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**Initiative to Improve Birth Outcomes in Tennessee
Report to the Legislature
December 2011**

In 2006, the General Assembly allocated funding for the Women's Health for Underserved Areas Initiative and the Infant Mortality Initiative. These programs were administered by the Governor's Office of Children's Care Coordination until July 1, 2011, at which time contracts for continuing programs were transferred to the Department of Health. Pursuant to Public Chapter 963 (2006), this report contains information on projects funded through the Women's Health and Infant Mortality appropriations. This report includes updates on activities during the period of July 1, 2011, through September 30, 2011.

Centering Pregnancy at Dodson Clinic (Hamilton County)

The Chattanooga/Hamilton County Hospital Authority, through the Erlanger Health System, has grant funding through June 30, 2012, to improve prenatal care services and capacity using the Centering Pregnancy model of group prenatal care at Dodson Avenue and Southside Community Health Centers. These clinics provide health care for medically underserved and at-risk families. The goals of this project are to increase utilization of prenatal care and assist in efforts to reduce disparities in birth outcomes in Chattanooga. Site certification for Centering Pregnancy is scheduled to occur in 2012. The official start of the first Centering pregnancy group session was December 2010. In the first quarter of this year, 57 pregnant women were provided services; 34 were African-American, 13 Hispanic, and 10 Caucasian; 40 were ages 21 to 34; 44 were on TennCare; and 10 were on CoverKids. There were 11 births, all singleton and all over 2500 grams in weight; 9 were 37-40 weeks gestation, one 33-36 weeks, and one over 41 weeks. Centering Pregnancy in Spanish was started during this quarter, and the agency has approval to add the second certified nurse midwife so that they can open the Southside location.

Centering Pregnancy at Christ Community Health Services (Shelby County)

In 2008, a three-year grant was awarded to Christ Community Health Services in Shelby County for the development and implementation of the Centering Pregnancy model of prenatal care in Shelby County. This contract will end December 31, 2011. Since the initiation of the Centering Pregnancy prenatal care program at the Broad Avenue Health Center in June 2008, 352 women have been enrolled. Seventy-seven percent of the enrollees are from their target population of African American women.

Among women who have attended at least one session, there have been 269 live births, with a preterm rate (<37 weeks) of 7.4% (20 births) and a low birth weight rate (<2500 grams) of 9.8%. As women attend more sessions, the outcomes improve. For women attending 3 or more sessions (255), the preterm birth rate was 5.5%, and the low birth weight rate was 6.3%. For African American women attending 3 or more sessions, the rate was 4.9% for preterm births and 6.9% for low birth weight. Women who attended 5 or more sessions (219) showed the greatest improvement in birth outcomes at 4.1% preterm births and 5.9% low birth weight. For African American

women attending 5 or more sessions, the rate of preterm births was 4.0% and the rate of low birth weight was 6.3%.

Centering Pregnancy and Nutrition Support Services at Meharry Medical College (Davidson County)

A three-year project to implement the Centering Pregnancy model of prenatal care and to provide nutrition support services in the Meharry Medical College WIC clinic is scheduled to end June 30, 2012. National certification from Centering Pregnancy was received May 2011 after a very favorable site visit. Four staff from the Centering Pregnancy program attended the national meeting (the Centering Healthcare Institute Conference) in Chicago. During the first quarter of FY 2012, 111 pregnant patients were served; the majority of which were African-American and Hispanic. One hundred and ninety-four patients were served by the project Social Worker.

The program sponsored a day long site visit with a certified nurse midwife from the New Millennium OB/GYN Clinic in Riverdale, Georgia, observing the program and determining how to set up a Centering Program in their clinic. The project is continuing to participate in the evaluation of Centering Pregnancy sites being conducted by Vanderbilt/Peabody.

The WIC Nutrition clinic reopened during this quarter after being closed due to personnel hiring difficulties. The WIC Clinic had a grand re-opening which was well attended by the community.

Smoking Cessation and Substance Abuse Case Management, Dayspring Family Health Center (Claiborne and Campbell Counties)

Dayspring Family Health Center in Jellico was awarded a three-year contract in 2008 to implement an evidence-based smoking cessation program (5A Model) for pregnant women in Claiborne and Campbell counties. Rates of smoking are between 35 and 40 percent in the area. Due to the success of the services being provided, the contract was extended until December 31, 2012. For the quarter July-September 2011, the program provided the following services:

- Served 19 pregnant women who were smokers
- Served 11 pregnant women who were substance abusers
- Trained 13 health care workers in the 5A model
- Conducted 254 office outreach visits
- Conducted 7 phone outreach visits
- Issues encountered during the visits were: smoking (103); alcohol/drugs (62); financial difficulties (20); teen pregnancies (55); and domestic violence (1)
- Staff have seen an increase in patients and patient needs. Patients in our area are struggling with financial problems.
- A new case manager has been hired for the Indian Mountain Clinic.

Tennessee Intervention for Pregnant Smokers (TIPS), ETSU (Northeast Tennessee)

Funded until June 30, 2012, the TIPS program is providing an evidence-based smoking cessation program (using the 5A Model) for pregnant women in six counties of the Northeast Tennessee region. These counties have the highest rate of smoking among pregnant women in the state. This model has been shown to improve smoking cessation rates by 30-70 percent. The two primary tasks of TIPS are to train prenatal care providers to provide brief smoking cessation counseling and assistance to pregnant patients, and to provide ongoing case management services and smoking cessation assistance to high-risk pregnant women.

During the first quarter of FY 2012, the TIPS Program enrolled 115 new pregnant smokers at 5 different prenatal practices, bringing to over 3,100 the number of pregnant women who have received TIPS case management services since 2007. All of the enrollees who delivered this quarter received at least four case management sessions addressing their smoking, and a record-setting 31% of them had quit smoking by delivery. Also in this quarter, an additional 18 children born to women who have participated in the TIPS program have been developmentally tested at 15 months of age (of 129 total to date). Project findings were submitted for presentation at two national scientific meetings (Society for Behavioral Medicine, Society for Research in Nicotine and Tobacco) and one regional meeting (Women's Health Across the Lifespan). In addition, 102 fourth-year nursing students were trained in brief intervention with pregnant smokers, and a group session for pregnant smokers was conducted at a regional residential treatment facility. Finally, a grant application was developed and submitted to the National Institutes of Health (NIH) to fund continued follow-up of the children of our participants.

Centering Pregnancy, Community Voice, and Core Leadership Group Coordinator, Shelby County Government (Shelby County)

Shelby County Government was awarded funding through June 30, 2013, for the Shelby County Infant Mortality Reduction Initiative. The funds are being used for the Core Leadership Coordinator who oversees their infant mortality reduction activities within the community, works to increase community awareness and support, and is the liaison with community partners and the State. Community Voice is a grassroots, community education program in the Hickory Hills area of Memphis designed to improve birth outcomes and maternal and infant health in African-American communities. Funding is also being used for implementation of the Centering Pregnancy Program (an evidence-based model of group prenatal care) at the Regional Medical Center; this model has demonstrated increased patient satisfaction of prenatal care, increased attendance at appointments, and improved birth outcomes.

The Infant Mortality Reduction Initiative (IMRI) is a three prong project that includes implementation of the Community Voice program by the Hickory Hill Community Redevelopment Corporation (HHCRC), a continuation of Centering Pregnancy program by University of Tennessee Medical Group (UTMG), and an evaluation of Community

Voice by the University of Memphis, Center for Research on Women (CROW). Activities conducted within the first quarter of the project are as follows:

Phase one and two of the Community Voice implementation timeline was completed by the HHCRC which included hiring staff, identifying community stakeholders, surveying priority zip code communities, developing recruitment plans, contact databases, and training formats and schedules, identifying data to be collected and a system for tracking, conducting training for staff and volunteers, commencing outreach initiatives and partnership development, and initial recruitment and training of lay health advisors (LHA).

On August 11-12, 2011, members of the HHCRC and the CROW met at the Hickory Ridge Mall for training with Ann Scott, Community Voice Program Coordinator for the South Central Perinatal Council in Lynchburg, Virginia. During day one of the training, Ms. Scott presented participants with a detailed history of the birth of the Community Voice program, including a list of the other cities using the Community Voice program. Day 2 of the training focused on the procedures for the first training sessions. Participants were asked to take the Pre Knowledge Test before reviewing the topics covered in session one. Each of the HHCRC staff members were asked to “practice” teaching portions of session to familiarize themselves with the course material.

As of September 30th, 234 contacts have been made through Community Voice; one class has been held in which 3 LHAs completed training; and five classes have been scheduled at five different locations with 79 prospective attendees.

During the first quarter, 19 Centering Pregnancy classes were completed and 9 were in progress. Seven (7) are scheduled to begin in the second quarter. Seventy-five (75) participants were enrolled during the first quarter, and of those, 33 were between 14 and 19, 37 were between 20 and 20 and 7 were over 31 years of age. Participants were 91% African-American, 4% Hispanic and 5% white. Fifty-nine (59) participants completed and have delivered. Outcomes are listed below. As of September 30th, 98% of the 54 births to Centering Pregnancy clients were considered full term and full weight. Only 1 (2%) baby born was considered low birth weight. Eighty-one percent (81%) of the mothers attempted to breast-feed their children immediately after delivery and 52% of those mothers were still breastfeeding at six weeks. Ninety-one percent (91%) of the mothers completed their six week post partum check up.

Statewide Centering Pregnancy Evaluation, Peabody Research Institute (Statewide)

In February 2010, a two-year contract was initiated with the Peabody Research Institute at Vanderbilt University to evaluate the effectiveness of the five Centering Pregnancy sites in Tennessee which have received or are receiving state funding for their programs. Birth outcomes from women who received their prenatal care via the Centering Pregnancy model are being compared to those who received traditional prenatal care. Data collection is currently taking place. A final report will be available by February 2012.

Between July 1, 2011 and September 30, 2011, staff at the Peabody Research Institute maintained correspondence with clinic staff at five sites to monitor data collection for the evaluation of the Centering Pregnancy prenatal care programs across the state of Tennessee. As of September 30, 2011, the Peabody Research Institute has collected complete demographic, medical history, and birth outcome data for 780 obstetrics patients at Christ Community Health Services in Memphis, TN; 81 patients at Erlanger Dodson Health Clinic in Chattanooga, TN; 195 patients at Meharry Medical Hospital in Nashville, TN; 5,673 patients at Vanderbilt University Medical Center in Nashville, TN; and 389 patients at Women's Wellness Maternity Center in Madisonville, TN. In addition to ongoing data collection monitoring, staff at the Peabody Research Institute have also been cleaning and recoding data received in this quarter and prior quarters, ensuring data quality and comparability across the five sites.

Chattanooga-Hamilton County Health Department Infant Mortality Coordinator (Hamilton County)

The Chattanooga-Hamilton County Health Department was awarded funding in November 2010 for an Infant Mortality Coordinator to provide local leadership, coordinate infant mortality reduction activities in the county, assist in the development of a community response, and coordinate the activities of the Core Leadership Group (CLG). The funding also provides for a public health educator to identify high risk pregnant women, educate on the benefits of early prenatal care, assist patients with follow-up and referrals, and coordinate with private providers.

During the first quarter of FY 2012, activities have included:

- (1) The Core Leadership Group (CLG) continues to work to bring awareness of issues related to poor birth outcomes. The CLG meets bi-monthly; so far, they have discussed obesity and pregnancy, mental health issues, and preconception health. In September the CLG updated the local Healthy Babies Resource Guide, which includes information on local resources providing services to pregnant women, children, and families.
- (2) The CLG continues to work with the local Fetal Infant Mortality Review (FIMR) Project to address recommendations from the Case Review Team. The CLG meets bi-monthly as the FIMR Community Action Team; two workgroups are working on recent recommendations: (a) OB Provider Education/Awareness (compiling available resources); and (b) Patient Empowerment (drafted pregnancy passport document for pregnant women).
- (3) The Healthy Babies/Healthy Ladies program has monthly prenatal classes at the health department; one class was held the first quarter with 7 participants.
- (4) The health educator participates in monthly breastfeeding classes at two local health centers. She has participated in 6 classes this quarter.
- (5) Thirty-seven women were referred to the health educator for case management from the Family Planning Clinic.

- (6) Infant mortality outreach activities are focusing on infant mortality prevention, preconception health, family planning, and STI prevention. This quarter, the outreach team participated in 42 outreach events, reaching 2,314 participants.

Fetal Infant Mortality Review—FIMR (Davidson County, Hamilton County, Shelby County, and East TN Region)

In 2008, the Department of Health received funding to develop and implement pilot projects in four geographic areas for fetal and infant mortality review (FIMR). Using the national model for FIMR developed by the American College of Obstetrics and Gynecologists (ACOG), projects are operating in Shelby, Davidson, and Hamilton Counties and the rural counties of the East Tennessee Region. FIMR staff collect medical and social information on fetal and infant deaths in their areas and attempt to interview the mother. Collected information on the cases is presented to the Case Review Team for review. Findings and recommendations from the review of the cases are presented to the Community Action Team(s) for analysis and recommendations for action at the community level. Quarterly conference calls are held with staff from all four projects and the central office. In September, all FIMR projects met in Nashville in conjunction with the Project Blossom Conference to share their work, discuss issues and concerns, and explore the possibility of developing shared projects.

Tennessee Initiative for Perinatal Quality Care—TIPQC (Statewide)

The Tennessee Initiative for Perinatal Quality Care (TIPQC) began in 2007 to develop a statewide quality collaborative to improve birth outcomes in the state. The voluntary organization has grown to over 900 members, including perinatologists, neonatologists, hospitals at all levels of perinatal care, administrators, third party payors, state officials, and community constituents. Over 170 physicians, nurses, advocates, payors, hospital administrators, government leaders, and families met in March 2011 for the 4th Annual TIPQC Meeting to collaborate on ways to reduce infant mortality and morbidity. The meeting featured national speakers on health care reform and quality improvement, maternal mortality, hospital acquired infection, and optimizing the health of mothers and infants by systematically removing health care barriers to breastfeeding. Teams of obstetricians, pediatricians, nurses, hospital administrators, and parents from across the state met to share data-driven improvement experiences, select and design future projects, and review statewide progress on current projects. The first statewide project was on NICU admission temperature, followed by central line associated bloodstream infections, human milk for the NICU infant, and reduction of elective deliveries before 39 weeks. The 5th Annual TIPQC Meeting will be held in March 2012. TIPQC completed Regional Learning Sessions in September 2011 in each of the three Grand Divisions in the state. With 98 participants, these meetings are designed to increase local capacity to execute Quality Improvement projects by providing additional training to change teams using examples from the QI projects the teams are working on in their hospital. The September meetings focused on customer knowledge, quality improvement techniques to utilize the staff and family experiences in co-designing the care experience to improve both safety and quality, and an update on our current projects. On the CME evaluations, nearly 100% of participants noted they would change something they currently do as a result of participating in this meeting.

Current projects include:

NICU: CLABSI Reduction Eleven NICU teams are participating in the Central Line Associated Blood Stream Infection Reduction project, now with over 3000 infants and 57,000 line days. Due to the work of each team, state aggregate data continues to show remarkable improvement having achieved a 75% reduction in life-threatening and costly infections in Tennessee NICUs. The Dept. of Health has independently verified this statewide change noting that the rate of these events has **decreased from over twice the national average to less than half the national average**. This improvement delivers an estimated \$2 million per year in attributable cost averted in Tennessee. Teams are planning to transition into the sustainment phase of the project in December.

NICU: Human Milk for NICU Infants Over 3000 Tennessee infants admitted to the NICU have been involved in this project from 17 NICU hospital teams. Overall improvement is being shown with state aggregate data this month showing a 20% increase in the rate of initiation of feeding with human milk in TN NICUs. Evidence suggests that increasing the use of human milk will further reduce hospital acquired infections as well as the frequency of catastrophic intestinal complications of prematurity potentially avoiding an additional \$2-4 million dollars in hospital charges per year in Tennessee.

NICU: Admission Temperature Project Hypothermia has long been associated with excess morbidity and mortality in infants, and is very difficult to avoid in the first critical minutes of life. Twenty-three NICUs and almost 4000 Tennessee infants admitted to the NICU were involved in this project, which cut the rate of admission hypothermia in Tennessee in half. For a full report on this project, please see: <http://www.tipqc.org/projects/temp-project/after-one-year-sustainment/>

OB: Reduction in Deliveries Prior to 39 Weeks is now recruiting participants statewide. Many scheduled deliveries are necessary and avert both maternal and infant morbidity and mortality. However, a variable fraction of scheduled deliveries appear to be elective. The pilot project in Davidson County demonstrated this group could be reduced through a quality improvement approach. The first state-wide webinar was held in September with 9 hospitals and over 5000 mothers and infants involved in the project to date.

OB: TN Breastfeeding Promotion project seeks to increase breastfeeding with its attendant benefits for mother and baby by implementing evidence-based recommendations to breast feed into routine prenatal care. OB practices in Memphis and Johnson City are pilot testing this project, and meet monthly via webinar.

Several projects are being developed by state-wide teams including:

- NICU Golden Hour
- NICU Neonatal Abstinence Syndrome
- NICU Follow Up Network
- NICU Undetected Critical Congenital Heart Disease Registry
- OB Maternal Mortality Review

In addition, the following NEW projects are being developed:

- NICU Family Groups
- Newborn (hospital) Breastfeeding Promotion

More information on all of these projects, including background, progress reports, & resources is available at <http://www.tipqc.org/projects>.