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March of Dimes

# *Healthy Babies are Worth the Wait®*

Community Program

Location: Kentucky (pilot site)
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Category: **Best Practice**

| TITLE V/MCH BLOCK GRANT MEASURES ADDRESSED |
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| **#2:** Percent of cesarean deliveries among low-risk first births<br><br>**#14**: A) Percent of women who smoke during pregnancy and B) Percent of children who live in households where someone smokes |

## BACKGROUND

In 2005-2006 when this initiative was being planned, preterm birth had risen steadily by more than 30% over the previous two decades in the United States, peaking at 12.8% in 2006. Since then, the preterm birth rate has decreased more than 8% to 11.7% in 2011. Despite the decrease, nearly half a million babies are born preterm each year, and 70% of these are late preterm.

Kentucky's preterm birth rate was above the national average and was driven by late preterm births. There was a rapid increase in preterm births in the three years prior to Healthy Babies are Worth the Wait (HBWW) initiation. There were also high rates of modifiable risk factors such as smoking. Nationally, prematurity costs our country more than $26 billion annually. It also is the leading cause of newborn death; babies who survive an early birth often face the risk of serious lifetime challenges, such as respiratory problems, cerebral palsy and intellectual disabilities. Approximately 48% of hospital stays for preterm infants were financed by Medicaid in 2007. Hospital costs for these babies averaged $45,900. Multiple recent studies indicate that elective deliveries <39 weeks carry significant increased risk for the infant. Complications of elective deliveries between 37 and 39 weeks include increases in NICU admissions, transient tachypnea of the newborn, respiratory distress syndrome, ventilator support, suspected or proven sepsis and newborn feeding problems.

## PROGRAM OBJECTIVES

The overall goal was to decrease the preterm birth rate by 15% in targeted sites in Kentucky. The program objectives were as follows:

- Patients: Build systems and stronger linkages between public health and clinical care for supports and services to address comprehensive care and modifiable risk factors. Create positive changes in knowledge and attitudes regarding preterm birth with a focus on late preterm birth.
- Perinatal Providers: Create positive changes in knowledge, attitudes and behaviors regarding adherence to professional guidelines on preterm birth prevention (especially late preterm birth) and elective inductions and cesareans.
- Public (Community): Increase awareness of the importance of preventing preterm birth and the risks associated with late preterm birth.

## TARGET POPULATION SERVED

The project was implemented in three communities in Kentucky. Each community or site was comprised of the local Health Department, the hospital where women delivered their babies, the March of Dimes chapter, and the surrounding community. These intervention sites were matched with a comparison site of similar birth population in similar geographic areas. The power analysis required 6,000 births per year to achieve statistical significance; 3,000 in the intervention sites and 3,000 in the comparison sites. The project sites exceeded these numbers.

Kentucky was selected for the pilot because of its elevated preterm birth rate (above the national average); the rapid increases in preterm birth and late preterm birth that the state had experienced over the 3 years prior to the initiation of HBWW; leaders in the state's perinatal community who were committed to addressing preterm birth; high rates of modifiable risk factors such as smoking.

## PROGRAM ACTIVITIES

HBWW was a 3-year initiative (2007-2009) that used a multi-faceted, "real world," ecological design and evidence-based clinical and public health interventions to prevent late preterm birth. The HBWW program used existing evidence-based clinical and public health interventions to address preventable preterm birth. The innovative design of HBWW is based on major concepts of health promotion and prevention that are applicable to prematurity prevention: 1) multiple determinants of health; 2) the ecological model; 3) the common complex disorder cubed; 4) the life-course

perspective model of health development; and 5) quality improvement.

HBWW is based on the 5 P's: partnerships and collaborations, provider initiatives, patient (women of childbearing age) support, public (community) engagement, and performance (measuring progress) evaluation. Each site must incorporate elements of each of the 5 P's.

Multiple interventions, selected for their likelihood of success within the 3-year timeframe, were bundled together to address each site's most salient issues. The practice of customizing bundled interventions for each site is the hallmark of the HBWW initiative. Site implementation teams comprised of representatives of the health departments and hospital were critical in selecting and implementing interventions following strengths and needs assessment. In all sites, partners made efforts to build stronger systems of care and linkages between clinical and public health providers and programs, providing patients with comprehensive and consistent care and messaging for psychosocial, as well as clinical needs

Selected activities include: form Local Advisory Committees to inform the work; ongoing comparison of current practice to new science and best practice; identifying and addressing gaps in the system of care; education of providers, patients, and public about new information around prematurity and risks of early births; implement evidence-based practices (both clinical and public health); strengthen system of care; and measure progress.

Examples of HBWW Prematurity Prevention Programs and Services are:

- Quality improvement activities to eliminate non-medically indicated inductions & cesarean births before 39 weeks
- Prenatal care clinical services
- Progesterone to reduce chances of repeat preterm birth
- Group prenatal care/ CenteringPregnancy
- Infection diagnosis and treatment
- Preconception and interconception care
- Folic acid consumption
- Access to referral services and social support services
- Prenatal and Early Childhood Home visiting
- Cultural & Linguistic competence/Health literacy
- Psychosocial screening per ACOG guidelines
- Nutrition and healthy weight
- Periodontal disease treatment
- Stress management
- Screening and referrals for substance abuse treatment and counseling, including smoking and drug and alcohol use

The Executive Leadership Team and stakeholders met regularly to share information and obtain feedback and examine lessons learned. Small successes and seeing their local prematurity rates decrease energized the teams. HBWW sites in Kentucky continue to meet regularly to learn from one another.

Though the demonstration project period has ended, the HBWW program continues, has expanded, and is now in eight sites in Kentucky.

**PROGRAM OUTCOMES/EVALUATION DATA**

HBWW-KY evaluation used an ecological design in which the unit of analysis was the aggregated results of the intervention and comparison groups rather than individual hospitals, patient, or providers. There were three intervention and three comparison sites.

Outcome data were collected through several methods: 1) consumer and perinatal provider surveys on knowledge, attitudes and behaviors related to preterm birth, 2) Annual surveys of the policies and environment in the health care settings and in the communities, 3) analysis of local data of referrals and hospital birth logs, and 4) analyses of birth certificate data (on preterm birth and rates and other outcomes) provided by the Kentucky Department for Public Health. An evaluation team compared data prior to implementation, over the study period, and at follow-up.

Before HBWW implementation, Kentucky had increasing preterm birth rates. Mid-way through the HBWW project, Kentucky had the largest drop in preterm birth rates of any of its contiguous states. Although final results have not yet been released, preliminary results indicate declines in preterm and late preterm singleton births in the interventions sites. Results from pre- and post-test surveys indicate positive changes in perinatal providers' and patients' knowledge, attitudes and reported behaviors relevant to preterm birth in the intervention sites. Some of the most compelling outcomes are anecdotes from women and perinatal providers. HBWW successfully built relationships, partnerships and collaborations that resulted in enhancement of services and patient care.

**PROGRAM COST**

Original costs were $1,420,000 for staff, training, meetings, grants to partners, printed materials, travel, and evaluation for three years. No cost per client calculation was done. For sites seeking to replicate the practice, a budget of $85,000 per site per year is estimated. Partnerships are extremely important; therefore, the coordinator's role is vital for bringing on partners and managing relationships and activities. The project has since been expanded beyond Kentucky; and, to date, each city where we have implemented HBWW has had multiple sites. Newark has two sites and Houston has three. There is an economy of scale in this case, and thus it would not cost $85,000/year for each site if you had multiple sites with one coordinator.

## ASSETS & CHALLENGES

*Assets:* Although the rising rate of preterm birth was the primary impetus for this initiative, partners March of Dimes, Johnson & Johnson, and Kentucky Dept. for Public Health chose Kentucky as the site of the pilot in part because of the strong state Kentucky Perinatal Association. The practice was implemented as intended and constantly examined and evaluated.

*Challenges:* One of the challenges was being flexible enough to make the project work in sites that were very different in the ways they provided services. Another challenge was maintaining a critical level of activities with limited budget support.

*Overcoming Challenges:* We held regular phone calls and in-person meetings to engage partners. It helped to have physician champions (at least one from each agency) and representatives of administration to support HBWW implementation in their institutions. We also provided financial incentives to institutions for their participation in the project and for data collection. Partners invested their energies in this initiative because they felt they were making a difference. For future programs, we encourage clearly defining expectations in an agreement or contract so that all parties understand expectations and deliverables.

## LESSONS LEARNED

March of Dimes plans to keep the essential elements of the pilot project and expand the HBWW program in additional sites in the future. Rather than having intervention and comparison sites, HBWW will be implemented in communities as a March of Dimes chapter-managed program. Each program will incorporate elements of each of the 5 P's: partnerships and collaborations, provider initiatives, patient (women of childbearing age) support, public (community) engagement, and performance evaluation. The goal will continue to be the integration of quality clinical services with public health supports and services for pregnant women to create comprehensive systems of care that lead to improved outcomes, including the reduction of preterm birth.

## FUTURE STEPS

Sustainability is built into HBWW as it fosters partnerships, communication and policy change that become standard of care in hospitals, health departments and clinics where HBWW is implemented. The Kentucky chapter of the March of Dimes, with support from the national office, manages the eight HBWW sites in the state. Now a signature project of the March of Dimes, HBWW will be implemented in additional sites with leadership from March of Dimes and in conjunction with our partners.

## COLLABORATIONS

The HBWW demonstration project was jointly funded by March of Dimes and Johnson & Johnson and conducted in collaboration with the Kentucky Department for Public Health. All these partners plus the hospital and health department partners were vital in implementing this initiative.

## PEER REVIEW & REPLICATION

An article which contains final data has been submitted for publication. HBWW-Kentucky has been presented at numerous conferences including March of Dimes Prematurity Symposium (2012), APHA (multiple years), AMCHP, NPA, and others.

All three comparison sites have implemented the program and two additional sites have been added, bringing the total to eight sites in the state of Kentucky. March of Dimes has launched three HBWW sites in Houston, Texas. March of Dimes, with a grant from Johnson & Johnson, has launched two sites in a demonstration project in Newark, New Jersey to adapt HBWW for an urban African-American community. March of Dimes plans to continue to implement HBWW throughout the US.

## RESOURCES PROVIDED

The HBWW Implementation Manual was posted on the Prematurity Prevention Resource Center (PPRC) www.prematurityprevention.org

The Kentucky Tool Kit for Community Education on Prematurity Prevention was also posted.
March of Dimes consumer education materials on preterm birth and healthy birth outcomes are available through its catalog and on line at www.marchofdimes.com/catalog.

**Key words: Birth Outcomes, Preterm Birth, Prenatal Care, Primary/Preventive Health Care, Reproductive Health, Access to Care, Family/Consumer Involvement, Service Integration/Coordination, Health Promotion, Birth Defects Prevention, Health Screening, Health Inequity/Disparities, Intentional/Unintentional Injuries, Mental Health, Nutrition & Physical Activity, Oral Health, Quality Assurance, Substance & Tobacco Use**

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This program was highlighted at AMCHP's 2015 Annual Conference with a Best Practice award.