

Ohio Infant Mortality Summit
Poster Topics

Preconception health indicators among women residing in Appalachian and non-Appalachian counties in Ohio and Pennsylvania

Vanessa L. Short, PhD, MPH¹, Reena Oza-Frank, PhD, RD^{1,2}, Elizabeth Conrey, PhD, RD³

¹Centers for Disease Control and Prevention/Council of State and Territorial Epidemiologists (CDC/CSTE) Applied Epidemiology Fellowship, Atlanta, Georgia (at the time of the study); ²Research Institute at Nationwide Children's Hospital and Department of Pediatrics, The Ohio State University, Columbus, OH; ³Ohio Department of Health, Columbus, OH

Background: Preconception health among reproductive aged women affects both fertility and pregnancy outcomes. A 7 state work group developed preconception health indicators (PCHI) to be used by states to assess, monitor, and evaluate preconception health. Persons living in Appalachia are generally known to have disparate health outcomes and examining PCHIs could suggest ways to improve health care.

Study Question: We compared specific PCHIs among reproductive aged women residing in Appalachian and non-Appalachian counties in Ohio and Pennsylvania.

Methods: Data from the 1997-2004 Behavioral Risk Factor Surveillance System (BRFSS) were used to estimate the prevalence of PCHIs among non-pregnant women aged 18-44 years residing in Ohio (n=7,391) and Pennsylvania (n=9,921). PCHIs include measures of education, income, access to and utilization of health care, tobacco and alcohol use, chronic conditions and immunizations. Chi-square tests were used to investigate differences in PCHIs among Appalachian and non-Appalachian women. Separate analyses were conducted for Ohio and Pennsylvania. Limitations to BRFSS include use of self-reported data and recall bias.

Results: In Ohio, weighted estimates indicate that, compared to non-Appalachian women, Appalachian women were less likely to have greater than a high school education (44.8% vs. 58.8%, $p<0.001$) or to have health care coverage (78.7% vs. 86.1%, $p<=0.001$), and more likely to have a lower income ($p<0.0001$) and to smoke (39.7% vs. 31.5%, $p=0.001$). In Pennsylvania, Appalachian women were less likely to have greater than a high school education (56.6% vs. 58.2%, $p=0.001$) and more likely to have a lower income ($p<0.001$) and to smoke (32.4% vs. 28.4%, $p=0.001$). In both states, there were no differences between groups for having had a routine checkup in the past year, being overweight or obese, alcohol consumption, diabetes, asthma, or having received influenza vaccination within the past year.

Conclusion: The data demonstrate some important differences in the indicators for preconception health between Appalachian and non-Appalachian women, but patterns vary by state.

Public Health Implications: The results suggest that Appalachian communities would benefit from targeted preconception interventions to ensure that women enter pregnancy in optimal health, especially with regard to reducing smoking prevalence. Strategies to improve preconception health should recognize population and cultural differences to improve their effectiveness.

About the Author: Email contact: elizabethj.conrey@odh.ohio.gov

Promoting and Providing the Ultimate Embrace...Our Kangaroo Care Journey

Mary Walters MSN, RN, Marianne Marinelli BSN, RNC, CLC and Kimberly Price BSN, RN, IBCLC, CLC;
Grant Medical Center, Columbus

Abstract: The journey to providing Kangaroo Care (skin-to-skin) as a routine, standard practice for all mothers and babies delivered at Grant Medical Center began in 2004 with a research project conducted in our birthing suites. Results have been shared via poster/podium presentations at National/International Conferences and published in 2007. Numerous professional publications have referenced our findings. By 2007, one-third of our patients practiced KC during the first hour after delivery. However, after 60-90 minutes, the infant was

separated from his/her mother and moved to the Newborn Nursery for further testing/evaluation for the next 2-4 hours. While most Maternity programs now support KC at the time of delivery after vaginal birth, it is still not standard practice for the 30+% of all births delivered by Cesarean. Many mother/baby couplets are moved to the post-partum area after 60-90 minutes. November, 2011 we began a change of practice which affords the dyad up to at LEAST two hours together BEFORE moving them. Assessments are completed with the dyad in KC following the first breastfeeding/feeding. This practice is also provided to all our Cesarean deliveries so that currently 90% of all our patients receive this optimal treatment. Separate benefits to the mother and baby are numerous and the results and challenges to this “Best Practice” will be presented.

About the Authors: Mary Walters has spent 42 years as a Maternal-Child Nurse with Administrative, Clinical, and Educational roles including the last 14 years at Grant Medical Center. Email:

MWALTERS@OhioHealth.com

Marianne Marinelli is the Clinical Manager of Grant’s Women & Newborn Services and has been a Maternal-Child Nurse for 36 years.

Kimberly Price currently serves as the Clinical Educator for Women & Newborn Services at Grant Medical Center.

Second Chances: Previous Poor Pregnancy Outcomes and the Impact of Interventions

Dr. Mary Applegate, et al.; State of Ohio Office of Medical Assistance

Abstract: In 2010, 7% (3,901) of births to Ohio Medicaid enrolled mothers were subsequent to a prior fetal loss or infant death. This does not include the number of women with prior poor outcomes that did not have a successful pregnancy outcome. This population has been identified as being at significant risk for poor outcomes, and is a likely target for pre-pregnancy and perinatal outreach and interventions. This poster presentation examines some interventions measured by the Physician Consortium for Performance Improvement quality metrics as they relate to the outcomes of pregnant women enrolled in Ohio Medicaid who have experienced prior intrauterine fetal loss or infant death. The demographics and factors related to meeting the measures and the differences in outcomes for women based on measure attainment are explored, with implications for government policy, health system structure, and outreach efforts.

About the Author: Email: Mary.Applegate@jfs.ohio.gov

Pregnancy Outcomes in Women with a History of Second Trimester Loss

Sherrine A. Ibrahim¹, Courtney D. Lynch¹, Erinn M. Hade², Hetty Walker¹, Jay D. Iams¹

¹ The Wexner Medical Center at The Ohio State University, Dept. of Obstetrics and Gynecology, Division of Maternal Fetal Medicine, Columbus, OH; ² The Ohio State University, Center for Biostatistics

Objective:

To assess odds of recurrent 2nd trimester loss (160/7 - 236/7 weeks' gestation) and preterm birth <37 weeks' in women with a history of one or more spontaneous 2nd trimester pregnancy losses.

Study design:

A history of 2nd trimester loss has been linked to increased risk for recurrent 2nd trimester loss and pre-term birth in subsequent pregnancies. We conducted a retrospective cohort study in women with a current singleton pregnancy and a history of at least one spontaneous 2nd trimester loss seen in a prematurity prevention clinic from 1998-2010. Primary study outcome was rate of recurrent spontaneous 2nd trimester loss in the next pregnancy. Secondary outcomes included pre-term birth <37 weeks', and the relation of cervical length (CL) at presentation to delivery outcome. Multivariable logistic regression was used to estimate the odds of recurrent 2nd trimester loss and pre-term birth while adjusting for confounders.

Results:

268 (22%) of 1,217 women seen in our prematurity clinic between 1998 and 2010 had a prior 2nd trimester pregnancy loss. Among these women, 53.7% were black, 41.8% were smokers, with a mean age of 25.6 (5.2). Recurrent 2nd trimester loss occurred in 22 (8.2%). Pre-term birth was observed in 91 women (34%). 126 (47.0%) women received one or more injections of 17 alpha hydroxyprogesterone caproate (17P), 108 (40.3%) received cerclage, and 67 (25%) received both 17P and cerclage. 101 (38%) had neither 17P nor cerclage. 150 women with a prior 2nd trimester loss (55.8%) presented with an initial cervical length before 20 weeks' < 30 mm. CL of < 30 mm prior to 20 weeks' was associated with an increased odds of recurrent 2nd trimester loss after adjustment for age, gestational age (GA) at initiation of 17P, BMI and smoking [AOR=1.7; 95% CI (0.7 - 4.1)], but the increase was not statistically significant. There was a two-fold increased odds of pre-term birth [AOR=2.1; 95% CI (1.2 - 3.6)].

Conclusion:

Women with a prior 2nd trimester loss were observed to repeat the outcome. CL < 30 mm before 20 weeks' was associated with independent two-fold increased odds of pre-term birth and may be associated with increased odds of 2nd trimester loss.

About the Author: Sherrine A. Ibrahim Email: Sherrine.Ibrahim@osumc.edu

Does prenatal diagnosis affect gestational age and mode of delivery?

Karen Q Rossi, Sherrine Ibrahim, Britton Rink; Wexner Medical Center at The Ohio State University

Objective: Determine gestational age (GA), indication for delivery and mode of delivery for pregnancies with a fetal diagnosis at one tertiary care center

Methods: Retrospective study of singleton pregnancies with a non-lethal, prenatal diagnosis of a structural or functional fetal condition delivered ≥ 24 wks between November 2005 and May 2012. Medical record documentation was used to categorize pregnancies for primary indication for delivery before 39 weeks (labor, maternal health, fetal health, gastroschisis, intrauterine fetal death (IUFD) or prenatal diagnosis other than gastroschisis). The group electively delivered <39 weeks only for their prenatal diagnosis was studied further.

Results: Of 605 eligible pregnancies, 25% were delivered ≥ 39 weeks (average 39.5 weeks), 20% delivered after spontaneous labor (average 36.0 weeks), 12.4% were delivered for maternal indication (average 34.4 weeks), 22.1% were delivered for fetal indication (average 34.6 weeks), 4.6% were delivered for gastroschisis (average 36.8 weeks), 0.7% had an IUFD (average 34.0 weeks, 1 placental abruption, 1 uncontrolled maternal diabetes, 2 gastroschisis). The remaining 15.2% (92) were electively delivered only for their prenatal diagnosis (mean GA 37.9 ± 0.9 weeks) and had the following characteristics. Mean maternal age was 26.9 ± 6.4 years, mean GA at diagnosis of 25.5 ± 6.3 weeks and racial composition was 65% white, 12% African American, 3% other, and 20% unknown. There were no differences in GA at delivery when categorized by predicted urgency for specialized or intensive pediatric care. 83% attended prenatal consults with pediatric specialists and 68% of neonates required transfer to the pediatric hospital after birth. Mode of delivery was 41.3% vaginal and 58.7% cesarean section (CS). In comparison, CS rate at this institution from 2008-2011 was 35% ($p < 0.0001$).

Conclusions: Patients with a prenatal diagnosis of a non-lethal fetal condition were at commonly electively delivered before 39 weeks and were predisposed to a higher CS rate.

About the Author: Email: Karen.Rossi@osumc.edu

How often does fetal diagnosis require fetal treatment?

Karen Q Rossi, Britton Rink, Richard O'Shaughnessy; Wexner Medical Center at The Ohio State University

Study Design: A database of pregnancies with a fetal diagnosis was reviewed. Pregnancies with a fetal diagnosis made at The Ohio State University (OSU) Maternal Fetal Medicine Prenatal Diagnosis Program in the

70 months between July 2005 and April 2011 of one or more of the following defects were included; abdominal wall defect, acardiac twin, alloimmune thrombocytopenia, aneuploidy, brain abnormality, cardiac defect, craniofacial defect, cystic malformation, cysts in the abdomen, pelvis or lung, diaphragmatic hernia, genitourinary system defect, lung mass, maternal red blood cell antibodies, neural tube defect, sacral teratoma, skeletal system defect or twin transfusion syndrome. The OSU Fetal Treatment Program provides or obtains the diagnostics, consults and interdisciplinary coordination of care required to care for these pregnancies through delivery. Isolated ultrasound findings of abnormal cord Dopplers, choroid plexus cysts, echogenic bowel, echogenic foci, intrauterine growth retardation, increased nuchal thickness, discordant multiples; oligohydramnios and polyhydramnios were not included.

Fetal treatments were defined as medical therapy given to the mother but intended for the fetus (apheresis, dexamethasone, digoxin, intravenous gamma globulin, prednisone) or invasive fetal procedures (amnioreduction, atrial septostomy (performed at outside center), cordocentesis with intent to transfuse, ex utero intrapartum treatment delivery, fetal shunt placement, fluid removal from fetal compartment, intrauterine blood transfusion, laser photocoagulation of placental vessels, myelomeningocele repair (performed at outside center), radiofrequency ablation, septostomy for twin-twin. Diagnostic amniocentesis, diagnostic cordocentesis, chorionic villus sampling, selective reductions, betamethasone and cephalocentesis performed to achieve vaginal birth were not considered fetal treatments.

Results: 22,850 pregnancies were evaluated during 70 continuous months. 9.6% (2211) received a fetal diagnosis and entered the OSU Fetal Treatment Program. 5% (112) of those with a fetal diagnosis required fetal treatment. The remaining 95% (2099) that did not require fetal treatments had an average of 4.5 visits to Maternal Fetal Medicine with 49% delivering at a tertiary care center, 48.5% attending prenatal pediatric specialty consults, 30.5% with newborns transferred to Nationwide Children's Hospital after birth, 22.3% had fetal chromosomal testing done and 20.7% attended a multi-disciplinary delivery planning conference.

Conclusions: The large majority of pregnancies with a fetal diagnosis at one maternal fetal medicine referral center did not require fetal treatment. However, many pregnancies required extensive diagnostics, consults and interdisciplinary coordination of care from diagnosis through delivery. This finding could be useful to administrators and payors planning allocation of resources and to consumers evaluating healthcare options.

About the Author: Email: Karen.Rossi@osumc.edu

Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccination and Influenza Vaccination of Pregnant and Postpartum Women

Sara J. Paton, PhD., Associate Professor at Wright State University, Boonshoft School of Medicine

Background: Pregnancy Increases risk for maternal influenza complications and influenza during pregnancy may result in adverse perinatal or delivery complications. Most hospitalizations and death due to pertussis occur in infants ≤ 2 months. Influenza vaccine (FLUV) given in pregnancy can protect women and newborns. Tetanus toxoid, reduced diphtheria toxoid and acellular pertussis (Tdap) vaccine administered in late pregnancy or the postpartum period can protect infants from pertussis. We investigated vaccine use among pregnancy women in a large city hospital.

Objective: To determine Tdap and FLUV rates in pregnant and postpartum patients and identify factors associated with failure to vaccinate.

Design/Methods: We retrospectively reviewed records of all deliveries at Miami Valley Hospital, Dayton, from January 2009 – December 2010. Data reviewed included age, government vs. private insurance, race/ethnicity, and county of residence. The numbers receiving (a) Tdap prior, during, and within 6 weeks post-delivery, and, (b) seasonal FLUV before or just after delivery were collected. History of vaccination by other caretakers was unavailable. Descriptive statistics analyzed prevalence of vaccine administration, demographic characteristics, and timing of vaccination. Chi square was used to detect differences between these characteristics.

Results: A total of 9122 charts were reviewed. Forty-one percent had government insurance, 57% private. Seventy percent were white, 23% black, 4% Latino. FLUV was given to 15% (n=1364) with 40% postpartum, 35% in 3rd trimester, 16% in 2nd, 3% in 1st. A second FLUV (H1N1 swine + seasonal) was given to 7%. Tdap was administered to 35% (n=3142) with 95% vaccinated postpartum (within 10 days). Tdap uptake was significantly greater among women <20 years of age (45%, p<0.027) and in persons with government insurance (43%, p<0.0001),

Conclusions: Despite current recommendations, only a minority of pregnant women received FLUV or Tdap during pregnancy or in the postpartum period. Vaccination rates were increased with certain patient characteristics, but still represented a minority of the women. Improved strategies will be needed to increase FLUV and Tdap administration in this population. Additional efforts should target women >20 years of age and patients with private insurance. Stronger emphasis on prenatal and perinatal FLUV administration and, as recently recommended, prenatal Tdap might be of benefit.

About the Author: Email: Sara.Paton@wright.edu

Management of Pregnancy in a Medicaid Population

Brad Lucas, MD, MBA, FACOG; Mary V. Mason MD, MBA, FACP; Amy Poole-Yaeger MD, FAAP; Cathie R. Krueger, RN, BSN; Tamim Ahmed, Ph.D., MBA; Ian Duncan, FSA, FIA, FCIA, MAAA; Buckeye Community Health Plan

Objective: Examine the effect of prenatal program on birth outcomes, specifically birth weight, in a Managed Medicaid pregnant population, and identify the potential barriers to obtaining the risk screening information required for successful interventions.

Methods: Retrospective propensity-adjusted cohort comparison of pregnant women in a managed Medicaid plan enrolled in a prenatal program with pregnant women who were not enrolled. Program enrollment was initiated by receipt of Notification of Pregnant (NOP) risk screening assessment.

Results: We demonstrate a statistically significant improvement in delivery outcomes in the women who participate in the pregnancy management program (NOP group) compared with those who do not (non-NOP group). Odds ratios estimates indicate that the NOP participants are likely to have 7.9% lower adverse event frequency for delivery weights <2500g; 20.0% lower adverse event frequency for delivery weights <1500g; and 31.2% lower adverse event frequency for delivery weights <1000g.

Conclusion: Participation in a pregnancy management program improves birth outcomes in women who are at risk for low birth weight deliveries. The greatest impact appears to be on the incidence of extremely low birth weight infants. Early identification of pregnant women and their risk factors for the purpose of enrollment in a managed Medicaid prenatal program is an important factor in improving birth outcomes, specifically birth weight. Our results indicate that this is an important area for investment if birth outcomes are to be improved.

About the Author:

Dr. Brad Lucas is the National Medical Director for Centene and a medical director for its Ohio plan, Buckeye Community Health Plan. Email: blucas@centene.com

Geographic Distribution of Fetal and Infant Mortality due to Congenital Anomalies

Richard Thomas, Epidemiology Investigator III; Ohio Department of Health

Abstract: Ohio county specific rates of fetal and infant mortality attributed to congenital anomalies have been largely unpublished due to rarity of these events occurring in some counties. Counts of less than 20 deaths are considered unstable for calculating mortality rates. One way to combat rate instability is to use a longer time period. Thus, birth and mortality information from Ohio Department of Health vital records for the period 1990

through 2010 were combined to enumerate county level births, deaths, and fetal deaths (20 weeks or greater of gestation). Congenital anomaly-related deaths were identified from the leading cause of death listed on the death certificate (ICD-9: 740-759; ICD-10: Q00-Q99) or from categories available on fetal death certificates. Twenty-one year rates of infant and feto-infant mortality due to congenital anomalies were then calculated by county as the number of fetal plus infant deaths per 1,000 births or fetal deaths in the county during the period. The proportions of all-causes county-specific infant and feto-infant deaths that were attributable to congenital anomalies were then determined. Means and standard deviations of 88 county level infant and feto-infant mortality rates and attributable proportions of infant and feto-infant deaths due to congenital anomalies were calculated. Those rates and proportions having higher than 1.5 standard deviations above the 88 county means were identified. Even with 21 years of observation, thirty-one percent of counties (27/88) had infant death counts less than 20 due to congenital anomalies. Eight percent of counties (7/88) also had potentially unstable rates (counts less than 20) for feto-infant mortality due to congenital anomalies. Eight counties (Brown, Coshocton, Harrison, Holmes, Logan, Pike, Preble and Williams) had infant mortality rates due to congenital anomalies that were at or above 1.5 standard deviations of the mean. The proportion of all infant deaths attributable to congenital anomalies was also at or above 1.5 standard deviations of the mean for only four of those eight counties (Holmes, Logan, Preble and Williams), with Holmes County having the highest (with rate above 3 standard deviations above the mean and proportion attributable to congenital anomalies above 2.5 standard deviations above the mean). Six counties (Harrison, Holmes, Knox, Logan, Pike and Wyandot) had feto-infant mortality rates due to congenital anomalies that were at or above 1.5 standard deviations of the mean. The proportion of all feto-infant deaths attributable to congenital anomalies was also at or above 1.5 standard deviations of the mean for four counties (Auglaize, Harrison, Holmes and Wyandot). These results illustrate the difficulty in making statistically sound comparisons of infant and feto-infant mortality due to congenital anomalies for small areas of geography. However, they are suggestive of geographic variation of mortality due to congenital anomalies within the state of Ohio.

About the Author: Richard Thomas is a maternal and child health epidemiologist at the Ohio Department of Health. Email: Richard.thomas@odh.ohio.gov

Hospital Distribution of Formula Sample Packs in the State of Ohio

Elizabeth Maseth, Jennifer Foster, Pamela Edenfield; Akron Children's Hospital

Abstract: We called all birth facilities in Ohio in December 2008, 2009, 2010, and 2011 and using a prepared script/algorithm, determined whether or not formula sample packs were distributed

Setting: Ohio participants were all active Ohio birth facilities.

Intervention: Hospital distribution of infant formula sample packs

Main Outcome Measure: The proportion of hospitals that distribute the formula sample packs.

Results: In 2008, 96% of Ohio Hospitals distribute the formula sample packs. In 2009, 90% Ohio Hospitals distribute the formula sample packs. In 2010, 87% of Ohio Hospitals distribute the formula sample packs. In 2011, 86% of Ohio Hospitals distribute the formula sample packs.

Conclusion: Most Ohio birth facilities distribute formula sample packs to new mothers despite recommendations from current literature, governmental guidelines, and major medical organization protocols. There was a significantly higher breastfeeding rate in hospitals which did not distribute the formula company sample packs ($p=0.0004$). Ohio breastfeeding rates (ODH data): 58.6% (2008), 61.14% (2009), 63.26% (2010), and 65.36% (2011) are below the Healthy People 2010 goal of 75% initiation and 2020 goal of 81.9% initiation.

About the Author: Elizabeth Maseth is the Special Care Nursery and Outpatient Lactation Consultant for Akron Children's Hospital. Email: emaseth@chmca.org

Jennifer Foster is the Vice President of the Ohio Lactation Consultants Association is one of the in-patient lactation consultants at Summa Health System.

Increased Quality Improvement (QI) Efforts are Associated with Decreased Neonatal Mortality

James Dail, Neonatal Quality Coordinator; John Hitchner, Richard E McClead, Neonatal LOS Reduction Team; Nationwide Children's Hospital

Abstract: Neonatal Services at Nationwide Children's Hospital (NCH) initiated a QI effort to reduce length of stay (LOS) in its 8 intensive care nurseries. Multiple teams focused on the key drivers of prolonged LOS. These included care and management of a) infants < 27 weeks gestation, b) infants with major anomalies, and c) infants suffering from drug withdrawal. 30-day readmission and neonatal mortality were monitored as balancing measures. Other simultaneous, hospital-wide QI projects included decreasing infections, medication errors, pressure ulcers, and other patient harm events. Results: LOS for infants admitted to Neonatal Services decreased from 25.8 days in 2009 to 22.8 days (Jan-Sept 2012, $p < 0.05$). Readmissions remained unchanged from baseline (7.36%). System-wide neonatal mortality decreased from 3.7% (2009-2011) to 2.0% (Jan-Sept 2012) ($p = 0.0154$). The decrease in mortality was primarily in the population of white infants admitted to the 3 main campus NICUs ($p = 0.0116$), especially those < 27 weeks EGA ($P=0.002$). White infant mortality decreased from 7.2% (2009) to 3.6% (Jan-Sept 2012). Black infant mortality decreased from 13.3% to 6.5% (NS, $p = 0.2498$). The mortality of infants with anomalies did not change significantly. The neonatal mortality was also associated with a statistically significant decrease in necrotizing enterocolitis ($p < 0.05$). Conclusions: As the QI efforts at NCH have expanded, we have seen a statistically significant decrease in neonatal mortality, especially among white infants < 27 weeks gestation.

About the Authors: James Dail is the Quality Coordinator for Neonatal Services at Nationwide Children's Hospital and facilitates over 80 quality projects in Neonatal Services. Email:

James.Dail@Nationwidechildrens.org

John Hitchner is a Systems-Analysis for Neonatal Services at Nationwide Children's Hospital.

Richard E McClead MD is a neonatologist and Medical Director for Quality Improvement Services at Nationwide Children's Hospital.

Pregnancy May Be Dangerous To Your Health

Phyllis L. Carlson-Riehm; ACTION OHIO Coalition for Battered Women

Abstract: Domestic violence homicide is a leading cause of death for pregnant women. In spite of the promotion of DV screening in the health care setting, the incidence of DV homicide has continued; whereas other health risks to pregnant women, such as preeclampsia and gestational diabetes, have been reduced. As result of the continued risks that pregnant women face, ACTION OHIO Coalition For Battered Women has developed a variety of training options for health care and social services professionals who serve pregnant women, their children and new moms. Training is aimed at promoting best practices in screening, such as in-person screening in private settings, making community resources available in women-only settings (such as women's restrooms), and links with local DV shelters and programs. Grant-funded training is provided free of charge in the form of teleconferences, webinars and local in-person events in 1 to 3 hour sessions., with CEUs provided by the State Counselor, Social Worker & Marriage and Family Therapist Board. Resources and AV materials developed at the national level are incorporated into the training presentations. The goal is to help trainees 1) develop a comfort level with face-to-face screening for DV, 2) respond appropriately to patients no matter what their disclosures or lack of them, 3) suggest safety planning tips and 4) make community referrals to local DV shelters and related programs. This effort is all about saving lives - both moms and babies!

About the Author: Phyllis L. Carlson-Riehm is executive director of ACTION OHIO Coalition for Battered Women. Email: actionohio@sbcglobal.net

Franklin County Maternal Depression Initiative

Tonya Fulwider, POEM Director and FCMDTF Co-Chair; Karen Gray-Medina; Grace Kolliesuah; Franklin County Maternal Depression Task Force (FCMDTF) & POEM

Abstract: The Franklin County Maternal Depression Task Force (FCMDTF) is a Healthy Start Caring For 2 sponsored collaborative of individuals from health and social service fields that address lack of awareness and education regarding depression resources during and after pregnancy. Its formation was prompted by the high risk rates of pregnancy and postpartum depression indicated through screenings by Caring For 2 nurses. The methodology has been a 3-pronged approach: Needs assessment – identify how mental health system works and determine how women at-risk for depression are identified; Resource assessment – assess availability and gaps of mental health services; and Strategic action identification – identify strategies to effectively educate on the severity of maternal depression and develop mental health system improvement plan. Over the last 4 years, the FCMDTF has developed a Resource Directory, an evidence-based PowerPoint educational tool for health care providers, and a variety of outreach and awareness materials. With the ongoing collaboration of POEM (Perinatal Outreach and Encouragement for Moms), Ohio's only perinatal mental health support network, the Resource Directory and numerous educational offerings continue. The accomplishments of the FCMDTF have worked to address the following issues: data are compelling and underscore the lack of community resources available for screening and treating depression for high risk mothers; data highlight a critical community need for a mental/behavioral health partnership that can respond quickly and effectively to maternal depression; and untreated depression complicates our efforts to help moms achieve good birth outcomes.

About the Authors: Tonya Fulwider is a co-founder of POEM, a co-chair for the Franklin County Maternal Depression Task Force and the Program Director of Mental Health America of Franklin County. Email: tonya@poemonline.org

Karen Gray-Medina is the Co-Chair of the Franklin County Maternal Depression Task Force.

Grace Kolliesuah is the Project Director of Caring for 2, the sponsor of the Franklin County Maternal Depression Task Force.

Baby Friendly in Ohio...Every Baby Matters

Jennifer Foster, BSN, RN, IBCLC; Sylvia Ellison; Linda Smith; Summa Health System

Abstract: Infant mortality rates in the United States are reduced by 21% in breastfed infants. Research suggests that breastfeeding is a key modifiable risk factor for disease for both mothers and infants. Data suggest that variations in hospital practices account for disparities in breastfeeding duration. Improvements in the quality of antenatal and perinatal support could have a substantial impact on mother and infant health. Racial breastfeeding disparity disappears at Baby Friendly Hospitals. Breastfeeding initiation rates are significantly lower in African-American women. Women who deliver in Baby Friendly Designated Hospitals are more likely to breastfeed. Studies show low-income black women who give birth at a Baby-Friendly hospital have breastfeeding rates similar to the overall population. On the Breastfeeding Report Card 2012 (CDC National Immunization Survey), which was released in August of 2012, only 5 states had lower breastfeeding rates than Ohio. Ohio's breastfeeding rates are significantly lower than the national goals. Our current rates are: 62.3% ever breastfed, 39.5% breastfed at 6 months, 25.6% breastfed at 12 months, 29.1% exclusive breastfed at 3 months, and 11% exclusive breastfed at 6 months. Baby Friendly Hospital Initiative (BFHI) is an initiative from the World Health Organization and UNICEF, which began in 1991. BFHI creates a supportive environment for those mothers and families who have chosen to breastfeed their newborns and has benefits for those who have chosen to formula feed. This designation identifies hospitals that have chosen to protect,

promote, and support breastfeeding as optimal for infant health. Less than 9% of Ohio births occur in Baby Friendly designated birth facilities. What can Ohio hospitals do to improve the health of Ohio Infants and reduce infant mortality? Follow the World Health Organization's 10 Steps to Successful Breastfeeding and obtain Baby Friendly Hospital Designation.

About the Authors: Jennifer Foster, BSN, RN, IBCLC, works as a Lactation Consultant at Summa Health System Akron City Hospital in Akron, Ohio. Email: fosterj@summahealth.org
Sylvia Ellison, MA, MPH teaches in the Master of Public Health program at Wright State University. Her main research interest in Maternal and Child Health, with focus on infant feeding, and school based health and wellness.

Linda Smith, MPH, FACCE, IBCLC, FILCA, is a lactation consultant, childbirth educator, author, and internationally-known consultant on breastfeeding and birthing issues. She owns Bright Future Lactation Resource Center. BFLRC is on the Internet at www.BFLRC.com.

Use of Prams Data to Support the Implementation of the 5A's Evidence-Based Smoking Cessation Program

Melissa S. VonderBrink, MPH, Amy Davis, MPH, Connie Geidenberger, PhD; Ohio Department of Health (ODH)

Goals and Objectives: The WIC program serves half of infants born in Ohio each year. PRAMS data show that nearly 30% of Ohio women on WIC smoke during pregnancy every year. The health education WIC clinics provide make it a suitable setting to reach high-risk women through the implementation of the 5 A's evidence-based smoking cessation program. 5 A's counsels women about tobacco use with five steps: Ask, Advise, Assess, Assist, and Arrange. To illustrate the need for intervention, MCH program staff at ODH used PRAMS data to support the 5 A's smoking cessation program for pregnant women in WIC clinics.

Collaborators: Child and Family Health Services (CFHS) at ODH partnered with Ohio PRAMS staff for data to support the need for implementing 5 A's in WIC clinics.

Methods/Process: In 2006, CFHS established the Ohio Partners for Smoke-Free Families initiative. The group used PRAMS data to emphasize that WIC participants were more likely to smoke during pregnancy, making WIC clinics an appropriate setting to implement 5 A's. PRAMS data from subsequent years (2007-2010) demonstrated an ongoing need for intervention among this population.

Outcome: Ohio PRAMS data from 2006 indicated that odds of smoking during pregnancy was significantly higher among mothers who received WIC than non-WIC participants (unadjusted OR = 2.5; 95% CI 1.7-3.7). To address this, the 5 A's counseling method began in WIC clinics in 4 pilot counties in 2006-2007. Based on the initial success of conducting and documenting 5 A's in these clinics, the program was incorporated into the standard of care in all 14 prenatal clinics funded by the CFHS program in 2012. While this program is not currently widespread enough to detect changes in the statewide prevalence of smoking during pregnancy, data from PRAMS continues to play a role in supporting the need for 5 A's among WIC participants in Ohio.

Follow-up Activities / Lessons Learned: According to 2010 PRAMS data, 28.7% of Ohio mothers on WIC smoked during pregnancy. This indicates that the need for programs like 5 A's within the WIC population is still great. PRAMS continues to be an important source for CFHS to support the implementation and expansion of 5 A's.

About the Author: Email: Missy.Vonderbrink@odh.ohio.gov

**The Eunice Kennedy Shriver National Institute of Child Health and Human Development
Maternal Fetal Medicine Units Network at The Ohio State University Wexner Medical Center**

Jay D. Iams MD; Francee Johnson BSN, Mark B. Landon MD; The Ohio State University Wexner Medical Center

Abstract: The Ohio State University's Division of Maternal and Fetal Medicine has been a member of The Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal Fetal Medicine Units Network since 1992. The Network is a consortium of MFM Research Units at 14 universities that together perform large clinical trials and observational studies in perinatal medicine and obstetrics. MFMU trials have made signal contributions to current practice by demonstrating the benefit, or lack of benefit of numerous treatments. MFMU trials are the basis for use of antibiotics in women with PPRM, MgSO₄ to prevent cerebral palsy in infants born before 32 weeks, rescue steroids, and 17-P to prevent preterm birth in singleton pregnancies. The MFMU also performed trials that found no benefit for home uterine contraction monitoring, vitamin C & E to prevent preeclampsia, and 17-P in twins and triplets. Current studies include a trial of antenatal steroids before late preterm birth, an observational study of Hepatitis C in pregnancy led nationally by OSU's Dr. Mona Prasad, and a randomized trial of CMV-immune globulin in pregnant women newly infected with CMV. The main recruitment team at The Wexner Medical Center has been joined by Mount Carmel St. Ann's in Columbus and Miami Valley Hospital in Dayton, both staffed by graduates of the OSU Fellowship in Maternal Fetal Medicine (Drs. Philip Shubert and Chris Lang at St. Ann's, and Drs. Dave McKenna and Jiri Sonek at Miami Valley).

About the Authors: Dr. Jay Iams is the Frederick P. Zuspan Endowed Professor of Obstetrics and Gynecology at Ohio State. He is the Principal Investigator for the MFMU at Ohio State, where he also directs the OSU Prematurity Clinic. Dr. Iams is the Obstetrical Lead for the Ohio Perinatal Quality Collaborative and a member of Ohio Collaborative to Prevent Infant Mortality. Email: jay.iams@osumc.edu
Francee Johnson, BSN is the Nurse Coordinator for the MFMU at OSU. She oversees MFMU research at all three sites and is the senior Nurse Coordinator in the 14 member MFMU.
Mark B. Landon MD is the Richard L. Meiling Endowed Chair of the Department of Obstetrics and Gynecology at Ohio State.

Ohio Better Birth Outcomes

Alex Meyer, Director of Prematurity Initiatives; Dr. Arthur James, Dr. Kris Reber; Ohio Better Birth Outcomes/Nationwide Children's Hospital

Summary: Ohio Better Birth Outcomes (OBBO) is a clinical and quality based prevention program designed to reduce preterm birth and infant mortality in Franklin County and the state of Ohio. OBBO unites central Ohio's four hospital systems, the Central Ohio Hospital Council, the Columbus Neighborhood Family Health Centers, the Columbus Public Health Department and related community organizations. Together, this group is using the latest research to improve outcomes for high risk pregnant women and their children.

Context: Preterm births are a leading cause of death for newborns in Franklin County. In 2011, 13.6% of births in Franklin County occurred before 37 weeks of gestation. Nearly 150 infants die in Franklin County each year.

Objective: To reduce preterm birth and infant mortality in Franklin County and the state of Ohio. **DESIGN:** Ohio Better Birth Outcomes (OBBO) is a clinical and quality based prevention program. OBBO programs include: Progesterone Promotion Project, Nurse-Family Partnership, Central Ohio Scheduled Births Initiative (COSBI), Breastfeeding, Neonatal Abstinence Program, Safe Sleep, Safe Spacing, TaP, Moms2B and Centering. A steering committee meets monthly to discuss program goals and results.

Participants: OBBO brings together central Ohio's four hospital systems (Nationwide Children's Hospital, The Ohio State University Medical Center, OhioHealth and Mount Carmel Health System) along with the Columbus Neighborhood Family Health Centers, the Columbus Public Health Department and local government and community organizations.

Conclusions and implications: The goal for OBBO is to successfully change birth outcomes in Franklin County and the state of Ohio. This unique collaboration of public and private sectors targeting high-risk families is a model for future work on complex health and social issues.

About the Author: Alex Meyer is Director of Prematurity Initiatives at Nationwide Children's Hospital and is one three co-directors of Ohio Better Birth Outcomes (OBBO). She serves as Executive Director with her counter-parts, Art James and Kris Reber, who provide medical expertise in obstetrics/gynecology and neonatology respectively. Email: alex.meyer@nationwidechildrens.org

Ohio Perinatal Quality Collaborative (OPQC)

Katie Clarke-Myers, Project Manager, OPQC; Jay Iams, Carole Lannon, Michele Walsh, Barb Rose; Ohio Perinatal Quality Collaborative

Summary: A statewide, multi-stakeholder network, the Ohio Perinatal Quality Collaborative, launched in 2007, is aimed at reducing preterm births and improving outcomes for preterm infants as quickly as possible through the use of improvement science methods. OPQC engages hospitals, clinical units, and clinicians throughout the state in improvement activities that focus on overcoming barriers and accelerating translation of evidence into practice. Current project work and successes to date will be reported.

About the Author: Email: katie.clarke_myers@cchmc.org

Mothers' Milk Bank of Ohio

Fran Feehan, Diane Bates, Jennifer Lozier; Ohio Health

Summary: Human donor milk provided by the Mothers' Milk Bank of Ohio is beneficial to preterm babies to help decrease the incidence of NEC, promote growth, and potential decrease the length of hospital stays.

Abstract: The best possible for nutrition for all babies is human milk. Sometimes mothers have difficulty producing the milk their baby needs. When mothers own milk is not available, human donor milk is the best alternative.

About the Authors: Fran Feehan - Director of the Mothers' Milk Bank of Ohio. Email: dbates@ohiohealth.com

Integrating a brief evidence-based smoking cessation intervention in Women, Infants, and Children clinics

Elizabeth Conrey, PhD, RD, State Maternal and Child Health Epidemiologist; Sherry T. Liu, MPH; William Cartwright, MA; Ohio Department of Health

Abstract: Cigarette smoking during pregnancy remains one of the most preventable causes of infant morbidity and mortality in the United States. It is estimated that 5-7% of preterm-related deaths and 23-34% of SIDS deaths are attributable to prenatal smoking and could be prevented. The purpose of this poster is to describe the integration of an evidence-based smoking cessation intervention in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) clinics. There is evidence that a brief smoking cessation intervention consisting of the 5 A's ("ASK," "ADVISE," "ASSESS," "ASSIST," "ARRANGE") can significantly increase quit rates among pregnant smokers. Smoking cessation efforts in non-traditional settings, especially those that reach a large proportion of low-income pregnant women at a higher risk for prenatal smoking, such as WIC clinics have received little attention. In 2006, we assessed the feasibility of integrating a 5 A's intervention in

four pilot WIC sites; 50% (n=2) continued the 5 A's after the pilot ended. Twelve additional volunteer WIC sites were subsequently trained in 2008 but no technical assistance was provided due to a state-level staffing shortage and hiring freeze. A process evaluation 18 months post-training revealed that 42% of these sites (n=5) reported currently implementing the intervention. Among all continuing sites (n=7), documentation of "ASK" in client charts was high but only half of those contained further documentation of "ADVISE" and "ASSESS." Six months later, documentation improved for "ADVISE," "ASSESS," "ASSIST," and "ARRANGE" steps. Findings demonstrate that it is possible to integrate a brief smoking cessation intervention into routine WIC clinic activities. Although participation was not mandated or affiliated with the federal WIC program, there were WIC program directors motivated to adopt the 5 A's. Further technical assistance and monitoring from the state may be needed for maintenance to reach higher levels.

About the Author: Elizabeth Conrey is the State Maternal and Child Health Epidemiologist at the Ohio Department of Health where she is an assignee from the Centers for Disease Control and Prevention (CDC), Division of Reproductive Health, Maternal and Child Health Epidemiology Team. Email: elizabethj.conrey@odh.ohio.gov

Gestational Diabetes Mellitus in Ohio: 2006-2008

Elizabeth Conrey, PhD, RD, State Maternal and Child Health Epidemiologist; Reena Oza Frank PhD, RD; Andrew Wapner, DO, MPH; Cynthia Shellhaas, MD, MPH; Ohio Department of Health

Abstract: Gestational diabetes mellitus (GDM) presents a significant challenge to the health of both the mother and her infant. GDM is characterized by glucose intolerance appearing or first diagnosed during pregnancy. This poster summarizes Ohio data relevant to GDM, including risk factors. There are two main sources that provide data on the prevalence of GDM-related risk factors among women of reproductive age (18-44 years) in Ohio: the Behavioral Risk Factor Surveillance System (BRFSS) (includes adults aged 18 years and older) and the Pregnancy Risk Assessment Monitoring System (PRAMS) (includes women with a recent live birth). Six data sources available in Ohio capture the prevalence of GDM: BRFSS, Vital Statistics, PRAMS, Medicaid claims data, Child and Family Health Services (CFHS) clinics and the Ohio Hospital Association's (OHA) discharge data. Prevalence estimates varied from 1.9% to 10.0%, depending on the population, method of collection and other factors. This information was used to construct a data book about GDM and its risk factors in Ohio. The purpose of this data book was to summarize existing information about GDM identify gaps in knowledge. It should be noted that there is no gold standard for GDM prevalence data in Ohio. Each data source has its own strengths and limitations, resulting in recommendation on how to enhance GDM surveillance in Ohio.

About the Authors: Elizabeth Conrey is the State Maternal and Child Health Epidemiologist at the Ohio Department of Health where she is an assignee from the Centers for Disease Control and Prevention (CDC), Division of Reproductive Health, Maternal and Child Health Epidemiology Team. Email: elizabethj.conrey@odh.ohio.gov

Reena Oza-Frank, PhD, RD is a principal investigator and epidemiologist at the Research Institute at Nationwide Children's Hospital in the Center for Perinatal Research with a joint appointment as research assistant professor at the Ohio State University in the Department of Pediatrics.

Cynthia Shellhaas, MD, MPH is a senior member of the Division of Maternal-Fetal Medicine and an associate professor in the Department of Obstetrics and Gynecology at The Ohio State University College of Medicine.

When Sleeping Isn't Safe: Educating Pediatric Healthcare Providers and Parents on the Importance of Correct Infant Sleep Environments

Jamie R. Macklin, M.D.; Gail A. Bagwell, R.N., M.S.N., C.N.S.; Nationwide Children's Hospital

Abstract: Nationwide Children's Hospital (NCH) is a leading pediatric tertiary care hospital and admits thousands of infants a year, either to its Level III Neonatal Intensive Care Unit or to other medical/surgical units in the hospital. Recently, there has been an increased interest in improving the sleep environment for these infants <1 year of age at the hospital. In September 2012, the NCH Safe Sleep Committee audited the sleep environments of hospitalized infants, assessing the locations and positions of the infants, as well as items present in these sleep environments. Unfortunately, the committee discovered that many present practices do not align with current AAP guidelines for Safe Infant Sleeping Environments, with unit average scores of 3.8 (out of 7.0 possible points). As a result, the committee has evaluated the barriers to providing a safe sleep environment for all babies; with the largest being a lack of knowledge of all healthcare professionals and parents on what constitutes a safe infant sleep environment. Accordingly, we plan to train physicians, nurses, and ancillary staff through lectures, interactive discussions, and modeling opportunities on how to implement and maintain correct infant sleep environments. We also plan to educate parents and caregivers about safe infant sleeping practices through the hospital's Edutainment System, visual illustrations, and brochures.

About the Authors: Jamie R. Macklin, M.D., is an internal medicine and general pediatric hospitalist affiliated with Wexner (OSU) Medical Center and Nationwide Children's Hospital and is an active member of the NCH Safe Sleep Committee. Email: jamie.macklin@nationwidechildrens.org
Gail A. Bagwell, R.N., M.S.N., C.N.S. for Perinatal Outreach, Chair of the NCH Safe Sleep Committee

R U SAFE? SPEAK UP! Project Connect: Securing Ohio's Future by Growing Healthy Relationships
Michelle Clark, RN, BSN; Lisa Fry; Ohio Department of Health, Reproductive Health & Wellness Program;

Abstract:

Purpose: Project Connect is a grant program with the Ohio Domestic Violence Network (ODVN), funded by the Futures without Violence, formerly the Family Violence Prevention Fund, to help improve the assessment, screening and referrals for Intimate Partner Violence (IPV) in collaboration with the Ohio Department of Health (ODH) Reproductive Health and Wellness Program (RWHP).

Significance: Approximately one in four women has been physically and/or sexually assaulted by a current or former partner. Among women seen at family planning clinics, more than one-half (53%) reported physical or sexual IPV. Approach/Intervention: In 2009, ODH family planning statistics showed less than 1% of patients screened positively for IPV. The national prevalence is 20-25%. The screening process clearly suggested a need for improvement. Four RHWP agencies were selected to participate in Project Connect. Focus group interviews were conducted with RHWP agency staff to determine the current process of screening, assessing and referring for IPV. As a result of the information, training was provided to family planning and domestic violence/sexual violence (DV/SV) staff, with role-playing and watching taped vignettes. Cross-training between the family planning pilot sites and DV/SV agencies will be implemented in 2010. A Nursing Resource Guide and Nursing Resource Manual were developed.

Evaluation: Two of the four pilot sites have doubled their percent of patients disclosing IPV since the study began in 2009. A more comprehensive evaluation is being developed to evaluate the screening protocol utilized by the family planning clinics throughout the state of Ohio.

About the Author: Email: michelle.clark@odh.ohio.gov

Columbus Public Health Home Visiting Programs: Working to Reduce Infant Mortality, Protect Health and Improve Lives

Grace Kolliesuah, Lori Ruffin, Stephanie Herreman; Columbus Public Health Department

Abstract: Columbus Public Health's home visiting programs conduct outreach and recruitment to identify pregnant women and young children who are at risk. Services provided are designed to reduce risks of poor birth outcomes, i.e. preterm birth and low birth weight; provide support and education to parents on child development to prevent child abuse and neglect. Staff connects families to mental health and support services; promote childhood immunization and well-baby checks.

About the Authors: Grace Kolliesuah is the Project Director of the Columbus Public Health Caring for 2 Federal Healthy Start Project and directs the day to day operation and holds overall accountability for program services, financial and personnel management for an interdisciplinary team of nurses, social workers and outreach workers. Email: gmkolliesuah@columbus.gov
Lori Ruffin is the program manager for three home visiting programs (Ohio Infant Mortality Reduction Initiative, Family Ties and Pregnancy Support Services).
Stephanie Herreman is the Program Manager for the Columbus Public Health New Born Home Visiting and Family Ties Programs.

Franklin County Safe Sleep for Babies

Karen Gray-Medina, MS; Franklin County Infant Safe Sleep Task Force; Columbus Public Health Department

Abstract: Sleep-related death is a leading cause of infant mortality. Many of these deaths are preventable. In Franklin County (Ohio) from 2006-2010, 137 babies died while sleeping: 60% were sharing a sleep surface; 45% were sleeping on their stomach or side; and 70% were on unsafe sleep surfaces (adult bed, couch, chair, etc.). The Infant Safe Sleep Task Force goal is to reduce sleep-related deaths by promoting safe-sleep practices for infant caregivers. Activities include developing, implementing and evaluating a hospital-based infant safe sleep initiative (observational audits, staff surveys); conducting trainings for childcare providers; and promoting infant safe-sleep through outreach, modeling and advocacy. This Initiative is innovative because it institutionalized infant safe sleep education in the hospital setting. Annual hospital audits show improvement from program pre-intervention to post-intervention. Trends changed from 50% of babies placed to sleep on their backs to 96%; 22% of cribs with blankets to 1%, and 13% of cribs with toys to 1%. Over 130 childcare providers attended workshops with pre- and post-tests assessing knowledge, attitudes and beliefs in safe-sleep practices. 168 healthcare professionals attended our conference, Sleep-Related Infant Deaths: Closing the Gap, in May, 2012. Safe-sleep materials (brochures, billboard, PSA on ABCs of safe-sleep) have been developed. Infant sleep is optimally addressed in multiple settings to impact attitudes and behaviors. Safe sleep practices among parents and caregivers are strongly influenced by nurse modeling and verbal instruction. Public health provides a neutral forum for leadership in safe-sleep practices through group facilitation, coordination of interventions, and outcome evaluation.

About the Authors: Karen Gray-Medina, MS, is a program manager in Family Health at Columbus Public Health. She manages the Child and Family Health Services (CFHS) grant and oversees MCH Planning and Assessment. Email: kareng@columbus.gov
Marie L. Higgins, BSW, MSEdPH works at Mt. Carmel Health as a Childbirth Educator .

Improving Health Outcomes for Mothers and Babies: A Quality Improvement Breast Feeding Collaborative

Susan Williamson, RN, BSN, IBCLC; Stephanie Burke, MS, RD, IBCLC; UC Health/University Hospital

Abstract: Breastfeeding is the optimal feeding choice for babies and is a critical component in the effort to reduce infant mortality rates. Low-income populations are more at risk for not breastfeeding and the co-morbidities that result. UC Health/University Hospital (UH) serves a region that has historically high infant mortality and low breastfeeding rates. Over the last 20 years the hospital's rate of breastfeeding initiation has

improved from 28% to 63%. However, the rate of exclusive breastfeeding remains low. UH has been chosen to participate in the Best Fed Beginnings Learning Collaborative, sponsored by the Center for Disease Control and Baby-Friendly USA. Their global aim is to increase the number of infants who breastfeed exclusively for the first six months of life. The Ten Steps to Successful Breastfeeding, as endorsed by the Baby Friendly Hospital Initiative (BFHI), are evidence-based practices that have been proven to improve breastfeeding outcomes in a maternity setting. These steps are the benchmarks that will be used to evaluate our compliance with gold standard breastfeeding care. Current baseline data has been collected. Each of the Ten Steps will be achieved using PDSA (Plan, Do, Study, Act) cycles, or structured trials of process changes. The UH project is driven by a multidisciplinary team including a hospital administrator, lactation consultants, obstetricians, neonatologists, staff nurses, nurse managers, and a consumer representative.

About the Authors: Susan Williamson, RN, BSN, IBCLC is the Team Leader among the Lactation Consultants at UC Health/University Hospital. Email: susan.williamson@uchealth.com
Stephanie Burke, MS, RD, LD, IBCLC, is a registered, licensed dietitian who has served as the out-patient lactation consultant at University Hospital's Center for Women's Health since June 2011.

Perinatal Periods of Risk Analysis: Ohio 2006-2009

Sarah Miller, MPH; Connie Geidenberger, PhD; Tricia Matz, MPH; Richard Thomas, MPH; Melissa VonderBrink, MPH; Elizabeth Conrey, RD PhD; The Ohio Department of Health

Abstract: A population's infant mortality rate is considered an indicator of its health and welfare. Perinatal Periods of Risk Analysis (PPOR) applies an analytic framework to feto-infant death to create distinct risk periods based on age at death and birth weight. This model was applied to Vital Statistics data from the state of Ohio, 2006-2009 to determine the distribution of feto-infant deaths within the risk periods in each at-risk population. The overall feto-infant mortality rate was 6.4/1,000 live births and fetal deaths. Feto-infant mortality rates varied by race/ethnicity, age of mother (teen versus adult), and perinatal region of residence, with non-Hispanic black births having the highest rate (10.1/1,000). Factors related to maternal health/prematurity contributed a larger share of the excess mortality among non-Hispanic blacks than in other groups. Non-Hispanic white adults with a high school education or less experienced excess feto-infant deaths within the Infant Health risk period associated with post neonatal injury. Non-Hispanic black births also had excess mortality within this period due to SIDS. A possible explanation is that improper sleep position was found to be more common in this group. Non-Hispanic white teen mothers experienced excess mortality within the Newborn Care Risk period potentially associated with access to care issues. The results of this analysis contribute to the analytic phase of PPOR with the goal of informing subsequent stages so that they may be implemented by public health programs and assessed for effectiveness in reducing infant mortality in Ohio.

About the Authors: Sarah Miller is a maternal child health epidemiologist at the Ohio Department of Health. Connie Geidenberger is a maternal and child health epidemiologist at the Ohio Department of Health. Tricia Matz is an adolescent health epidemiologist at the Ohio Department of health. Email:

Sarah.Miller@odh.ohio.gov

Richard Thomas is a maternal and child health epidemiologist at the Ohio Department of Health.

Melissa VonderBrink is a maternal and child health epidemiologist at the Ohio Department of Health.

Elizabeth Conrey is the State Maternal and Child Health Epidemiologist at the Ohio Department of Health where she is an assignee from the Centers for Disease Control and Prevention (CDC), Division of Reproductive Health, Maternal and Child Health Epidemiology Team.

Franklin County Progesterone Promotion Initiative

Jeff Klingler, President and CEO Central Ohio Hospital Council; Alex Meyer, Nationwide Children's Hospital

Abstract: Since April 2009, Franklin County's four hospital systems have joined with Columbus Public Health and local community health centers to reduce the number of recurrent preterm births in Franklin County. Local providers have worked collaboratively to develop a common protocol to identify pregnant women who have had a previous preterm birth and provide her with prenatal progesterone therapy in the clinic or home setting. This therapy is supported by at least six trials, which have shown to reduce risk of recurrent preterm birth by approximately 35%. To date, the strategies of the collaborative have included: establish a community "Progesterone Promotion" collaborative and generate support among local pregnancy clinics; establish an agreed to community-wide protocol; identify pregnant women with previous preterm birth(s) and enroll them in the Progesterone Promotion Project; provide women with weekly prenatal therapy injections of 17 Alpha Hydroxyprogesterone Caproate (17P) or with daily progesterone suppositories; construct a web-based reporting system for community-wide quality improvement purposes, and; establish a Progesterone Community Forum which meets every six weeks to monitor results and share best practices. Since data collection began in January 2011, 362 women have participated in the program. Of those, 305 have delivered with an average gestational age of 28 weeks and 1 day. The average gestational age at earliest preterm birth is 36 weeks and 4 day, showing an average improvement of 8 weeks and 3 days.

About the Author: Jeff Klingler is the Central Ohio Hospital Council president and CEO.
Email: jeffk@centralohiohospitals.org

WHAT DOES STRESS HAVE TO DO WITH IT...Can Psychosocial Stresses Be Linked To Maternal Depression?

Grace Kolliesuah, Project Director; Jerry Bean, PhD; Columbus Public Health Caring for 2

Abstract: Depression has many direct and indirect causes for pregnant and parenting women. It is reported to be the #1 complication of childbirth. Psychosocial stresses such as unhealthy relationships, lack of support, or unplanned pregnancies can increase depression risk and birth outcome. Literature does report statistical links between various risk and protective factors and postnatal depression, we examined the relationships between psychosocial stressors and postnatal depression within our program.

About the Author: Grace Kolliesuah is the Project Director of the Columbus Public Health Caring for 2 Federal Healthy Start Project. Email: gmkolliesuah@columbus.gov
Jerry Bean, PhD, has been the external evaluator for the Caring for 2 project in Columbus, Ohio for the past five years.

Application of Ohio Prams Data to an Online Nurses Training Program Addressing the Role of Folic Acid in Preventing Birth Defects

Norma Ryan, PhD; Connie Geidenberger, PhD; Melissa VonderBrink, MPH; The Ohio Department of Health

Abstract: With the goal of improving health care provider's knowledge about the role of folic acid supplementation in preventing neural tube defects (NTD), staff from the ODH Bureau for Children with Medical Handicaps (BCMh), the Michigan Department of Community Health (MDCH) Bureau of Disease Control, Prevention, and Epidemiology (BDCPE), and the Ohio Pregnancy Risk Assessment Monitoring System (PRAMS) collaborated to develop an online self-study course titled, "Folic Acid in the Prevention of NTDs". The course was first offered on the Training Finder Real-Time Affiliate Integrated Network (TRAIN) in September 2011 and is ongoing. Course content includes information about common risk factors for NTDs and populations at risk. Ohio and Michigan PRAMS data describe the prevalence of multivitamin use before pregnancy, multivitamin use by preconception counseling status, and reasons for not taking a multivitamin among women who had a live birth in 2009. In March 2012, the training was announced to nursing staff across

Ohio. To date, 31 individuals have initiated training. 14 Ohio nurses completed the program, and 5 acquired continuing education credit. 13 participants showed improvement between the pre- and post-test scores. The increase ranged from 7 to 78 points, indicating improvement in knowledge level among trainees. A course evaluation was included to solicit participant feedback about weak areas of content. Work is underway to improve Ohio TRAIN so that the post-test and certificate of completion are easier to access, which should increase the number of trainees who complete the program for credit.

About the Author: Norma Ryan is the Birth Defects System Coordinator with the Ohio Connections for Children with Special Needs (OCCSN) at the Ohio Department of Health (ODH). Email: norma.ryan@odh.ohio.gov

Rate of Preterm Birth in a Prematurity Prevention Clinic after Adoption of Progestin Supplementation
Hetty C Walker, RNC-OB, CCRC; Jay D. Iams, MD; The Ohio State University Wexner Medical Center

Abstract: Spontaneous preterm birth, early birth that occurs without a medical indication, has been increasing over the last decade. Supplemental progestin supplementation has been shown to reduce the rate of spontaneous preterm birth. This is a review of the rates in The OSUWMC Prematurity Clinic prior to progestin supplementation, introduction of progestin treatment and the rates after an aggressive adoption of early facilitation of progestin therapy.

About the Authors: Hetty C. Walker is the Nurse Coordinator and Research Nurse at Wexner Medical Center at The Ohio State University. Email: Hetty.walker@osumc.edu
Dr. Jay Iams is the Frederick P. Zuspan Professor & Endowed Chair in Maternal Fetal Medicine and Obstetrics and Gynecology at The Ohio State University Medical Center.

Unintended Pregnancies Link to Infant Mortality: The Highest Risk for Unintended Pregnancies are also the Highest Risk for Infant Mortality

Tammy Johnson RN, BSN; The Ohio State University Wexner Medical Center

Abstract: About half of all pregnancies in the USA are Unintended. Unintended pregnancies are pregnancies that, at the time of conception, are either mistimed (wanted but at a different time) or unwanted (did not want pregnancy at any time). Unintended pregnancies and Infant Mortality occur most commonly in the same high risk population. Women who experience unintended pregnancies often exhibit risk behaviors that are further associated with increased infant mortality rates. There are many social determinants that serve as obstacles in family planning and contraception care. The Ohio State Wexner Medical Center Prematurity Clinics in collaboration with the Ohio Better Birth Outcomes has developed some interventions to break down these barriers but more needs to be done. By identifying this high risk population and recognizing the social determinants that exist we can begin to make community action plans to further make a difference.

About the Author: Tammy Johnson is a Nurse Coordinator/Research Nurse at The Ohio State University Wexner Medical Center. Email: tammy.johnson@ousmc.edu

Perinatal Periods of Risk Analysis: Ohio, 2006-2009

Sarah R Miller, MPH; Tricia Matz, MPH Richard Thomas, MPH Melissa VonderBrink, MPH Connie Geidenberger, PhD Elizabeth Conrey, PhD; The Ohio Department of Health

Abstract: A population's infant mortality rate is considered an indicator of its health and welfare. Perinatal Periods of Risk Analysis (PPOR) applies an analytic framework to fetoinfant death to create distinct risk periods based on age at death and birth weight. This model was applied to Vital Statistics data from the state of Ohio, 2006-2009 to determine the distribution of fetoinfant deaths within the risk periods in each at-risk population. The overall fetoinfant mortality rate was 6.4/1,000 live births and fetal deaths. Fetoinfant mortality rates varied by race/ethnicity, age of mother (teen versus adult), and perinatal region of residence, with non-Hispanic black births having the highest rate (10.1/1,000). Factors related to maternal health/prematurity contributed a larger share of the excess mortality among non-Hispanic blacks than in other groups. Non-Hispanic white adults with a high school education or less experienced excess fetoinfant deaths within the Infant Health risk period associated with post-neonatal injury. Non-Hispanic black births also had excess mortality within this period due to SIDS. A possible explanation is that improper sleep position was found to be more common in this group. Non-Hispanic white teen mothers experienced excess mortality within the Newborn Care Risk period potentially associated with access to care issues. The results of this analysis contribute to the analytic phase of PPOR with the goal of informing subsequent stages so that they may be implemented by public health programs and assessed for effectiveness in reducing infant mortality in Ohio.

About the Author: Sarah Miller is an epidemiologist at the Ohio Department of Health within the Division of Family. Email: Sarah.Miller@odh.ohio.gov

**The Ohio State University Wexner Medical Center
Prematurity Clinic**

Hetty Walker RNC-OB,CCRC; Jay Iams, MD; Tammy Johnson BSN; The Ohio State University Wexner Medical Center

Abstract: The prevalence and cost of prematurity is exceptional high for society not only in dollars but also in human suffering. This specialty clinic attempts through identification of prematurity risk factors (ideally pre-pregnancy) to deliver care that incorporates an entire team throughout pregnancy. These dedicated healthcare providers address not only the individual medical concerns, but also the psychological, financial, social, and nutritional status of each patient. A customized plan of care addressing all these categories is devised and adjusted as needed. Education includes the patient and those who comprise her support system. An attempt is made at providing a medical home utilizing multiple resources, with a primary goal of preventing unnecessary preterm birth. A second poster with outcome data collected from this clinic will follow.

About the Authors: Hetty C. Walker is the Nurse Coordinator and Research Nurse at Wexner Medical Center at The Ohio State University. Email: hetty.walker@osumc.edu

Dr. Jay Iams is the Frederick P. Zuspan Professor & Endowed Chair in Maternal Fetal Medicine and Obstetrics and Gynecology at The Ohio State University Medical Center.

Tammy Johnson is a Nurse Coordinator/Research Nurse at The Ohio State University Wexner Medical Center.