant. Research shows that women who do not receive prenatal care are three times more likely to give birth to low-birthweight babies, and their babies are five times more likely to die. Women without pre-pregnancy health insurance or a medical home are less likely to seek prenatal care or start care during the first two trimesters. (Prenatal care that begins in the third trimester is considered "late.") Women who receive late prenatal care or none at all may also be unable to access other resources and supports when they begin to care for their newborns.

What do the data show?

Roughly 3 percent of pregnant women received late or no prenatal care in 2007 in all three county groups. Rural counties made the greatest improvement in this measure; the percent of women with late or no prenatal care dropped by 31 percent over the 15 years followed by the urban group with a 17 percent decline. The mid-sized county average stagnated over this time.

SMOKING DURING PREGNANCY

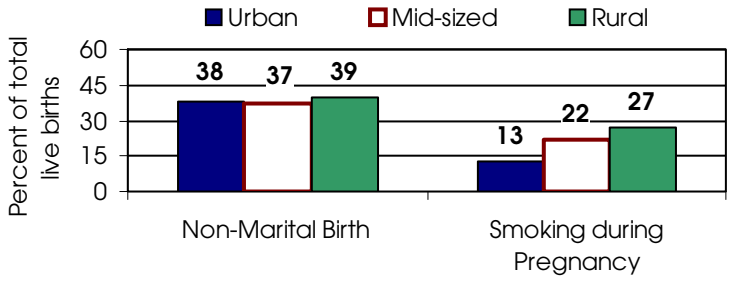
Why does it matter?

Babies born to mothers who smoke are more likely to be born too small or too soon. These babies have a higher risk of experiencing developmental delays, chronic health problems, and even death. Children who breathe second-hand smoke have increased risk of pneumonia, bronchitis, asthma, and Sudden Infant Death Syndrome (SIDS).

[10] Low-income is defined as under 200 percent of poverty level, that is total family income is less than double the poverty level-roughly $42,000 for a two-parent family of four.

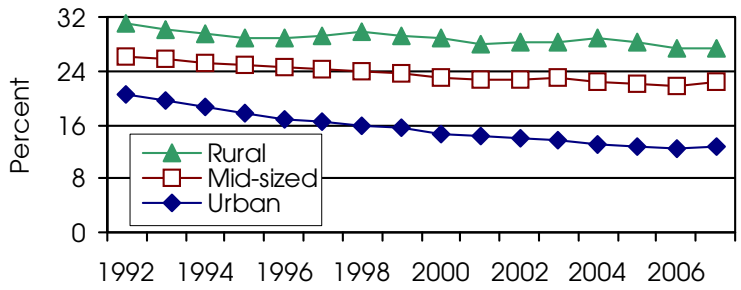
[11] Protas B, Korzeniewski S, Grigorescu V. Michigan Department of Community Health; "Racial Disparities in Prenatal Care" MI PRAMS Delivery. Volume 7, Issue 2: October 2008. [http://www.michigan.gov/documents/mdch/PNCRacial_Approv_252150_7.pdf]

Nonmarital birth rates reflected little variation among county groups, unlike rates for maternal smoking during pregnancy.



Source: Michigan Department of Community Health, Vital Records and Health Data Development

Maternal smoking during pregnancy declined sharply in urban counties



Source: Michigan Department of Community Health, Vital Records and Health Data Development

What do the data show?

This measure reflects the starkest difference among the county groups. Infants in the urban county group were much less likely to be born to a woman who smoked during pregnancy; the urban group rate dropped dramatically over the 15 years—from 21 percent to 13 percent. In contrast, the 2007 rate of smoking among pregnant women in the mid-sized and rural county group—22 and 27 percent respectively—were roughly double the urban county group average and reflected much less improvement over the trend period. Progress in recent years slowed considerably, particularly in the mid-sized and rural groups.

LOW-BIRTHWEIGHT

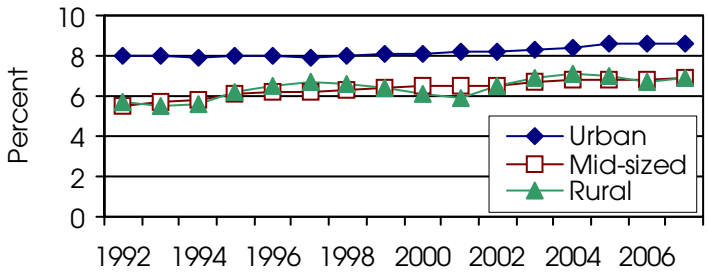
Why does it matter?

Babies born weighing less than five and one-half pounds (2,500 grams) have a higher risk of experiencing developmental delays, chronic health problems, and even death. While babies born prematurely are also likely to be low-birthweight, other factors such as multiple births, poor maternal health and nutrition, and pregnancy complications can increase the risk. Nearly all low birthweight babies require specialized care in a Neonatal Intensive Care Unit (NICU) so they can gain weight and stabilize before going home. Studies have shown that school children who were born at a low birthweight were more likely to be in special education classes, to repeat a grade, or to fail school than children born at a normal birthweight.

What do the data show?

While the percentage of newborns weighing less than five and one-half pounds rose sharply in Michigan's mid-sized and rural counties over the 15 years, the rate in the urban group in 2007 still remained higher—almost 9 percent compared to 7 percent in the mid-sized and rural groups.

The percentage of low-birthweight babies worsened in all county groups



Source: Michigan Department of Community Health, Vital Records and Health Data Development

PRETERM BIRTHS

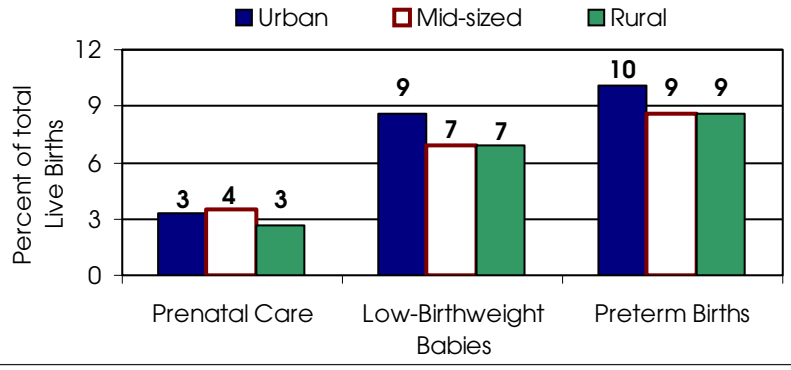
Why does it matter?

Babies that are born too soon (before 37 weeks of gestation) often suffer an increased risk of lasting disabilities, such as mental retardation, learning and behavioral problems, cerebral palsy, lung problems and vision and hearing loss. Nationally these babies represent 40 percent of the health care spending on infants, although they are roughly 12 percent of newborns. While about one-quarter of preterm births result from medical interventions due to pregnancy complications that endanger the mother or infant, in roughly half of these births no cause can be determined. While the impact of premature birth is less with each additional week in the womb, even babies born late preterm (34-36 weeks gestation) have six times the risk of death within the first week compared with full-term infants, and triple the risk of death within the first year.

What do the data show?

In 2007 one in ten babies in the urban county group was born too soon—before having spent 37 weeks in the womb. The urban group average was slightly higher than the averages in mid-sized and rural counties. Urban counties did experience some improvement in this indicator, which dropped by 10 percent over the trend period unlike the other two groups where the rate rose slightly. Since 2000 the rates of preterm births have dropped for all county groups but still not back to levels in the early 1990s.

Urban counties had the highest rates of low-birthweight babies and preterm births.



Source: Michigan Department of Community Health, Vital Records and Health Data Development

POLICY IMPLICATIONS

As is evident in this review of maternal and infant health of Michigan and its county groups, Michigan continues to face challenges in improving maternal and infant health—particularly in the rising rate of low-birthweight throughout the state.

Trends and risks to maternal and infant health show variation by race/ethnicity as well as geography, as evidenced in the very different rates of smoking during pregnancy. In recognition of this fact, state programs and resources have been targeted to high-risk areas and populations to address such issues. Unfortunately as state revenues have declined, many targeted programs, such as the Nurse Family Partnership and the Interconception Care project, have been eliminated or drastically reduced. The Interconception Care project was intended to address to high infant mortality rates in African-American communities by improving the likelihood of a healthy birth to women who have suffured poor pregnancy outcomes. In this program, nurses provide home-based case management, including education, resources, and follow-up for up to two years. Similarly the Nurse Family Partnership provides support to mother and child through home visits by nurses. These programs were targeted in Michigan to women in communities with the highest risk of infant mortality. Without such efforts the state will not assure more infants the "right start" to a healthy early childhood and adulthood.

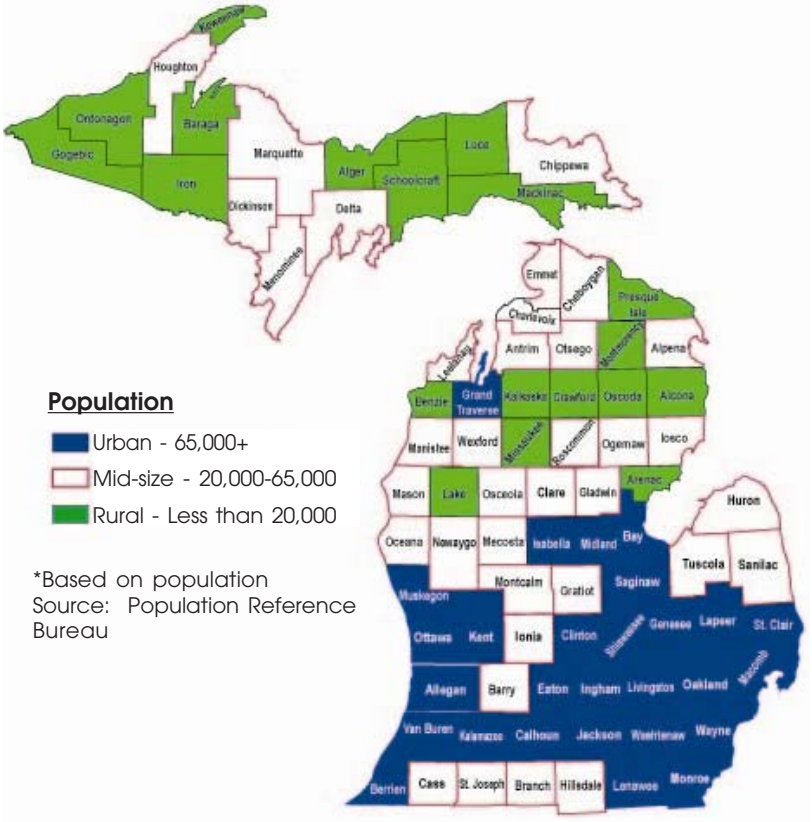
With the large numbers of women who must depend on Medicaid to cover prenatal care and delivery costs, continued reductions in payment rates for Medicaid providers will further jeopardize access to care. As provider rates are reduced, fewer of them will accept Medicaid patients. The latest survey data

from the state health department suggest that in 2007 roughly 71 percent of Michigan doctors were accepting new Medicaid patients, down from 80 percent in 2006. The percentage continues to decline.

Improving women's health before they become pregnant is a strategy that more experts now advocate as key to improving maternal and infant health. Better access to routine primary care for women and girls throughout adolescence and the child-bearing years would promote contraceptive use, pregnancy planning, and improved overall health for women. It would result in earlier interventions for chronic conditions that can compromise a pregnancy. Preconception care is key as studies have shown how critical the early weeks of development are when a woman may not even realize she is pregnant.

Michigan has made some major efforts to improve birth outcomes. In 2006 Michigan obtained a Medicaid waiver to initiate Plan First; this program provides contraceptive services to low-income women. The program helps prevent unintended pregnancy and allows recommended spacing between pregnancies. As of April 2009, over 44,000 women participate in the program with steady increases over the previous twelve months. The Mother Infant Health Program, a home visiting program for Medicaid eligible women provides non-medical services and refers women to other programs such as smoking cessation when appropriate. As the state seeks to improve outcomes in health and education for its citizens, it cannot ignore the importance of assuring more children the "right start."

Michigan County Groups*
Right Start 2009



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