

HEALTHY GROWTH AND DEVELOPMENT

Note to readers and users of the *Healthiest Wisconsin 2020* Profiles: This *Healthiest Wisconsin 2020* Profile is designed to provide background information leading to collective action and results. This profile is a product of the discussions of the Focus Area Strategic Team that was convened by the Wisconsin Department of Health Services during September 2009 through November 2010. The objectives from this Focus Area have been recognized as objectives of *Healthiest Wisconsin 2020*. (Refer to Section 5 of the *Healthiest Wisconsin 2020* plan.) A complete list of *Healthiest Wisconsin 2020* Focus Area Strategic Team Members can be found in Appendix A of the plan.

Definition

Healthy growth and development requires family-centered, community-based, culturally competent, coordinated care and support throughout the life course during preconception and prenatal periods, infancy, childhood, adolescence, and adulthood. Components include:

- Addressing factors that affect biologic, psychological, social and emotional growth and development.
- Conducting prevention, screening, assessment, and intervention to promote healthy growth and development across the life span.
- Promoting healthy social, emotional, behavioral, cognitive, linguistic, sensory, and motor development.

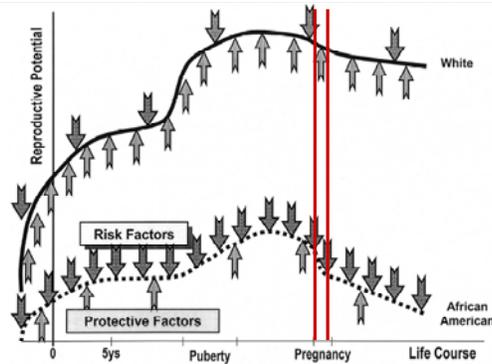
Importance of the Focus Area

Healthy growth and development in early life have a profound effect on health across the life span. Research studies over the past decade demonstrated the link between early life events and adult chronic diseases and found that babies born at lower birthweights have an increased risk of developing heart disease, diabetes, and high blood pressure in later life. Infants with poor birth outcomes begin life with multiple risk factors that may prevent them from reaching their full health and development potential.

In an average week in Wisconsin (based on data for 2008), 1,385 babies are born. Of these, 153 babies are born preterm (before 37 weeks of gestation), 97 babies are born low birthweight (less than 2,500 grams or approximately 5.5 pounds), and 10 babies will die before reaching their first birthday (Wisconsin Interactive Statistics on Health).

Significant racial and ethnic disparities in birth outcomes exist in Wisconsin. A greater proportion of infants born to Black/African American women than those born to White women are low birthweight or preterm. Health conditions related to prematurity and low birthweight are the leading cause of infant mortality for Blacks/African Americans. In 2006-2008, infants born to Black/African American women were 2.8 times more likely to die in the first year of life than infants born to White women (Wisconsin Interactive Statistics on Health).

Racial and Ethnic Disparities in Birth Outcomes: A Life Course Perspective



Lu MC, Halfon N. Racial and ethnic disparities in birth outcomes: a life-course perspective. *Matern Child Health J.* 2003;7:13-30.

The Life Course Health Development Model (Lu and Halfon, 2003) is useful in understanding disparities in birth outcomes and the influences on healthy growth and development across the life span. The model illustrates that birth outcomes are influenced by the health of the mother throughout her life, not just during the nine months of pregnancy. Many women enter pregnancy with risk factors for poor birth outcomes such as obesity, stress, smoking, or sexually transmitted infections. It is important to optimize women's health prior to pregnancy by providing screening, education, and interventions to reduce those risk factors. Interventions include providing preventive measures (multivitamins with folic acid, immunizations), managing health conditions (diabetes, infections), and supporting healthy behaviors (smoking cessation, physical activity). Additionally, variations in exposures to risk and protective factors across the life span contribute to racial and ethnic disparities. Chronic experiences with risk factors such as racism and poverty have a negative impact on health. Social support and access to high-quality health care are known protective factors that support health.

Early childhood is also a critical development period with lifelong impacts on health. Recent research has clearly shown that brain development of children before the age of five has a profound influence on their social, emotional, language, memory, physical, and cognitive development. Positive environments and relationships in the life of a child serve as protective factors to support development and provide a strong foundation for all future learning, behavior, and health. It is well established that adverse conditions such as family turmoil, enduring poverty, violent neighborhoods, and substandard daycare conditions put children at higher risk for mental health and developmental problems that can persist into school-age years and adulthood.

Research has greatly expanded the understanding of the factors children need to succeed in school. "There is clear evidence that beginning intervention early makes a big difference in the cost of intervention and in its probable success" (Fox, 2006). Early, positive and nurturing conditions promote children's readiness to learn and their success in school. Effective early childhood programs offer an opportunity to promote lifelong health and prevent disease during

adolescence and adulthood. A healthier population begins with reducing toxic stress such as physical and emotional abuse and neglect in childhood. The healthy development of young children provides a strong foundation for later academic achievement, economic productivity, and responsible citizenship, as well as a lifetime of good physical and mental health.

Wisconsin Data Highlights

- Infant mortality rates (the number of deaths during the first year of life per 1,000 live births in a population group) for 2006-2008 were 15.2 for Blacks/African Americans, 10.1 for American Indians, 6.5 for Hispanics/Latinos, 7.2 for Laotian and Hmong, and 5.4 for Whites (Wisconsin Interactive Statistics on Health).
- In 2006-2008, the disparity ratio of Black/African American to White infant mortality rates was 2.8, meaning an infant born to a Black/African American woman was 2.8 times more likely to die in the first year of life than an infant born to a White woman. The American Indian infant mortality rate was 1.9 times the White rate; the rate for Hispanics/Latinos was 1.2 times the White rate (Wisconsin Interactive Statistics on Health).
- Critical risk factors for an infant death include low birthweight (less than 2,500 grams or about 5.5 pounds) and preterm birth (less than 37 weeks of gestation). A higher proportion of infants born to Black/African American women than those born to White women are low birthweight or preterm (Wisconsin Interactive Statistics on Health).
- In 2007, a survey of new mothers in Wisconsin found that: (1) During the month prior to becoming pregnant, 37 percent of White women and 22 percent of Black/African American women reported taking a multivitamin; (2) 12 percent of White women and 26 percent of Black/African American women reported feeling down, depressed or hopeless after the baby was born (Wisconsin Pregnancy Risk Assessment Monitoring System).
- Based on the 2007 National Survey of Children's Health, 57.9 percent of Wisconsin parents reported that during the past 12 months, a doctor or other health professional asked if they had concerns about their child's learning, development or behavior; 34 percent of parents reported a doctor or other health professional had them fill out a questionnaire about specific concerns or observations about their child's development, communication, or social behaviors.

Objective 1

By 2020, increase the proportion of children who receive periodic developmental screening and individualized intervention.

Objective 1 Indicators

- Proportion of parents reporting that a health provider assessed their child's learning, development, communication, or social behavior (State and Local Area Integrated Telephone Survey [SLAITS]).
- Number of children who received services from the Birth-to-Three program during the first year of life (Birth-to-Three Program).

Objective 1 Rationale:

The American Academy of Pediatrics (2001) recommends developmental surveillance at every well-child visit and developmental screening using formal, validated tools at 9, 18, and 30 months of age or whenever a parent or provider concern is expressed. Screening is a process using a standardized method or tool to identify children who may need further evaluation because they may have health or developmental concerns. Surveillance and screening activities should be performed within the medical home and coordinated with early intervention services available in the community to assure optimal child development and potential for achieving a productive and healthy life course.

Objective 2

By 2020, provide pre-conception and inter-conception care to Wisconsin women in population groups disproportionately affected by poor birth outcomes.

Objective 2 Indicators

- Rates of avoidable infant and fetal death. (Perinatal Periods of Risk methodology, Vital Records).
- Percentage of births that are to women with avoidable risks for poor birth outcomes (Pregnancy Risk Assessment Monitoring System).

Objective 2 Rationale

The health of women before pregnancy has a great impact on birth outcomes, and birth outcomes affect health in childhood and adulthood. Preconception care strives to optimize the health of women before pregnancy by identifying risk factors and providing education and appropriate interventions to modify risk factors that can lead to low birthweight and congenital malformations.

Objective 3

By 2020, reduce the racial and ethnic disparities in poor birth outcomes, including infant mortality.

Objective 3 Indicators

Disparity ratios for infant mortality, low birthweight, prematurity, and timing of entry into the Women, Infants and Children (WIC) program.

Objective 3 Rationale

“One unacceptable health disparity in Wisconsin is the persistent high death rate of infants born to Black/African American women. Infants born to Black/African American women in Wisconsin have been about three, and as high as four, times more likely to die before their first birthday than infants born to White women. Further, during the past 20 years, no sustained decline has occurred in Wisconsin’s Black/African American infant mortality rate. Compared to White infant mortality, disparities also exist among American Indian, Laotian and Hmong, and Hispanic/Latino populations, although disparities are smaller than those for Blacks/African Americans” (Wisconsin Health Facts: *Racial and Ethnic Disparities in Infant Mortality*, 2010).

Potential evidence- or science-based actions to move the focus area objectives forward over the decade

- Implement broadly focused early care and education programs (Booske, et al., 2009).
 - High/Scope Perry Preschool approach: preschool paired with home visits
 - Comprehensive, center-based early childhood development programs (Head Start or Child-Parent Centers, Chicago)
 - Comprehensive, statewide system similar to Smart Start (North Carolina)
 - Early Head Start
 - Birth-to-Three Program
- Set up healthy child development policies (Booske, et al., 2009).
 - Families and Schools Together (FAST)
 - Universal Pre-Kindergarten (Oklahoma Pre-K)
 - Increase funding for child care subsidy (Wisconsin Shares Program)
 - Refundable state dependent care tax credit
 - Statewide childcare quality rating system
- Develop home visiting or parent education programs (Booske, et al., 2009).
 - Nurse home-visiting program (Nurse-Family Partnership)
 - DARE to Be You: parent-child workshops
 - HIPPY (Home Instruction Program for Preschool Youngsters)
 - Developmentally Supportive Care (and Newborn Individualized Developmental Care and Assessment Program); Parents as Teachers
 - Reach Out and Read
- Implement *Recommendations to Improve Preconception Health and Health Care – United States* (from the Centers for Disease Control and Prevention and the Select Panel on Preconception Care).
 - Individual responsibility across the life span
 - Consumer awareness
 - Preventive visits
 - Interventions for identified risks
 - Interconception care
 - Pre-pregnancy check-up
 - Health insurance coverage for women with low incomes
 - Public health programs and strategies
 - Research
 - Monitoring improvements
- Implement universal developmental screening of infants and children at 9, 18, and 30 months of age using an evidence-based standardized tool.
 - Ages and Stages Questionnaire (ASQ), Third Edition
 - Ages and Stages Questionnaire-Social Emotional (ASQ-SE)
 - Parent’s Evaluations of Developmental Status (PEDS)
 - PEDS: Developmental Milestones (PEDS-DM)
 - Brigance Screens-II
 - Pediatric Symptom Checklist (PSC)
 - Developmental Indicators for Assessment of Learning, Third Edition (DIAL-3)

- Modified Checklist for Autism in Toddlers (M-CHAT)
- Edinburgh Postnatal Depression Scale (for post-partum mothers)

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