# Improving Birth Outcomes in Medicaid

## Summary

While infant mortality reached a historic low in 2011[1], the death rate for infants (less than 1 year old) in the United States remained high relative to other industrialized nations[2], reflecting persistent disparities for infants born to women of color, particularly non-Hispanic, black women.[3] These racial disparities in infant mortality are largely attributable to significant differences in rates of low birth weight (LBW) and preterm birth.[4] Birth outcomes also vary significantly among states, with the highest rates of infant mortality observed in the southeast.[5]

Although the causes of preterm birth and LBW are not fully understood, multiple interrelated factors have been linked to negative birth outcomes. These factors include a wide range of biological, dietary, behavioral, psychological, social, economic, and environmental influences that contribute to maternal and child health before, during, and after pregnancy. The long-term, intergenerational impact of these risks and protective factors is often referred to as the "life-course" model of maternal and child health. As the terminology implies, the life-course framework attributes health outcomes to the cumulative effect of exposures and experiences (both negative and positive) that individuals encounter throughout their lives.[6]

Put simply, women who begin their pregnancies in poor health are more likely to have negative birth outcomes than healthy women. Deficits in preconception health status can be rooted in adverse conditions experienced during sensitive periods of early development (for example, while in utero or during infancy and early childhood).[7,8] These defects in early development are often compounded by continued exposure to harmful influences (for example, chronic stress, untreated illness, nutritional deprivation, and toxins) that weather or progressively compromise physiological functions over time.[9,10] High-quality, comprehensive maternity care during pregnancy and at delivery can mitigate some risks. However, effectively addressing disparities in birth outcomes, childhood development, and maternal health status clearly requires interventions that extend beyond traditional prenatal care in terms of both scope of services and temporal focus.[11,12]

States play a pivotal role in advancing a life-course approach to improving birth outcomes, and state

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[1] MacDorman, MF, Hoyert, DL, and Mathews, TJ, "Recent Declines in Infant Mortality in the United States", 2005–2011, NCHS Data Brief, No. 120, April 2013, http://www.cdc.gov/nchs/data/databriefs/db120.htm

[2] OECD Health Data 2012, http://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT

[3] Mathews, TJ and MacDorman, MF, Infant Mortality Statistics from the 2009 Period Linked Birth/Infant Death Data Set, *National Vital Statistics Report*, Vol 61, No 8, Jan 24, 2013, http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_08.pdf

[4] Lu, M.C. and N. Halfon, *Racial and Ethnic Disparities in Birth Outcomes: A Life-Course Perspective.* Matern Child Health J, 2003. **7**(1): p. 13-30.

[5] Mathews and MacDorman, 2013.

[6] Lu, 2003.

[7] Calkins, K. and S.U. Devaskar, *Fetal Origins of Adult Disease.* Curr Probl Pediatr Adolesc Health Care, 2011. 41(6): p. 158-76.

[8] Van den Berg, G.J., G. Doblhammer, and K. Christensen, *Exogenous determinants of early-life conditions, and mortality later in life.* Soc Sci Med, 2009. 68(9): p. 1591-8.

[9] Geronimus, A.T., *Understanding and Eliminating Racial Inequalities in Women's Health in the United States: The Role of the Weathering Conceptual Framework.* J Am Med Womens Assoc, 2001. 56(4): p. 133-6, 149-50.

[10] Geronimus, A.T., et al., *"Weathering" and Age Patterns of Allostatic Load Scores Among Blacks and Whites in the United States.* Am J Public Health, 2006. 96(5): p. 826-33.

Medicaid policy is particularly important for ensuring the reach and sustainability of these efforts. Medicaid pays for a large proportion of births, although variation exists among states. An NGA Center for Best Practices survey found that the percent of births covered by Medicaid ranged from 27 percent (**Virginia**) to 64 percent (**Arkansas** and **Oklahoma**) in 2010.[13] Women covered by Medicaid are at greater risk for poor birth outcomes than privately insured women for a variety of reasons, including lower income and higher rates of chronic disease. As a result, women covered by Medicaid experience higher rates of low birth weight, preterm birth, and infant mortality.[14] These poor birth outcomes result in higher costs for the Medicaid program (such as increased use of neonatal intensive care unit services), as well as increased state spending on special education and social services.[15,16] The Institute of Medicine estimated that Medicaid expenses for the additional care required by premature infants born in 2005 totaled more than $6.4 billion during the first seven years of life.[17] By eliminating racial disparities in adverse pregnancy outcomes among Medicaid enrollees between 2005 and 2007, one study estimates that the Medicaid programs in 14 southern states could have collectively saved $114 million to $214 million per year in maternity care costs (without including potential savings related to infant care).[18]

The Association of Maternal and Child Health Programs (AMCHP) has identified a variety of policy changes governors could make to improve birth outcomes. [19] Potential interventions include a broad range of improvements to Medicaid and maternal and child health programs (such as expanding Medicaid coverage and benefits for women before and between pregnancies, offering payment incentives to Medicaid providers who deliver enhanced prenatal care, and increasing investments in smoking cessation programs that target pregnant women). These recommendations stem from a variety of synergistic, multi-state initiatives (see Appendix) that have been launched at the national and regional levels to facilitate state efforts:

- **March of Dimes Prematurity Campaign**. Launched in 2003, the March of Dimes developed this campaign to raise public awareness of the problems of prematurity and decrease the rate of preterm birth in the United States. The campaign funds research and encourages related public and private investors to better understand the causes of premature birth and effective interventions, educates women about risk-reduction strategies and the signs and symptoms of premature labor, provides information and support to families affected by prematurity, advocates for increased access to health care coverage to improve maternity care and infant health outcomes, and assists health care providers in improving risk detection and reduction. Key resources funded in whole or in part by the campaign

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[11] Lu, M.C., et al., *Closing the Black-White gap in birth outcomes: a life-course approach.* Ethn Dis, 2010. 20(1 Suppl 2): p. S2-62-76.
[12] Halfon, N. and M. Hochstein, *Life course health development: an integrated framework for developing health, policy, and research.* Milbank Q, 2002. 80(3): p. 433-79, iii.
[13] NGA Center for Best Practices, Issue Brief: *2010 Maternal and Child Health Update: States Make Progress Towards Improving Systems of Care*, January 19, 2011, http://www.nga.org/files/live/sites/NGA/files/pdf/MCHUPDATE2010.PDF
[14] Anum, E.A., S.M. Retchin, and J.F. Strauss, 3rd, *Medicaid and Preterm Birth and Low Birth Weight: The Last Two Decades.* J Womens Health (Larchmt), 2010. 19(3): p. 443-51.
[15] Russell, R.B., et al., *Cost of Hospitalization for Preterm and Low Birth Weight Infants in the United States.* Pediatrics, 2007. 120(1): p. e1-9.
[16] Lewit, E.M., et al., *The Direct Cost of Low Birth Weight.* Future Child, 1995. 5(1): p. 35-56.
[17] Institute of Medicine, C.o.U.P.B.A.H.O., *Preterm Birth: Causes, Consequences, and Prevention*, ed. R.E. Behrman and A.S. Butler. 2007: The National Academies Press.
[18] Zhang, S., et al., *Racial Disparities in Economic and Clinical Outcomes of Pregnancy Among Medicaid Recipients.* Matern Child Health J, 2012.
[19] AMCHP, Compendium: *Forging a Comprehensive Initiative to Improve Birth Outcomes and Reduce Infant Mortality*, Policy and Program Options for State Planning, July, 2012 http://www.amchp.org/programsandtopics/data-assessment/projects/Documents/AMCHP%20Birth%20Outcomes%20Compendium%202012.pdf

include the Institute of Medicine report *Preterm Birth: Causes, Consequences, and Prevention*; recommendations from the Symposium on Quality Improvement to Prevent Prematurity, which identified priorities for improvements in clinical services; and the Healthy Babies Are Worth the Wait campaign to raise awareness among women and providers about the dangers of elective deliveries before 39 weeks of pregnancy.

- **ASTHO Healthy Babies Initiative.** Since 2008, all incoming presidents of the Association of State and Territorial Health Officials (ASTHO) have issued a presidential challenge at the start of their one-year term to raise the visibility of, and encourage cross-state collaboration on, an important public health issue. In September 2011, David Lakey, commissioner of the Texas Department of State Health Services, elected to focus his presidential challenge on improving birth outcomes. Earlier work by Dr. Lakey and his colleagues in the U.S. Department of Health and Human Services (DHHS) Regions IV and VI led to the development of a regional quality improvement project to decrease rates of prematurity. Building on these prior efforts, the presidential challenge asked all state health officials to implement intervention strategies based on successful national, regional, and state models and encouraged states to apply the best and most promising practices.

  All 50 states have accepted the challenge by publicly announcing the goal to reduce the rate of premature birth by 8 percent by 2014 (measured against 2009 data); initiating and supporting programs and policies that reduce the premature birth rate; and building greater awareness of premature birth rates and other indicators of maternal and child health. Although Dr. Lakey's term has concluded, ASTHO continues to collaborate with the Maternal and Child Health Bureau (MCHB) of the U.S. Health Resources and Services Administration (HRSA), AMCHP, the March of Dimes, the Centers for Disease Control and Prevention (CDC), and other partners to develop and implement a national strategy for reducing infant mortality and prematurity. In support of these efforts, ASTHO has compiled a broad range of resources to assist states in planning and implementing effective interventions such as a methodology for estimating Medicaid cost savings, which could be achieved through an 8 percent reduction in preterm births.

- **Collaborative Improvement and Innovation Network (CoIIN) to Reduce Infant Mortality**. HRSA created this public-private partnership in order to support the 13 southern states in DHHS Regions IV and VI in their efforts to improve birth outcomes. CoIIN is organized around five strategies identified as priorities by participating states at the Infant Mortality Summit, which was convened by MCHB in January 2012: 1) Reduce elective deliveries before 39 weeks of pregnancy; 2) Expand access to inter-conception care (care between pregnancies) through Medicaid; 3) Promote smoking cessation among pregnant women; 4) Promote safe infant sleep practices; and 5) Improve perinatal regionalization (a geographically targeted approach to ensure risk-appropriate care for mothers and infants).

  On July 23 and 24, 2012, participating states sent teams to a peer learning conference designed to promote shared learning of each of the five priority strategies, provide training in quality improvement and collaborative learning methods, and encourage discussion of activities, challenges, and successes. As states continue to implement individual action plans, strategy-focused workgroups are conducting monthly conference calls to share experiences and develop common evaluation metrics. State teams expect

to reconvene at a national conference in spring 2013 to explore their collective progress. HRSA plans to expand CoIIN to additional regions beginning with states in Region V, which have already begun participating in CoIIN activities.

- **Strong Start for Mothers and Newborns Initiative.** Jointly administered by the Centers for Medicare & Medicaid Services (CMS), HRSA, and the Administration on Children and Families (ACF), this initiative includes two major strategies:

  - **Reducing early elective deliveries.** This component of Strong Start will raise awareness of delivery risks before 39 weeks among pregnant women, their families, health providers, and organizations that serve them; spread best practices through CMS's Partnership for Patients 26 Hospital Engagement Networks; and promote transparency in the performance data.

  - **Piloting models for enhanced prenatal care.** This Strong Start strategy will test three evidence-based approaches to addressing the medical, behavioral, and psychosocial factors that contribute to preterm birth: 1) centering/ group visits that incorporate peer-to-peer interaction in a facilitated setting for health assessment, education, and psychosocial support; 2) birth centers that provide comprehensive prenatal care facilitated by teams of health professionals, including peer counselors and collaborative practice, intensive case management, counseling, and psychosocial support; and 3) maternity care homes that offer enhanced prenatal care, including care coordination, psychosocial support, education, and health promotion in addition to traditional prenatal care. Using a competitive process, CMS has selected 27 awardees to test the effectiveness of one or more of these three enhanced prenatal care models at 182 care sites. Awardees receiving Strong Start funds can administer more than one model, but only one type of approach can be tested at each care site.

- **Partnership to Eliminate Disparities in Infant Mortality.** Funded by the W.K. Kellogg Foundation, this Action Learning Collaborative developed by City Match, AMCHP, and the National Healthy Start Association brings multidisciplinary local-state teams together to strengthen partnerships, build community participation, and develop innovative strategies for addressing racial inequities in infant mortality. From 2008 to 2010, six sites selected through a competitive process participated in the Action Learning Collaborative: Los Angeles, **California**; Aurora, **Colorado**; Pinellas County, **Florida**; Chicago, **Illinois**; Columbus, **Ohio**; and Milwaukee, **Wisconsin**. Five additional teams began work in 2011: New Haven, **Connecticut**; New Orleans, **Louisiana**; Boston, **Massachusetts**; multiple localities in **Michigan**; and Fort Worth, **Texas**; These collaborative efforts resulted in the creation of action plans to address racism in the target communities through research to demonstrate the socioeconomic burden of racism, media and social marketing campaigns, policy advocacy to minimize racism and its impact, sustainability plans for future funding, increased national attention and prioritization, technical assistance, and community advocacy.

- **Medicaid Peer Learning Collaborative on Women's Health.** Beginning in 2010, the CDC and the Commonwealth Fund jointly funded seven states, **California**, **Florida**, **Illinois**, **Louisiana**, **North Carolina**, **Oklahoma**, and **Texas**, to participate in a peer-to-peer learning collaborative that enabled state teams (representing Medicaid agencies, Title V maternal and child health programs, and private-

sector programs) to develop programs, policies, and infrastructures needed to identify and reduce women's health risks either prior to conception or following an adverse pregnancy outcome. The project identified four principal strategies Medicaid can use to improve reproductive health, including the use of family planning waivers and state plan amendments, interconception care waivers, managed care approaches to improve the quality and continuity of care, and data analyses to identify unmet needs and monitor performance. Participants also produced a checklist designed to help other states explore improvement opportunities based on the nature of their Medicaid programs, delivery system models, ongoing quality improvement efforts, and public health resources.

- **Optimizing Health Reform to Improve Birth Outcomes Action Learning Collaborative.** With support from the W.K. Kellogg Foundation, AMCHP is leading a project to increase the capacity of state maternal and child health programs and other state stakeholders (for example, Medicaid agencies, providers, local health departments, and community health centers) to improve birth outcomes throughout the life course. The first phase of this project focused explicitly on promoting preconception health through opportunities presented by the Affordable Care Act and state Medicaid reform. Six states were selected to participate in Phase I: **Florida**, **Michigan**, **Mississippi**, **New Mexico**, **Oklahoma** and **Oregon**. Phase II of this project (December 2012 to September 2013) will identify up to five additional state teams and will expand the project's focus beyond preconception health in order to develop a collective impact approach to coordinating multiple concurrent initiatives to improve birth outcomes.

- **NGA Learning Network on Improving Birth Outcomes.** As the collaborative initiatives described above suggest, improving birth outcomes requires states to pursue a variety of activities in unison. The successful alignment of these activities challenges states to establish strategic policy priorities, make informed resource allocation decisions, facilitate interagency coordination, and ensure ongoing communications. The NGA Center for Best Practices has established a learning network to assist states in developing, implementing, and synchronizing key policies and initiatives related to the improvement of birth outcomes. Four states, **Connecticut**, **Kentucky**, **Louisiana**, and **Michigan**, were selected to participate in the initial round of the Learning Network, and four more, **Hawaii**, **Indiana**, **New Mexico** and **West Virginia**, were selected to participate in round two. Four additional states will be selected in summer 2013 for a total of 12 states participating in the learning network.

Designed to complement the collaborative initiatives described above and other related efforts[20], the learning network offers states a unique opportunity to coordinate ongoing activities, consolidate prior achievements, accelerate implementation, tackle unresolved challenges, and address new opportunities. Gubernatorial leadership ensures that learning network teams will have the visibility, accountability, and high-level support needed to mobilize stakeholders, catalyze coordination, and navigate obstacles. Participating states will convene relevant state agencies (including Medicaid, state health agencies, and related maternal and child health programs) along with key stakeholder organizations at a facilitated, in-state planning session. Key representatives from each state team also will participate in a national networking conference to share lessons learned. NGA will provide logistical and facilitation support for the in-state sessions, offer

[20] Such as the Center for Medicaid and CHIP Services Expert Panel for Improving Maternal and Infant Health Outcomes, the W.K. Kellogg Foundation Best Babies Zone, and the American Congress of Obstetricians and Gynecologists Deliveries Before 39 Weeks Initiative.

technical assistance from a subject matter expert, coordinate planning of the national networking conference, and support state travel expenses related to participation in the national conference.

## Appendix

| | Initiative | | | | | | |
|---|---|---|---|---|---|---|---|
| State | ASTHO Healthy Babies Initiative | Collaborative Improvement and Innovation Network (CoIIN) to Reduce Infant Mortality | Strong Start for Mothers and Newborns Initiative | Partnership to Eliminate Disparities in Infant Mortality | Medicaid Peer Learning Collaborative on Women's Health | Optimizing Health Reform to Improve Birth Outcomes Action Learning Collaborative (Phase I) | NGA Learning Network on Improving Birth Outcomes (Phase I) |
| Alabama | ✓ | ✓ | | | | | |
| Alaska | ✓ | | | | | | |
| Arizona | ✓ | | ✓ | | | | |
| Arkansas | ✓ | ✓ | | | | | |
| California | ✓ | | ✓ | ✓ | ✓ | | |
| Colorado | ✓ | | | ✓ | | | |
| Connecticut | ✓ | | | | | | ✓ |
| Delaware | ✓ | | | | | | |
| Florida | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Georgia | ✓ | ✓ | ✓ | | | | |
| Hawaii | ✓ | | | | | | |
| Idaho | ✓ | | | | | | |
| Illinois | ✓ | | ✓ | ✓ | ✓ | | |
| Indiana | ✓ | | | | | | |
| Iowa | ✓ | | | | | | |
| Kansas | ✓ | | | | | | |
| Kentucky | ✓ | ✓ | | | | | ✓ |
| Louisiana | ✓ | ✓ | | | ✓ | | ✓ |
| Maine | ✓ | | | | | | |
| Maryland | ✓ | | ✓ | | | | |

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|---|---|---|---|---|---|---|---|
| Massachusetts | ✓ | | | | | | |
| Michigan | ✓ | | ✓ | | | ✓ | ✓ |
| Minnesota | ✓ | | | | | | |
| Mississippi | ✓ | ✓ | ✓ | | | ✓ | |
| Missouri | ✓ | | ✓ | | | | |
| Montana | ✓ | | | | | | |
| Nebraska | ✓ | | | | | | |
| Nevada | ✓ | | ✓ | | | | |
| New Hampshire | ✓ | | | | | | |
| New Jersey | ✓ | | ✓ | | | | |
| New Mexico | ✓ | ✓ | | | | ✓ | |
| New York | ✓ | | | | | | |
| North Carolina | ✓ | ✓ | | | ✓ | | |
| North Dakota | ✓ | | | | | | |
| Ohio | ✓ | | | ✓ | | | |
| Oklahoma | ✓ | ✓ | ✓ | | ✓ | ✓ | |
| Oregon | ✓ | | | | | ✓ | |
| Pennsylvania | ✓ | | ✓ | | | | |
| Rhode Island | ✓ | | | | | | |
| South Carolina | ✓ | ✓ | ✓ | | | | |
| South Dakota | ✓ | | | | | | |
| Tennessee | ✓ | ✓ | ✓ | | | | |
| Texas | ✓ | ✓ | ✓ | | ✓ | | |

| | ASTHO Healthy Babies Initiative | Collaborative Improvement and Innovation Network (CoIIN) to Reduce Infant Mortality | Strong Start for Mothers and Newborns Initiative | Partnership to Eliminate Disparities in Infant Mortality | Medicaid Peer Learning Collaborative on Women's Health | Optimizing Health Reform to Improve Birth Outcomes Action Learning Collaborative (Phase I) | NGA Learning Network on Improving Birth Outcomes (Phase I) |
|---|---|---|---|---|---|---|---|
| Utah | ✓ | | | | | | |
| Vermont | ✓ | | | | | | |
| Virginia | ✓ | | ✓ | | | | |
| Washington | ✓ | | | | | | |
| West Virginia | ✓ | | | | | | |
| Wisconsin | ✓ | | | ✓ | | | |
| Wyoming | ✓ | | | | | | |

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