

EXECUTIVE SUMMARY MEMO

TO: John J. Dreyzehner, MD, MPH, FACOEM

FROM: Michael D. Warren, MD, MPH, FAAP
Director, Division of Family Health & Wellness

DATE: July 13, 2012

RE: Quarterly report to legislature for GOCCC grant projects

1. Explanation of report

In 2006, the legislature established the Women's Health for Underserved Areas Initiative (Public Chapter 963, 2006). Funding was provided to the Governor's Office of Children's Care Coordination (GOCCC) to administer grants to local communities for projects to improve women's health and reduce infant mortality. The original legislation required that a quarterly update be provided to report on programs developed pursuant to this initiative. The GOCCC was closed in June 2011 and the programmatic functions related to women's health and infant mortality were transferred to the Division of Family Health and Wellness of the Department of Health. We now complete this report quarterly in accordance with the legislation which established this funding.

2. List all pertinent issues concerning the report.

This report completes the Department's requirements as related to Public Chapter 963 (2006). Some of these projects are ongoing, and others have ended during this past quarter. The Department receives funding for these initiatives through an interdepartmental transfer of funds from TennCare.

3. List the pros and cons of submitting this report.

Pros: Submission of this report satisfies the requirements for reporting as outlined in Public Chapter 963 (2006). This report outlines important issues related to the health and well-being of women and infants and will raise awareness about these populations.

Cons: Failure to submit the report will mean that the Department will not be in compliance with legislative instruction.

4. Identify all stakeholders pertinent to the report and any issues that they may have.

Stakeholders include: Community agencies receiving funding for projects, TennCare (they provide funds to us). No known issues.

5. Make a recommendation.

I recommend transmittal of this report to the appropriate legislative committees.

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**Initiative to Improve Birth Outcomes in Tennessee
Report to the Legislature
May 2012**

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 January 1, 2012, through March 31, 2012.

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. The official start of the first Centering pregnancy group session was December 2010. In the third quarter of this year, 59 pregnant women were provided services. Sixteen women started care; 13 were in the first trimester of pregnancy when care started. There were 17 deliveries during the quarter; there were no low birth weight babies.

In December the agency restructured and introduced an integrated health model with primary care and behavioral health sharing the same physical space and collaborating on patient care and wellness. Group discussions with the Centering patients are beginning on postpartum blues, anxiety, depression, and other common mental health issues related to pregnancy.

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.

The Centering Pregnancy Program at Meharry used grant funding to hire a bilingual Spanish speaking medical assistant and a bilingual social worker. A partnership with United Neighborhood Health Services allows for referrals of their Spanish-speaking

patients to the Centering Program after their initial obstetric assessment. The Centering Pregnancy model of providing services to groups has improved learning by sharing common life experiences, changed attitudes more easily, increased motivation to learn and change, provided opportunity for relationships with other pregnant women, empowered the women to understand their own health and medical options, and helped the women to feel a greater sense of empowerment and confidence in themselves and their ability to care for themselves, the new baby, and the family. The project has served 140 Hispanic patients in 13 Centering Pregnancy group sessions. In the English speaking groups, 214 patients have been served with 28 group sessions. Four hundred and eighty-nine patients were served by the social worker.

The WIC Nutrition clinic at Meharry serves women and children from their Centering Pregnancy program, the OB/GYN High Risk clinic, OB and pediatric clinics, Family Medicine, and walk-ins from the community. During the third quarter, the clinic served 437 unduplicated patients and issued 1,068 WIC vouchers. Breastfeeding rates were 27.5% for January and 23.9% for February. In March staff from the clinic participated in the Metro Nashville Incredible Baby Shower, providing the opportunity to reach a large number of pregnant and postpartum women in the community and to provide information about their services.

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. The contract is set to end on December 31, 2012.

For the quarter January - March 2012, the program provided the following services:

- Served 7 pregnant women who were smokers.
- Served 3 pregnant women who were substance abusers.
- Trained 13 health care workers in the 5A model.
- Conducted 396 office outreach visits.
- Conducted 204 phone outreach visits.
- Issues encountered during the visits were: smoking (86); alcohol/drugs (13); financial difficulties (98); teen pregnancies (23); and domestic violence (6).
- During this quarter, the clinic was short one care manager at one of the clinics. They are in the process of hiring a replacement. Therefore, the numbers for the quarter are higher for phone contacts. They did experience an increase in office visits due to financial difficulties after the holidays and before tax time.

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.

Due to the TIPS Program contract being scheduled to end June 30, new patient enrollment was discontinued during this quarter so that most women would have services through delivery, and so that data would be available for most enrolled women. The final number of pregnant smokers in the Northeast Tennessee Region who received TIPS smoking cessation counseling and case management services at 6 different prenatal practices and one regional hospital since 2007 was 3,262. A total of 110 women (98 smokers, 12 non-smoker controls) completed in-depth pregnancy research interviews this quarter, while a total of 145 women (64 smokers, 81 non-smoker controls) completed an in-depth post-partum research interview.

Of the TIPS participants who delivered this quarter (80 women):

- 31% quit smoking during pregnancy and maintained this through to delivery
- Over 79% participated in at least four counseling sessions, while 91% returned for at least three sessions.

Also in this quarter, an additional 19 children born to TIPS program participants were developmentally tested at 15 months of age. This brings the total number of children tested to 170. Preliminary findings are showing that compared to the children of women who quit smoking during pregnancy, children born to women who continued to smoke have significantly delayed language and fine motor abilities, as well as significant differences in overall cognitive development. Especially interesting has been the finding that children born to women with only second hand smoke exposure had the same pattern of delays in development as children born to smokers.

A follow-up to our 2007 survey of obstetricians in the region was completed during this quarter. Surveys were returned by 30 of the 46 obstetricians practicing in the 6-county region who received TIPS educational training sessions and/or training materials. While knowledge about the negative effects of pregnancy smoking had increased substantially over the four years of the project, this did not translate into provider behavior change.

During this quarter, six university students (4 undergraduate, 2 graduate students) worked on the project for course credit, giving over 600 hours of time at no cost to the project.

Training continued for fourth year ETSU nursing students in intervening with pregnant and postpartum smokers. The most recent training in January involved 120 students, with over 800 students trained to date.

Project findings were presented at two national research meetings (Society for Research in Nicotine and Tobacco Research annual meeting in Houston and the March of Dimes Prematurity Prevention Symposium in Washington, DC) and a regional meeting (Primary Care Research Day in Johnson City). The project director also presented at a Grand Rounds at ETSU Quillen College of Medicine. A grant application for continuation funding for training has been submitted to the Appalachian Regional Commission.

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.

Project Implementation: 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 the Centering Pregnancy program by University of Tennessee Medical Group (UTMG), and an evaluation of Community Voice (CV) by the University of Memphis, Center for Research on Women (CROW). Activities conducted within the third quarter of the project are as follows:

- An advisory group comprised of the County Mayor's Health Advisor and members of the Office of Early Childhood and Youth, the Health Department, and the Early Success Coalition with technical assistance from the Consilience Group met regularly to develop a draft strategic plan detailing a coordinated community response to address the reduction of infant mortality in Memphis and Shelby County. The guiding principles are based on the Life Course Theory which suggests using a holistic approach to address infant mortality. The plan has been vetted with community stakeholders and parents. Metrics and accountable partners will be determined in the fourth quarter. Goals include: (1) improve the quality of health care received by all women in Shelby County over their lifespan; (2) Enhance family and community systems in Shelby County to more fully support mothers and families; and (3) Reduce social and economic inequalities experienced by Shelby County families.

- Grassroots initiatives through the “All Babies Count Campaign (ABC)” to educate the Memphis community on the impact of infant mortality has resulted in 281 new contacts this quarter, 4 new partnerships, a new initiative titled “1st Steps Lunch and Learn Series”, and campaign exposure through five media outlets.

Challenges/Obstacles: The Community Voice Program continues to face challenges with securing commitments from perspective Lay Health Advisors (LHA); however, some progress has been made over the last quarter. Of the 518 persons identified to attend training, 79% showed for training and 27% completed training; 318 are still in training. Other barriers presented are the length of time required to become certified as a LHA and commitments for ongoing education. Multiple scheduling opportunities have been developed to address this barrier. In restructuring of Centering Pregnancy into the culture of The MED, the wait time and scheduling of orientation for patients has presented a barrier, as has the process of integrating policies that allow staff to seamlessly refer patient to Centering Pregnancy.

Impact/Outcomes:

Community Voice: As of March 31, 518 people committed to attend Community Voice training. Of the thirteen classes held this period, 110 people completed the training and were certified as LHAs.

CROW: Pre- and post-knowledge tests were collected from Community Voice participants during the quarter. Before the start of training, participants were asked to complete a knowledge pretest. A total of 109 pre-knowledge tests were returned to CROW for further analysis. The average score on the pre-knowledge tests was nearly 60%. The knowledge test was then administered again at the end of the training. A total of 102 post-knowledge tests were returned to CROW. The average score on the post-knowledge test was 90.8%, and over 90% of participants passed the test with a score of 80% or better, after completing the training.

Centering Pregnancy : From January to March 2012, 3 Centering Pregnancy classes have been completed to date. Twenty-three patients have completed Centering Pregnancy classes and have delivered. Of the 23 births, 91.3% were full term and full weight; 4.3% (1 birth) was low birth weight; and 4.4% (1 birth) was pre-term gestation/low birth weight. Sixty-five percent of mothers attempted breastfeeding for up to six weeks. Seventy percent 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 were compared to those who received traditional prenatal care.

Between January 1, 2012, and March 31, 2012, staff at the Peabody Research Institute finalized data collection and data monitoring at the five sites, conducted all data analysis for the evaluation study, and composed and distributed a final report outlining the results for the evaluation study. On February 15, 2012, the Peabody Research Institute provided the Department of Health with a 112-page final report documenting all steps of the evaluation study and results from the statistical analysis evaluating the effects of Centering Pregnancy prenatal care on birth outcomes among women at the five participating sites. The final evaluation study used data collected on 726 obstetric patients at Christ Community Health Services in Memphis; 98 patients at Erlanger Dodson Health Clinic in Chattanooga; 197 patients at Meharry Medical Hospital in Nashville; 5,494 patients at Vanderbilt University Medical Center in Nashville; and 561 patients at Women's Wellness Maternity Center in Madisonville. Findings indicated generally positive results for Centering Pregnancy prenatal care across several different birth outcomes.

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 third 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.
- (2) The CLG voted to focus on pregnancy and domestic violence during 2012; the group discussed ideas and potential partnerships for the upcoming year. They are working with their local Rape Crisis Center and Family Violence Center to bring more awareness to the community about the services offered.
- (3) During 2012, the CLG is facilitating a recruitment campaign to recruit more community leaders, members and organizations.
- (4) 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. Currently the group is working on FIMR recommendations regarding poor working environments for pregnant women,

grief counseling after a loss, and patient empowerment materials. They also are planning for the State's upcoming Safe Sleep Campaign.

- (5) The Healthy Babies Start with Healthy Ladies Program has monthly prenatal classes at the health department; three classes were held during the third quarter with 16 participants.
- The health educator participates in breastfeeding classes at two local health centers (Dodson Avenue and Southside Health Center) on a monthly basis (2 times per month). She has participated in 6 classes this quarter and seen 25 clients during these classes.
 - Fifty-six women were referred to the health educator for case management from the Family Planning Clinic.
- (6) The infant mortality awareness prevention initiative continues to provide awareness during outreach events in the community. The topics discussed focus on infant mortality prevention, preconception health, family planning (family life plan) and STI prevention. This quarter, the outreach team participated in 47 outreach events, reaching 1,509 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.

East Tennessee has continued to address safe sleep in the second quarter. Staff did presentations for five different groups and distributed 3,600 bookmarks with safe sleep tips. Hamilton County has also been promoting safe sleep. They made a display of safe and unsafe sleep environments to show at conferences. Hamilton County and Davidson County have both been working on a prenatal diary for new mothers to keep track of their prenatal appointments and pertinent information to be discussed at the appointments. They finalized the diary during the second quarter and will be printing it. In addition to the prenatal diary, Davidson County had a lunch and learn for hospital chaplains to discuss how to better reach the faith based communities when talking about infant mortality issues. Shelby County continued to create awareness of infant mortality by presenting at the Tennessee Association of Social Workers conference, attending teen pregnancy workshops and presenting at an infant mortality conference.

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 1,400 members, including perinatologists, neonatologists, hospitals at all levels of perinatal care, administrators, third party payors, state officials, and community constituents. Over 300 physicians, nurses, advocates, payors, hospital administrators, government leaders, and families met in March 2012 for the 5th Annual TIPQC Meeting to collaborate on ways to reduce infant mortality and morbidity. The meeting featured nationally known speakers on neonatal abstinence syndrome, leveraging electronic medical record data in quality improvement efforts, and mobilizing maternal providers. 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.

TIPQC participated in the March of Dimes' Prematurity Summit in Washington, DC in January, as well as the Vermont Oxford Network NICU7 Series in March, and will be hosting all the state collaboratives from across the nation at the next annual meeting in March 2013.

In the last three months, TIPQC has been rapidly developing projects as well as working with current projects, which continue to show success..

Current projects include:

NICU: Human Milk for NICU Infants. Over 6,000 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 showing a hard-fought 10% increase in the rate of initiation of feeding with human milk in Tennessee 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 \$2-4 million dollars in hospital charges per year in Tennessee.

OB: Reduction in Deliveries Prior to 39 Weeks is now recruiting participants statewide in collaboration with the Tennessee Hospital Association (THA). This combined effort aims to better distinguish medically necessary from elective deliveries prior to 39 weeks completed gestation in an effort to reduce both maternal and infant morbidity and mortality. A successful pilot project in Davidson County including spread to Hamilton, Maury, and Jackson counties has been completed, and was presented at the state meeting. Forty hospitals are expected to join through the first phase of collaboration with THA this spring, and additional hospitals will be invited this summer. Estimates of potential costs averted through this effort range between \$3-5 million per year.

OB: Tennessee Breastfeeding Promotion project seeks to increase Tennessee breastfeeding rates by implementing evidence-based practices to encourage breastfeeding and eliminate breastfeeding barriers in the prenatal clinic and delivery settings. Prenatal clinics from OB practices in Memphis and Johnson City are pilot testing this project, and meet monthly via webinar. Pilot data from 540 mother-infant dyads at the 6 week post-partum visit have been successfully entered and analyzed on an on-demand basis, providing a strong proof-of-concept for extending the TIPQC data system into the busy clinic environment. This project is open for practices statewide to join. A complimentary project focusing on improvement opportunities in the delivery setting has just completed development and IRB review and is preparing to begin pilot testing in 7 hospitals statewide.

NICU: Undetected Critical Congenital Heart Disease Registry project continues to engage pediatric cardiologists around the state in an effort to detect false negatives as the state attempts to improve detection of critical congenital heart disease. During the past year prior to mandatory pulse oximetry, 11 infants who were initially discharged from the hospital without a diagnosis of CCHD were identified, as well as 3 additional infants presenting with congenital heart disease requiring intervention at more than 30 days of life. This team is well positioned to follow trends in the rate of undetected CCHD as we begin to make systematic statewide changes in our screening strategy.

NICU: Family Involvement project was kicked off at the state meeting. The aim of the group is to build greater resources and to develop a statewide qualitative step-wise improvement effort to support families who have children in the NICU.

Projects in Sustainment:

NICU: CLABSI Reduction. Eleven NICU teams are participating in the Central Line Associated Blood Stream Infection Reduction project, now with close to 5,000 infants. Due to the work of each team, state aggregate data continue to show remarkable improvement having achieved a 75% reduction in life-threatening and costly infections in Tennessee NICUs. The Department 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 began transitioning into sustainment in December, with a one-year commitment to ongoing sustainment efforts. This project has also been recognized by the American Board of Pediatrics for its exceptional rigor and results with an unrequested increase in Maintenance of Certification point value. During the annual meeting, a Phase 2 project was selected to include all blood stream infections and will begin development in the Summer/Fall 2012.

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 4,000 Tennessee infants admitted to the NICU were involved in this project, which cut the rate of admission hypothermia in

Tennessee in half. Project data have just been validated in the most recent TIPQC:VON (Vermont Oxford Network) report (2010), and participants celebrated Tennessee's move from the lagging quartile to the leading quartile (VON U.S. data set) on this National Quality Forum endorsed metric. For a full report of current public data on this project, please see: <http://www.tipqc.org/projects/temp-project/after-one-year-sustainment/>

Projects being Piloted:

NICU: NICU Follow Up Network (NICUFUN) project received IRB approval on April 5, 2012, after almost a year of development work on this project. Teams will be gathering data this month.

Hospital: Tennessee Breastfeeding Promotion: Delivery and Post-partum Project has been submitted to the state IRB. Piloting of the project will begin in April 2012.

Several projects **being developed** by statewide teams include:

- NICU Golden Hour
- NICU Neonatal Abstinence Syndrome
- OB Maternal Mortality Review
- OB Post-Partum Hemorrhage

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