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Greetings

It’s hard to believe that another year is coming to a close. We should all be proud of the amazing work that we’ve done in the past year through TIPQC. We have weathered some big changes in our leadership that has made us stronger. Drs. Dhanireddy and Zite have taken the helm as our Medical Directors for the Infant and Maternal Arms of TIPQC, and, in the spirit we envisioned, they have brought with them two outstanding projects for improving perinatal care and have spread the TIPQC leadership across Tennessee.

As the Chair of the Oversight Committee I feel honored to lead this great organization. The opportunity to work with such dedicated and accomplished teams across the state, and with people who care as deeply as I do about improving the lives of women and their infants, is exciting. While we ask each other to commit extra time and effort none of us has to do this work, we do so because we want to make a difference. I am deeply appreciative of your involvement and I look forward to hearing your comments and ideas because it represents what we can all do together through TIPQC.

The path of progress is not always a straight line. Since the Tennessee Department of Health’s (TDH) creation in 1923, there has been a steady positive trend in improvement in infant mortality, from 80 infant deaths per 1,000 per year then to 7.4 infant deaths per year now. Despite this progress, years with upward variations are difficult. This clearly is one of those times, which gives us all the more reason to work together to march toward collective improvement in the care of mothers and infants. The best infant mortality rate in the world is currently just under two (2). From the vantage point of today in Tennessee, it is as difficult to see a clear path to a rate of two (2) or less per 1,000 as 7.4 would have been in 1923, yet here we are, and your work has helped to bring us here and will take us further still. The importance of coming together, setting shared goals among shared ideas and measures has never been more important. I think we can be particularly proud this year of areas of collective progress, such as a 20 percent increase in breastfeeding initiation since 2010 and the participation of all birth hospitals in safe sleep initiatives. It has never been more important to continue to support the work of TIPQC for the health of the future of Tennessee.

TIPQC is a key partner for TennCare. We value their ability to convene a variety of stakeholders to balance evidence-based treatment with practical policy and operational solutions that can lead to meaningful change for our TennCare members. Additionally, TIPQC’s commitment to tracking quality outcomes and evaluating effectiveness is essential for continued performance improvement. As our Medicaid program continues to work towards improving infant and maternal health for every one of our members, we look forward to continued collaboration with TIPQC and partners. Complex state-wide challenges such as the opioid use disorder, reducing neonatal abstinence syndrome, improving infant mortality, and increasing access to effective pre-natal care for our highest risk moms require multi-sector multi-stakeholder collaboration. TIPQC plays a vital role in filling this need. TennCare is committed to continuing our collaboration with TIPQC as we work toward TennCare’s mission of improving the lives of Tennesseans through high-quality cost-effective care.
Meetings

April
American College of Obstetricians and Gynecologists (ACOG) Alliance for Innovation on Maternal Health (AIM) Meeting, Baltimore, MD (1)
Arkansas Perinatal Forum, Little Rock, AR (2)

June
American Board of Pediatrics (ABP) Maintenance of Certification (MOC) Portfolio Sponsor Meeting, Chapel Hill, NC

September
Tennessee Hospital Association (THA) Annual Meeting, Nashville, TN

October
Vermont Oxford Network (VON) Meeting, Chicago, IL (3)

November
The National Perinatal Quality Collaborative Meeting, Atlanta, GA (4)
ACOG AIM Opioid Use Disorder Collaborative, Washington, DC (5)
TN Opioid Collaborative Kick Off, Franklin, TN

December
Illinois Perinatal Quality Collaborative Annual Meeting, Chicago, IL

March of Dimes Report Card

The Premature Birth Report Card compares the 2016 preterm birth rate to the March of Dimes goal of 8.1 percent by 2020. The Report Card highlights priority areas for action with county and racial/ethnic disparities data. Report Cards are intended to spur action to improve equity and reduce preterm birth, with the goal of giving every mother and baby a fair chance for a healthy pregnancy and birth. In Tennessee, the racial disparity of the preterm birth rate among Black women is 43% higher than the rate for other women. Tennessee continues to have a “D” score with an 11.3% preterm birth rate.

Pictured: (1) Brenda Barker, Jeanne Mahoney, Cathy Ivory at the AIM Meeting, (2) Brenda Barker speaking at the Arkansas Perinatal Forum, (3) TN Teams at VON, (4) Brenda Barker with Wanda Barfield at the National Perinatal Quality Collaborative Meeting, (5) Suzanne Baird and Jessica Young at the AIM Meeting.
Infant Medical Director Update

The infant arm of TIPQC continues to work on initiatives to improve neonatal care. The neonatal teams from around the State are working on optimizing the nutritional support and improving postnatal growth of very low birth weight infants. The Oversight Committee has approved a new project on the care of late preterm infants for 2018. We are continuing our collaboration with The Vermont Oxford Network (VON) on antibiotic stewardship in newborns with support from the Tennessee Department of Health for an additional year. At the recent VON meeting in Chicago, several of our teams shared their work during the plenary session and the poster session. I look forward to working with all the stakeholders from around the great state of Tennessee as we continue our journey on the path to improve outcomes for mothers, babies, and families through collaborative evidence-based interventions.

Active Projects

VON: iNICQ Antibiotic Stewardship

During 2017, TIPQC participated for the second year in the VON iNICQ Antibiotic Stewardship project as a state collaborative. We are very proud of the 12 hospital teams involved. Of those teams, three (3) were featured at the annual VON conference in the poster session – Jackson-Madison County General Hospital, Regional One Medical Center, and Monroe Carell Jr. Children’s Hospital. Regional One Medical Center and Jackson-Madison County General Hospital were invited to lead a round table discussion for their successful projects. As can be seen in the series of box plots below, the Antibiotic Utilization Rate (AUR) across the state has decreased from approximately 17% to below 10%. The variability between the participating NICUs has also tightened from a nearly 60% difference in spread to just over a 20% spread.

“Choosing Antibiotics Wisely” VON Day Quality Audits

Antibiotic Utilization Rate (AUR)
Improving Nutrition & Growth in Very Low Birth Weight (VLBW) Infants (NICU Nutrition & Growth)

Through the work of 10 hospital teams, Tennessee’s Very Low Birth Weight (VLBW) infants are receiving improved nutritional support. Under the leadership of Reddy Dhanireddy, MD and Patti Scott, DNP, APN, NNP-BC, C-NPT, the centers have made progress in the last 2-3 years in decreasing the median hour of life parenteral lipids are started from nearly 20 to below 15 hours (Figure 1). The centers are consistently starting parenteral protein at a median of two (2) hours of life. Improvement has been slower regarding the outcome of extraterine growth restriction at discharge. As seen in Figure 2, the participating TIPQC VON hospitals have continued to show improvement matching the VON international means. Our 2017 data indicates 30-40% of our VLBW infants weigh less than the 10th percentile at 36 weeks corrected age.

![Image](image_url)

**Figure 1**

**Figure 2**

It’s heartening to see how we improved our VLBW infants growth by incorporating TIPQC Nutrition project guidelines which will improve long term outcome of most vulnerable infants of our NICU. We started to see decrease in our antibiotic use in the NICU by modifying our old practices of starting antibiotics often for rule out sepsis thanks to our NICU/VON antibiotics stewardship program.

**Darshan Shah, MD, MBBS, FAAP, Quillen College of Medicine**

In Development

**TN Neonatal Antibiotic Stewardship** - Under the leadership of Ajay Talati, MD and Patti Scott, DNP, APN, NNP-BC, C-NPT, TIPQC hopes to engage all Tennessee NICUs to join a statewide collaborative project focusing on continuing the work on Antibiotic Stewardship. Our aim for this year will be to further decrease antibiotic use in TN NICUs and nurseries by 25% by December of 2018. This year’s project is also going to look at Vancomycin use and parental knowledge of need and duration of antibiotics.

**Late Preterm** - Anna Morad, MD, Victoria DeVito, MD and Patti Scott, DNP, APN, NNP-BC, C-NPT have developed a Late Preterm project focusing on Optimizing Care of the 35-36 Week Infant in the Newborn Nursery. This project is based on the National Perinatal Association Guidelines for Care of the Late Preterm Infant and will focus on consistency of care to decrease re-admissions. We will monitor a discharge readiness checklist, education for care givers and identification of and scheduled follow up with a primary care provider.
Maternal Medical Director Update

Being new to TIPQC I am both impressed and excited by all the accomplishments in 2017, and looking forward to 2018. Please review this report to see all that TIPQC, and all of you, have done for women and infants in Tennessee. On the maternal side we concluded the first Obstetric Hemorrhage project and appreciate all the teams; we will be reviewing data and learning from the project for years to come. Thanks to Dr. Victor Wu and the TennCare team, Dr. Morgan McDonald and the Department of Health, Chris Clarke and the Tennessee Hospital Association, as well as the MCO leaders, we have made Immediate Postpartum Long Acting Reversible Contraception (PPLARC) possible in Tennessee. I believe everyone will be enthusiastic about the opportunities to improve outcomes for mothers, babies, and families in Tennessee through the upcoming 2018 projects.

Active Projects

Improving Recognition & Response to Maternal Blood Loss at Birth (OB Hemorrhage)

Through the hard work of nine (9) hospital teams, and under the leadership of Cornelia Graves, MD, FACOG, the hemorrhage project continued into 2017 with a goal of measuring cumulative quantified blood loss (QBL) at 50% of vaginal births. Since blood loss at birth is underestimated, QBL is recommended to increase situational awareness for potential maternal compromise, improve communication, and initiate standardized postpartum hemorrhage management. As the graph depicts, we met this goal with an overall median of 51.5%. At the height of participation, hospitals reached almost 70% participation. Teams were able to add a hemorrhage risk assessment tool and address common risk factors, allowing for preparation of excessive blood loss at birth.

In Development

The Immediate PostPartum Long Acting Reversible Contraception Project (PPLARC) - As mentioned above, the policy was changed in October 2017, and starting in November hospitals were able to stock the devices (IUDs and Implants) and be reimbursed for their costs outside of the global fee of pregnancy. This has made a statewide project encouraging contraceptive counseling and utilization a reality. Pilot hospitals are University of Tennessee, Knoxville and Vanderbilt University Medical Center.

Opioid Use Disorder (OUD) - Through ACOG AIM, the TIPQC project will be spearheaded by Jessica Young, MD and Suzanne Baird, DNP, RN. Teams are meeting across the US to finish the development of this project for 2018.

Having been involved in TIPQC since its beginning, it is wonderful to see how we have grown to a major instrument for change in the state of Tennessee. I am particularly proud that we are one of only a few states in the nation with an active maternal and fetal arm. Our country’s future depends on our passion to provide quality perinatal care for both mothers and babies.

Cornelia R. Graves, MD, FACOG
TN Maternal Fetal Medicine
TIPQC Annual Meeting

Over 250 healthcare professionals, families, and perinatal stakeholders participated in the 2017 10th Annual TIPQC Meeting on March 5-7, 2017 in Franklin, Tennessee. Conference speaker highlights included: Larry Shields, MD addressing Maternal Morbidity and OB Hemorrhage; Chrissie Blackburn on Realistic & Meaningful Patient & Family Engagement; Commissioner John Dreyzehner, MD; Stephen Patrick, MD, Nikki Zite, MD and Stephen Loyd, MD discussing Preventing Repeat Morbidity; Ashley Jeans, MPH on the Maternal Mortality Review; Michael Thompson, PhD on the Evaluation of the Early Elective Delivery Project; and Reddy Dhanireddy, MD and Tamara Wallace, DNP, APRN, NNP-BC addressing NICU Nutrition. Numerous panels added to the depth of the local work and experiences, as well as workshops on Breastfeeding in Special Circumstances; OB Hemorrhage; Getting Ready for Neonatal Episodes of Care; Provider/Family Engagement; The Basics of QI for the Bedside Nurse led by Susie Leming-Lee, DNP, RN, CPHQ and Terri Crutcher, DNP, ACNP-BC, FAANP; The Alliance for Innovation on Maternal Health; Getting the Most from your VON data led by Erika Edwards, PhD; Antibiotic Stewardship; and NICU Nutrition. The Meeting concluded with the Oversight Committee Lunch, updates on TIPQC, the results of the project straw polling, and a generous donation from the Tennessee Perinatal Association.

NICU Nutrition & Growth Learning Session

August 21st was an exciting day in Franklin, Tennessee for two reasons – the solar eclipse and our Nutrition Learning Session. Our attendees enjoyed this once in a lifetime experience (complete with eye protection) but they also left with new energy surrounding the Nutrition project. Our first ever project specific Fall Meeting included seven NICU Nutrition Hospital teams, representatives from the Tennessee Department of Health, and the TIPQC team. The Nutrition teams were celebrated for their hard work over the last year. Theresa Scott led a session on Learning from Variation in Data and Reddy Dhanireddy, MD discussed the Nutrition Tool Kit. Teams shared successes and challenges, with Kathy Fulton, MSN, NNP-BC discussing Nutrition Rounds at East Tennessee Children’s Hospital. The teams left energized and ready to continue improving nutrition for our tiny babies!
Participating Teams

Improving Nutrition & Growth in Very Low Birth Weight Infants
Baptist Memorial Hospital for Women
Centennial Women’s & Children’s, Tristar
East Tennessee Children’s Hospital
Jackson-Madison County General Hospital
Monroe Carell Jr. Children’s Hospital at Vanderbilt
Niswonger Children’s Hospital
Parkridge East Hospital
Regional One Health
St. Thomas Midtown Hospital
University of Tennessee Medical Center, Knoxville

Improving Recognition & Response to Maternal Blood Loss at Birth
Baptist Memorial Hospital for Women
Erlanger Medical Center
Erlanger East Hospital
Fort Sanders Regional Medical Center
Johnson City Medical Center
Maury Regional Medical Center
Regional One Health
Vanderbilt University Medical Center
University of Tennessee Medical Center, Knoxville

VON: iNICQ Antibiotic Stewardship
Baptist Memorial Hospital for Women
Children’s Hospital at Erlanger
Jackson-Madison County General Hospital
Laughlin Memorial Hospital
Maury Regional Medical Center
Monroe Carell Jr. Children’s Hospital at Vanderbilt
Niswonger Children’s Hospital
Regional One Health
Takoma Regional Hospital
Tennova Healthcare - Clarksville
University of Tennessee Medical Center, Knoxville
Williamson Medical Center

It is great to be a part of TIPQC network to share and learn from each other to improve the outcomes of our babies in Tennessee. Thanks and we appreciate all your hard work.

Ramesh Krishnan, MD, DCH, MRCPCH, FAAP
University of Tennessee Health Science Center

TIPQC has demonstrated that collective learning and collective action in hospitals across the state really does improve outcomes for mothers and babies in measurable ways. The impact of TIPQC has spread beyond the walls of participating hospitals to become a model for engagement and quality improvement in several priority areas. We are very much indebted to the leadership within hospitals and within the TIPQC organization which is continuing to grow this important work.

Morgan McDonald, MD, FAAP, FACP
Tennessee Department of Health

Teams Pictured (left to right): (Top) East Tennessee Children’s Hospital NICU Nutrition & Growth Team, Niswonger Children’s Hospital NICU Nutrition & Growth Team; (Middle) Baptist Memorial Hospital for Women NICU Nutrition & Growth Team; (Bottom) Regional One Health OB Hemorrhage Team, University of Tennessee Health Science Center NICU Nutrition & Growth Team
Partner Organizations

Special thanks for ongoing financial support of the TIPQC Mission:

Unrestricted Educational Grants:

And for partnering with us to provide ongoing learning opportunities:

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