

Taking a Lead Role in Preconception Health Promotion in Eastern North Carolina

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Eastern North Carolina, which makes up Perinatal Care Region VI (PCR VI), experiences a disproportionate share of the state's poor maternal and infant health outcomes. In 2008, women in this region had the highest infant mortality rates in the state (11.4 deaths per 1000 live births vs. 8.2 for the state as a whole).¹ The minority infant mortality rate was also higher than the rest of the state, 17.5 vs. 13.5, and the same held true for white infant mortality, 7.9 vs. 6.0. The teen pregnancy rate for PCR VI is also higher than all the other regions and higher than the state rate, 73.8 pregnancies per 1,000 teens vs. 63.0. In addition, the women in this region had high rates (14%) of short birth intervals, defined as six months between birth and the next conception, and high rates of unintended pregnancy (54%), for pregnancies resulting in live births.

In this article we provide three examples of programs intended to reduce these rates and which incorporate preconception health in different areas—social marketing and training, worksite wellness, and case management. These projects are currently working with men and women of childbearing age in eastern North Carolina to improve their health and the health of their children.

Project Component 1: Preconception Health and Social Marketing and Training: North Carolina's First Time Motherhood/New Parent Initiative

North Carolina's First Time Motherhood/New Parent Initiative is funded by the US Health Resources and Services Administration's (HRSA) Maternal and Child Health Bureau.

The priority population for this initiative is men and women ages 15–29 who may be disproportionately affected by adverse pregnancy outcomes with a focus on racial and ethnic minorities. The project area includes six northeastern counties: Edgecombe, Gates, Halifax, Hertford, Nash, and Northampton. The partnering agencies on this initiative include the Division of Public Health's Women's Health Branch, the North Carolina Healthy Start Foundation, the North Carolina Family Health

Resource Line, the University of North Carolina at Chapel Hill Center for Maternal and Infant Health, March of Dimes, the Folic Acid Council, six local health departments, the state WIC program, the Center for Health and Healing, and the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill.

The grant activities include a social marketing campaign which includes radio and TV advertisements and other promotional materials that encourage families to have a reproductive life plan. In a reproductive life plan, men and women consider whether or not they want to have children, the timing and spacing of their pregnancies, and how they will prevent a pregnancy until they are ready. It also includes setting goals to improve their personal health so that they will have a better chance to have a healthy baby. This message of reproductive life planning is incorporated with the promotion of the North Carolina Family Health Resource Line, the state's Title V hotline that provides information on maternal and child health services, in addition to family planning and primary care services.

This social marketing message, *Are You Ready? What's Your Plan?* is integrated into existing programs that currently provide

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services to men and women of childbearing age. This integration is done through preconception health training sessions on three different levels—health care provider, faith-based community, and community outreach worker.

The *Are You Ready? What's Your Plan?* social marketing campaign was launched in June 2009 and ran for four weeks. Public service announcements were aired in the six county project area on five different radio stations. A TV advertisement was also aired on 15 different cable network channels during the same four-week period. In that month, over 80 health care providers from local health departments and private agencies participated in training sessions that covered reproductive life planning, the Medicaid Family Planning Waiver, folic acid, cultural competency, and health literacy. Simultaneously, UNC Chapel Hill's Center for Maternal and Infant Health updated its www.everywomannc.org website to enhance preconception health resources available to patients and providers, including the current national preconception health provider curriculum and all the materials used in these health care provider training sessions.

The health departments in the project region utilized project funding to update their waiting areas and make them more welcoming for men. They have also purchased educational materials and equipment to promote reproductive life planning and preconception health. Other promotional items, including educational brochures and health journals promoting reproductive life planning, have been developed and updated as part of this grant initiative. Some of these items will be used in the faith-based and community outreach worker training which will take place this fall and will cover regular screenings and check-ups, healthy living, stress, depression, domestic violence, and reproductive life planning.

The statewide North Carolina Family Health Resource Line staff has been actively promoting the Family Planning Medicaid Waiver, family planning services, and primary care services to all Health Check/Health Choice callers in addition to callers who inquire specifically about these services. The staff is actively tracking call data and paying specific attention to calls from the eastern North Carolina project area for tracking purposes.

The project's advisory committee, made up of 25 members including consumers and representatives of local partnering agencies, provides input into project plans and activities on a regular basis. A separate faith-based advisory committee, made up of members of different congregations in the project area and partnering organizations, was formed to develop the faith-based curriculum and coordinate the faith-based training efforts. The key to the success of this project has been the widespread participation of many communities in the project area. Over 70 members of these communities, ages 15-29, have participated in surveys and focus group testing for different project materials at high schools, community colleges, and community organizations.

The first year grant activities are currently being evaluated on an individual and population-level. The goal of the project is to reach the majority of the 50,280 men and women ages 15-29 who live in the six county project area. It is the hope that

these men and women will begin to integrate the message about reproductive life planning and preconception health into their lives and take steps to live healthier lives and have healthier babies.

The evaluation will focus special attention on tracking changes in awareness, knowledge, service utilization, and health status indicators related to reproductive life planning and preconception health. New funding can be used to support the replication of these grant activities throughout the state. All of the grant products will be available online for use and adaptation by individuals and organizations to promote preconception health.

Project Component 2: Preconception Health and Worksite Wellness: Pitt Infant Mortality Prevention Advisory Council

The Pitt Infant Mortality Prevention Advisory Council (PIMPAC) was founded in 1990 to address Pitt County's high infant mortality rates, which have historically surpassed the state's rates. The 90-member group is a collaborative effort among the Pitt County Health Department, Pitt County Memorial Hospital, Brody School of Medicine, East Carolina University, Pitt County schools, local human service and nonprofit agencies, businesses, media, community groups, and consumers. PIMPAC meets quarterly to review programs, services, and strategies designed to help improve Pitt County's birth outcomes.

Since its origin, PIMPAC has received numerous grants to support initiatives that link women and children with family planning, prenatal, and child health services. From 2003-2006, PIMPAC received funding from the March of Dimes to support an infant mortality community awareness campaign, with a focus on prematurity prevention and preconception health promotion. The decision to implement this campaign among employees of local fast food restaurants, department stores, and industries was based on data previously collected from client interviews and client medical records. These businesses employ a large number of individuals of childbearing age.

PIMPAC members engaged in active dialogue with the management of these businesses to discuss Pitt County's infant mortality problem and the relationship between planned pregnancies and potential reductions of employee health insurance costs and employee absenteeism, in addition to improvements in birth outcomes for employee's children. Twelve businesses partnered with PIMPAC, and council members conducted on-site presentations and health fairs on preconception health for their employees during breaks, lunch hours, and staff meetings. Approximately 900 employees were reached through this project.

In 2008, PIMPAC implemented a more comprehensive awareness campaign providing opportunities for men and women of childbearing age to attend a series of presentations that focused solely on preconception health issues. The March of Dimes funded this campaign for Pitt County participants of the national Support and Training Result in Valuable

Employment (STRIVE) program, a job-training program designed to help individuals prepare to enter the workforce and develop self-sufficiency skills. Monthly preconception health presentations were conducted for participants of STRIVE and are now part of their required training schedule in Pitt County.

This campaign also involved the Convergys Corporation, a customer contact center located in Greenville, North Carolina, that employs over 300 individuals, the majority of whom are women of childbearing age. After a two-day program kick off at Convergys to explain the reproductive life planning concept, employees registered to attend a series of preconception health sessions. Each session was then conducted three to five times over an eight-week period.

Topics for both the STRIVE and Convergys programs included: physical activity and health; nutrition, including adequate fruit and vegetable consumption; multivitamins and folic acid; family genetic history; drugs, alcohol, and tobacco; the North Carolina Family Planning Medicaid Waiver; stress management; condom education; and sexually transmitted disease prevention

Gym bags, personalized with the preconception health message "Taking Care of Me, Planning For My Future," were distributed to 145 Convergys employees and 60 STRIVE members for their participation in the training sessions. These gym bags were selected to help promote the importance of physical activity and weight management as a component of reproductive life planning. Following the campaigns, employees who were in need of additional information contacted PIMPAC representatives and enrolled in health care services as needed. Local businesses have also requested additional on-site programming and services for their employees. PIMPAC continues to conduct programming for local businesses and implemented a preconception health awareness campaign for employees of DSM Pharmaceuticals/DSM Dyneema in the fall of 2009.

The evaluations completed by participants in the worksite preconception health awareness program in 2008 showed that 100% of participants learned new information regarding reproductive health and the majority plan to either make some behavior change or encourage a friend or family member to make a behavior change that will improve their current health status. These behavior changes include taking multivitamins with folic acid, increasing physical activity, incorporating more fruits and vegetables in their diet, and decreasing risk behaviors related to tobacco, alcohol, and illicit drugs. They also include implementing stress management strategies, increasing condom use, and seeking health services.

The partnership formed between PIMPAC and the local business community has provided numerous opportunities to reach families of childbearing age who are not linked with a medical home and who are not aware that their current lifestyles affect the health of their future children. The increased level of awareness among business leaders has empowered them to join PIMPAC's ongoing mission to comprehensively address the problem of infant mortality in Pitt County and may have contributed to the county's 32% decline

in the overall infant mortality rate since 1990 (based upon five-year averages).

Project Component 3: Preconception Health and Case Management: North Carolina Healthy Start Eastern and Northeastern Baby Love Plus Programs

The Eastern Baby Love Plus (BLP) program in North Carolina was established in seven eastern counties (Bertie, Edgecombe, Greene, Martin, Pitt, Tyrrell, and Washington) in 1997. The Northeastern Baby Love Plus program was established in five northeastern counties (Gates, Halifax, Hertford, Nash, and Northampton) in 1999. These counties were chosen because of their high rates of infant mortality and perinatal health disparities in the state. These programs are two of 102 projects supported by a Healthy Start Eliminating Disparities in Perinatal Health grant awarded by HRSA's Maternal and Child Health Bureau (MCHB). The goal of these programs is to reduce infant mortality and eliminate perinatal health disparities by improving the health of mothers and infants, with a specific focus on African American and American Indian communities.

The BLP program supports interventions provided by local health departments to women of childbearing age and their families who are at risk of future poor birth outcomes and short interconceptional periods. Services include outreach and recruitment by community health advocates (CHAs) to identify and enroll pregnant and postpartum women into perinatal health services. The CHAs also provide health promotion and education to program participants and community members.

Care coordination and supportive counseling are provided by family care coordinators to assist program participants in addressing interconceptional health care needs, including linking women and children to medical homes. These interventions have addressed barriers and enhanced coordination within local perinatal systems of care, promoted healthy pregnancies, and brought critically needed resources to this section of the state.

A critical element to the success of the BLP program is the commitment and involvement of community members and program participants. Two effective strategies have been employed to engage these key stakeholders—hiring consumer advocates and establishing regional consortiums. First, consumer advocates (one in each program region) conduct outreach, recruitment, and education in an effort to engage and promote consumer involvement. Consumers are the voice of BLP. Each consumer advocate serves as a conduit to the consumers. The consumer advocates live in the respective region, are aware of the needs of local community, and are adept in communicating the consumers' concerns to the regional consortiums.

Secondly, the BLP program has active regional consortiums that function as the planning, coordinating, and networking body for the program. Each consortium develops policies, implements activities, and makes decisions about program

implementation. Consortium members include program participants, health department representatives, community and faith-based organizations, and other community members. These members work together to mobilize policy change and support community leaders as they address infant mortality, women's health, and community issues.

Presently, BLP is engaged in a three year Interconceptional Care Learning Collaborative Initiative, spearheaded by the MCHB. Each BLP region, in collaboration with program participants, local and regional program staff, and other key stakeholders, is preparing to pilot a short-term change project. Each project will address one of six interconceptional care core concept areas: interconceptional care case management; interconceptional care risk screening; family planning and reproductive health; primary care linkages; maternal depression; and healthy weight.

Upon completion of the intensive "plan, study, act, and do" action period, each region will review and eventually institutionalize the changes that were piloted. This process will be repeated three times between 2009 and 2011. The overall goal of this initiative is to enhance service quality and increase the retention rate of participants enrolled during Baby Love Plus's two-year interconceptional care services.

The heart of the North Carolina BLP program is the belief that the community, guided by consumers, community members, and organizations from various sectors, can best design and implement services in their community. The Eastern BLP and Northeastern BLP programs are currently providing services to over 1,000 women. In a typical year, community health advocates make over 53,000 individual contacts in priority communities, delivering messages about services and support. They also make almost 4,000 presentations to business, civic, church, and social groups annually. They make almost 12,000 referrals for at-risk families to essential services that will improve their chances for a healthy birth outcome. The Baby Love Plus program provides almost 3,000 transportation vouchers to 1,100 women to help increase access to medical services for the participants and their children. In a typical year, family care coordinators provide case management services to 300 high-risk postpartum women.

The Baby Love Plus program has resulted in reductions in disparities in both use of services as well as improving outcomes in such areas as infant mortality when the pre-program period, 1995-1999, is compared to 2002-2006, after the program was fully implemented. The minority infant mortality rate in the 14-county service region dropped by 9.5%, along with a more than 10.5% reduction in the disparity rate for whites and minorities.² These results are significant because

North Carolina's overall infant mortality disparity rate increased during the same time period.

In addition, the rates of neonatal death have improved for minorities in the Baby Love Plus counties, resulting in a 13.6% decrease in overall disparity during 2002-2006. There has also been an improvement in the percentage of women who enrolled early in prenatal care in the Baby Love Plus regions, with a 42.9% disparity reduction during this same time period.

There are two other Healthy Start Programs in North Carolina, the Triad Baby Love Plus program and UNC Pembroke's Healthy Start Corps. These programs are based on a similar model and have also been successful in improving perinatal health outcomes.

North Carolina's infant mortality rate has declined by 35% from 1988-2008. Infant mortality is a complex issue and many programs have contributed to its' decline. A key program in these efforts has been the highly successful prenatal case management program, Baby Love. Baby Love services were enhanced by Baby Love Plus services starting in 1997 in 14 eastern, northeastern, and triad region counties. It is anticipated that the funding for the Baby Love Plus program will continue and possibly be expanded to other areas of the state.

Since many men and women of childbearing age are in the workforce, programs like PIMPAC's worksite preconception health programs will continue to reach this population. Businesses are beginning to sustain these programs by providing internal financial and programmatic support. PIMPAC is seeking funding to expand these worksite preconception health programs to new businesses in Pitt County in the future. The First Time Motherhood/New Parent Initiative is beginning its second year of activities and HRSA's Maternal Child Health Bureau plans to offer continued funding of state preconception health initiatives in the future.

Many women in North Carolina are entering pregnancy with risk factors that affect their health and the health of their babies. These include overweight and obesity, high blood pressure, and diabetes. They have risk behaviors of tobacco, alcohol, and illicit drug use. In addition many suffer from poor mental health and are uninsured, impeding access to needed health services. The high rate of unplanned pregnancies in North Carolina (40%) also contributes to medical problems for both women and their infants.

Many programs, such as the three highlighted above, are promising best practices that can improve the health of women before, between, and beyond pregnancy, bringing the goal of healthy children and healthy families within closer reach. **NCMJ**

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