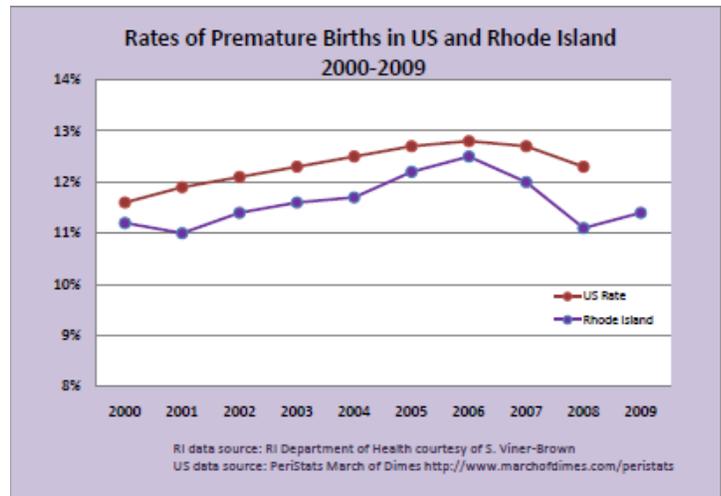


Rhode Island Task Force on Premature Births: 2010 Progress Report

After returning from the Rhode Island March of Dimes Prematurity Summit in December of 2005, the Director of the Rhode Island Department of Health (HEALTH), David R. Gifford, MD, MPH, charged the Division of Family Health, now the Division of Community Family Health & Equity, with convening a task force of stakeholders to develop a list of recommendations to address the problem of preterm birth in Rhode Island. At the time, the local and national rate of preterm birth was increasing. Preterm birth continues to be the largest contributor to infant mortality and rising costs associated with medical care. Preterm birth is responsible for significant challenges to the healthy development of many Rhode Island children.

The overarching goal of the Task Force is to improve the health of children in Rhode Island by reducing the rate of premature birth as well as morbidity and mortality associated with preterm birth. In early 2006, the Rhode Island Task Force on Premature Births began its work by hearing presentations from local and national experts on the most current information about preterm birth. Collaboratively, the task force developed recommendations to address the issue of rising prematurity rates in RI. In November of 2006, the task force disseminated 10 key recommendations that included both short- and longer-term initiatives to reduce the rates and impact of preterm birth.



The 2007 Task Force worked to develop plans for implementing their recommendations, prioritize action steps, and measure progress towards the overarching goal of reducing the rate preterm births in Rhode Island. The 2008 Task Force worked to implement the plan for each task force recommendation through the development of working groups focused on specific recommendations. The 2009 Task Force assessed the progress of the working groups and facilitated implementation plans for each task force recommendation and in 2010, this work continued. The National March of Dimes continues to recognize the Rhode Island Task Force on Premature Births as a model program.

The following report summarizes progress from the 2010 Task Force and working groups for each recommendation. (Task force recommendations do not appear in rank order).

1. Meet the Rhode Island Department of Elementary and Secondary Education (RIDE) Standards, including the Health Education Framework and the Rules and Regulations for School Health Programs, to address the need for comprehensive family life and sexuality health education in all school districts.

- The U.S. birth rate among teens, ages 15-19, is 42.5 per 1,000 teens; the rate in Rhode Island is 30.0 births per 1,000 teens, ranking at 10th among the 50 states. Rhode Island continues to have the highest rate of teen births among the six New England states.¹
- Babies born to teen mothers are more likely to be born premature, have low birth weight, and die during the neonatal period compared with babies born to adult women.²

- In 2007, babies born to mothers younger than 20 years old in Rhode Island accounted for almost 10% of all babies born in the state. Eighteen percent of all births to mothers younger than age 20 in RI are repeat births (the mother already has children).³

Progress: The working group has focused on gathering data on the current state of comprehensive family life and sexuality education in the state's school districts (WIH IRB approved protocol). Members of the working group met with RIDE staff, leadership of statewide associations for school health educators, and certified school nurse teachers to devise a strategy for distributing the needs assessment survey. The survey was distributed and data collection is on-going with efforts focused on maximizing the number of responses. The working group invited health educators, school nurse teachers and members of Rhode Island Association of Health, Physical Education, Recreation, and Dance (RIAPERD) to complete the needs assessment early in the school year to increase the response rate. RI State Education Commissioner Deborah Gist endorsed the survey and a letter indicating this support was sent to the superintendents in each district.

Next Steps: Working group committee members will be attending the fall meetings of professional organizations to speak to them about the importance of the survey. The data collection and analysis is ongoing and the results will be presented to the Task Force on Premature Birth and then to the Department of Education to help with future program planning.

2. Expand and assure access to emergency contraception for all women. Women should have immediate access to Plan B through over-the-counter pharmacy availability and through advance prescription. Prescriptions should be given in conjunction with family planning or other primary care visits.

- The American College of Obstetricians & Gynecologists (ACOG) recommends that emergency contraception be made available to all women.⁴
- An Oregon study using Pregnancy Risk Assessment Monitoring System (PRAMS) data found that postpartum women who were not aware of emergency contraception before their pregnancy may be more likely to have had an unintended birth.⁵
- Unintended pregnancy is associated with preterm birth.⁶
- In Rhode Island, 38.0% of mothers who recently gave birth report their pregnancies were unintended.⁷

Progress: In November 2007, based on an identified need to increase access to and knowledge of emergency contraception (EC), leadership from Women & Infants Hospital and the Task Force convened a group of concerned stakeholders, including pharmacists, Department of Health representatives, Pharmacy Association and Board members, physicians, insurance representatives, and other Rhode Island health care providers to discuss the impediments to EC access and propose solutions. Prior to this meeting, there was no mechanism for coordinating information on EC among different healthcare sectors. The newly formed Rhode Island Emergency Contraception Task Force developed a cooperative statewide education initiative for patients, pharmacists, and providers: The Rhode Island Emergency Contraception Education Campaign. From January through December 2008, the Task Force developed educational materials and a dissemination plan.

EC education materials were distributed to providers and patients in 2009. 40,000 patient brochures were shipped to 120 OB/GYN and Family Medicine Practices, hospital emergency rooms, colleges/university health services offices, community centers, and health care clinics. All patient materials were translated into Spanish, Portuguese, and Cambodian. In late 2009, changes were made to the EC materials reflecting updated information from the Food and Drug

Administration (FDA) that included changes in over-the-counter availability of Plan B. In January 2010, the updated materials for providers, patients and pharmacists were made available through a second distribution.

Currently, the team is conducting an evaluation to determine whether providers and pharmacists received and use the EC education materials and if access has improved.

Next Steps: The evaluation of the educational campaign is nearing completion and a report of the findings will be presented to the Task Force on Premature Birth and the Rhode Island Emergency Contraception Task Force. The working group will assess the need for continued work on this recommendation, pending the results of the evaluation.

3. (A) Support state policies and programs that ensure access to primary and preventive health care for women and children. Preserve Rlte Care eligibility, comply with standards for children, parents, and pregnant women, and continue to provide a comprehensive benefits package. (B) Support a family planning waiver to enable low-income women (who would be covered by Medicaid if they became pregnant) to obtain family planning services.

- Among women with private health insurance coverage in Rhode Island, 11% of all births are premature, compared with 13% of those with public health insurance and 20% of those with no health insurance.⁸
- Twenty-one states have established family planning waivers based on income.⁹
- Research indicates that income-based family planning waivers result in millions of dollars in state savings through averted Medicaid births. For Rhode Island, the state's share of net savings from a family planning waiver for uninsured women with incomes up to 200% of the federal poverty level are estimated to be \$5.7 million by the third year of operation (when efforts could be expected to be reasonably mature).¹⁰

Progress: Rhode Island KIDS COUNT, Covering Kids and Families, and March of Dimes monitored FY 2010 Supplemental and FY 2011 budget items that could impact health care access for women and children. Major items passed include:

- Article 21, which authorized the re-procurement of Medicaid managed care contracts for Rlte Care and Rhody Health Partners,
- Article 19, which amended the general laws to specify the exact set of Medicaid services that fall under the auspices of the children's health account. The article also raises the amount utilized to determine the total annual assessment on insurers from \$5,000 to \$6,000 per child per service per year, and
- Article 20, which established the legal authority for the DHS and Department of Behavioral Healthcare, Developmental Disabilities and Hospitals (BHDDH – formerly MHRH) to undertake a series of programmatic reforms geared toward the restructuring of their respective Medicaid programs in FY 2011, including changes to how hospitals are paid.

The Rlte Care re-procurement was released by DHS in mid-June. In August 2010, it was announced that Blue Cross Blue Shield of Rhode Island (BCBSRI) would no longer be a participating Rlte Care health plan. BCBSRI chose not to reapply during the recent re-procurement of Rlte Care and Rhody Health Partners. New Rlte Care members who enroll this fall will not be able to choose BCBSRI as a plan and existing members will be transitioned to one of the other remaining health plans that have been re-contracted – Neighborhood Health Plan of RI or United Healthcare. The transition of members will occur by region over a three-month period, with completion targeted for end of December 2010. DHS reports that enrollment

of lawfully residing immigrant children who became eligible on April 1, 2010 is moving along smoothly, with approximately 850 children enrolling in the past four months.

A groundbreaking provision included in the recently enacted health care reform legislation gives states the option to expand Medicaid eligibility for family planning services without having to go through the process of obtaining a federal waiver. On July 2, 2010 the Centers for Medicare and Medicaid Services issued guidance for implementing the Medicaid family planning state option.

Next Steps: Rhode Island KIDS COUNT, Covering Kids and Families, and March of Dimes will continue to monitor the BCBSRI transition, the implementation of the FY11 budget, and legislation dealing with access to health care for women of childbearing age of children, including health reform related issues. The Task Force will continue to support policy and legislation related to these areas. The Family Planning program is working with the OHHS Health Reform workgroup to pursue expansion of Medicaid eligibility based on income for family planning services.

4. Expand the range of services in all setting in which women receive health care before and between pregnancies (including pregnancy test visits) to include improved identification of health risks, health information, and targeted referrals for health risks associated with preterm birth (e.g. tobacco use, substance use, underweight status, obesity, mental illness, violence, etc.).

- Tobacco, alcohol, and cocaine use along with unintended pregnancy are associated with an increased risk for preterm birth. Psychological factors such as stress and anxiety, in addition to experiencing domestic violence or personal violence during pregnancy, are risk markers for adverse birth outcomes.¹¹
- Eighty-one percent (81%) of the women receiving a pregnancy test in Rhode Island's Title X-funded family planning clinics report their suspected pregnancy as being unplanned and have multiple risk factors including tobacco use (32%), alcohol and or drug use (20%), depression or mental health concerns (18%), or multiple health risk factors (17%).¹²

Progress: The Report of the Task Force on Vulnerable Women was reviewed and the group determined that the document provides valuable insight into the needs of our most vulnerable women and will provide an important framework for establishing effective screening practices to prevent preterm birth. A number of screening tools from insurers, DOH and providers have been reviewed. There was agreement that significant variety exists in core screening items, as well as the timing of screening. Concerns regarding appropriate follow-up of screening were also acknowledged. A key initiative of the workgroup is to develop statewide recommendations for screening women for risk for premature birth. Key items to successful implementation were identified:

Next Steps: The working group will identify core screening items related to pre-term birth and maternal health through review of existing data from HEALTH, insurers and hospitals. They will work to identify key access points for the three critical intervention points identified: negative pregnancy test, positive pregnancy test and post-partum for mothers who had a premature birth or other high risk condition. A risk-factor based screening tool will be developed through research and evaluation. An education and dissemination plan will be developed and implemented to optimize utilization of the screening tool by professional and para-professional staff. Another aspect of the plan is to assure appropriate referrals are available when risk factors are identified.

5. Enhance comprehensive, relationship-based family support programs, such as Early Head Start and Nurse Family Partnership, to improve outcomes for teens and their children and prevent subsequent pregnancy.

- Nurse-Family Partnership is an evidence-based program that has been recognized as one of the most cost-effective interventions for low-income, multiple-risk families. Results from three randomized control trials have shown the model improves prenatal health, family stability, parenting skills, and children's school readiness. The model also improves maternal employment, delays second pregnancies, increases intervals between births, and reduces child maltreatment.

Progress: In July 2010, Nurse-Family Partnership (NFP) began providing home-based prenatal support services to low-income pregnant women under age 25 in Providence, Pawtucket, Central Falls and Cranston. Home-based services continue until the baby turns age 2. The program has been funded to serve 100 families using a combination of funding from DHS, DCYF, HEALTH, and federal Evidence Based Home Visiting funds. As of November 4, 2010, 41 clients were enrolled in the program. To promote NFP in Rhode Island, the Task Force held a community informational meeting. They also participated in a press conference with Senator Jack Reed to discuss the launch of NFP in Rhode Island's families on October 26, 2010.

In 2010, federal ARRA funding to expand Early Head Start services in Rhode Island created 134 slots for children in Pawtucket, Providence, and the Johnston/North Providence/Smithfield area. Early Head Start provides comprehensive services to pregnant women and infants and toddlers up to age 3. President Obama has proposed increased core funding for Early Head Start programs nationally to sustain the new slots created by ARRA funding. The President's budget is being considered for passage during the current session of Congress (November-December 2010).

Next Steps: The Nurse-Family Partnership program is in the start-up phase and is being closely monitored by the National Service Office and supported by a local implementation team to ensure fidelity to the national model. Pregnant women are being enrolled gradually to ensure high-quality implementation. Rhode Island KIDS COUNT is working with HEALTH and other state departments to discuss expansion of the initial program in the core urban region and to consider options for expansion statewide. New federal home visiting funding for evidence-based programs will become available in 2011 and will be managed by HEALTH. The Bradley Hasbro Children's Research Center is conducting an evaluation of the NFP program in Rhode Island and will be examining prenatal and birth outcomes in addition to other outcomes for NFP families and for a control group. Data collection for the evaluation will begin in February 2011 and continue through at least September 2013.

6. Develop and implement an educational campaign for providers and patients addressing previous preterm birth. Encourage providers to assess the risk for preterm birth with each pregnant woman during prenatal care. If a previous preterm birth is documented, 17-hydroxyprogesterone caproate (17-OHP) may be offered.

- 17-OHP is the only intervention to prevent preterm birth that is supported with evidence from a randomized trial.¹³
- 4.2% of Rhode Island mothers who delivered a preterm baby have had a previous preterm birth.¹⁴
- One of the greatest risk factors for preterm birth in all ethnic groups is a history of preterm birth.¹⁵

Progress: The team assisted with development of materials for Women & Infants Hospital of Rhode Island Clinical Guidelines (WIHRI); worked with WIHRI Risk Management and Marketing departments to develop an educational poster and materials about preterm birth risks and use of 17-OHP (these materials were distributed and posted during November and December of 2008); worked with WIHRI Risk Management department to evaluate rate of 17-OHP being offered to women with a previous preterm birth (adoption over 80%); worked to ensure insurers in RI covered 17-OHP for qualifying pregnant women; and, worked to facilitate provider offices in obtaining 17-OHP from WIHRI pharmacy.

Next Steps: The initial plan was to work with the March of Dimes to do a state-wide campaign to promote 17-OHP use to prevent a second preterm birth; FDA approval of the medication is pending. The use of 17-OHP for the prevention of repeat preterm birth has become part of the usual prenatal care for women who have a history of a previous preterm birth. Once FDA approval is complete, the Task Force will collaborate with the March of Dimes on a continuing education campaign.

7. Develop a coordinated medical home for preterm infants by bringing together payers, providers, and HEALTH.

- The estimated annual cost of preterm birth in the United States is \$26.2 billion, roughly \$51,600 per infant. Most of these costs are associated with medical care.¹⁶
- The impact of preterm births lasts beyond the hospitalization period in the Neonatal Intensive care Unit (NICU). Graduates of the NICU have continuing complex medical problems and disproportionately utilize emergency room and hospital services.¹⁷
- Individualized interdisciplinary management teams have the potential to improve outcomes and reduce hospitalization and emergency room usage.

Progress: The funding for Women & Infants Hospital CHIP (Comprehensive Health Integration for Premies) program from the CVS Charitable Trust ended in December 2009. During the summer and fall of 2009 the program results were presented to NHP, United Health, and Blue Cross. The program has demonstrated a 58% decrease in re-hospitalizations and a 20% decrease in emergency room visits when compared to the year before CHIP was implemented.

As of January 2010, WIHRI had contracted with NHP to enroll 60 babies with capitation support from NHP. It was recommended that WIHRI change the program name, CHIP, because the name could be confused with the federal CHIP program. The new name is Transition Home Plus (THP). The program currently has 83 babies enrolled; in NHP, 17 United, 6 Blue Chip and 3 private insurance. The THP team met on October 25, 2010 with the Neighborhood Health Plan (NHP) team to review data collected to date on THP hospitalizations and it was reported that the re-hospitalization rate has dropped from 18.5% to 15%.

Next Steps: The THP team is awaiting the outcome of a grant that was submitted to the RI Foundation for supplemental funding to provide services to additional families with poor insurance coverage. The THP and WIHRI representatives will be meeting with the Providence Foundation to discuss potential funding opportunities. The THP team continues to negotiate with Blue Cross and UnitedHealth RI to develop contracts to provide the THP model to their participants.

The Task Force supports WIHRI and the THP program in identifying strategies to continue and expand the THP Program. The Task Force will continue to advocate for sustained funding.

8. Implement changes to the vital statistics birth record. Items to be added will include: (1) identification of methodology used to calculate gestational age (e.g. was gestational age based on last menstrual period (LMP), ultrasound, or a combination thereof); and (2) assessment of fertility treatment (and type of treatment) if used to achieve pregnancy.

- Gestational ages vary by methodology, thereby resulting in different preterm birth rates. According to Rhode Island birth certificate data, 10.8% of births in 2007 were preterm based on physician estimates, compared with 12% in 2007 based on LMP.¹⁸

Progress: The programming changes to add the fields for the fertility questions and gestational age calculations were completed in January 2010. Vital records tested the software modifications and changes were implemented state-wide on February 18, 2010. Vital records started collecting the new data for babies born effective February 19, 2010. Based on data collected from 3/1/10 – 9/30/10, there have been 7,041 birth records on file, 308 (4.4%) used fertility drugs and 198 (2.8%) had an ART procedure. As for gestational age calculation, the most frequent combination of method used to determine gestational age was last menstrual period (LMP) with a first trimester ultrasound (N=2,094). Use of LMP alone was 576.

Next Steps: The workgroup is currently monitoring the data to assess trends. The workgroup will continue to collect and analyze the data. Reports will be presented to the Task Force.

9. Urge HEALTH and other anti-tobacco organizations to incorporate messages about the risks associated with smoking and preterm birth into anti-tobacco media campaigns. Include a specific focus on smoking cessation programs during pregnancy. Promote the use of tobacco cessation services by pregnant women who smoke by marketing Quit Works to prenatal care providers and by improved identification of pregnant and soon-to-be pregnant smokers with referrals to Quit Works by community-based cessation providers.

- In Rhode Island, 12.2% of women report that they smoked during their pregnancy.¹⁹
- In 2009, 12.8% of Rhode Island births to smokers were preterm, compared with 9.5% for women who did not smoke.²⁰
- Quit Works, a free telephone-based smoking cessation service, can be used by any patient who smokes, regardless of the patient's health insurance status.

Progress: Representative Eileen Naughton submitted legislation (H7751) requiring BHDDH to issue new smoking warning signs that include language that smoking can contribute to heart disease, lung disease, respiratory illness and premature births and low birth weight infants. The bill was introduced on the House side this past legislative session, and had a hearing in House Committee on Health Education and Welfare, to which MOD testified - there was no opposition to the statute change; however, there was no Senate companion for the bill in 2010. Introducing the Senate companion bill is a priority for January 2011.

The Tobacco Control Program contracted with the Rhode Island Health Center Association (RIHCA) who is working collaboratively with Women & Infants Hospital Project link to work with community health centers to host group sessions for pregnant women. The program promotes healthy, tobacco-free lifestyles to pregnant women, women with children and women of child-bearing age by providing outreach to participants in smoking cessation/tobacco treatment groups. Targeted educational materials related to smoking, smoking and pregnancy and secondhand smoke were distributed in English and Spanish to providers and Community Health Centers (CHC) staff as well as to women seeking services at a variety of community-based organizations. RIHCA completed their activities and their contract ended on June 30, 2010.

The Tobacco Control Program also contracted with Quality Partners of RI (QPRI) to focus on outreach to women during the perinatal period related to tobacco use and nicotine addiction treatment. QPRI are working within systems of care delivery with the goal of facilitating the creation and integration of sustainable processes that routinely and comprehensively screen for tobacco/nicotine use, advise cessation and offer treatment through the QuitWorks-RI program. QPRI completed their activities and their contract ended on September 30, 2010.

Next Steps: To move the tobacco warning awareness legislation forward, the Task Force will support efforts to identify a Senate champion to introduce the bill on the Senate side as well.

The Tobacco Control Program will continue to work with RIHCA and QPRI on the groundwork that has been laid in cessation efforts for pregnant women.

10. Encourage development of additional substance abuse treatment programs where women are not separated from their children and parental relationships for women in treatment are preserved.

- Among mothers who recently gave birth and reported drinking during pregnancy, 3.9% reported they had at least one alcoholic drink per week during the last three months of pregnancy.²¹
- Many women are reluctant to admit substance abuse for fear of losing custody of their children.²²
- Evidence-based programs suggest that a variety of substance abuse treatment approaches during pregnancy are effective, including traditional programs focused on the pregnancy period as well as newer approaches that include motivational interviewing and contingency management, a focus on the mother-infant relationships, and collaboration among social service systems.²³

Progress: WIH Project Link leadership is evaluating this recommendation and working towards achievable goals. Evaluation has included assessing the different levels of care available to a women who are in need of substance abuse treatment during pregnancy and postpartum. Collaborators include representatives from SStarbirth, Closing the Gap, RICAODD (transitional housing) and Amos House.

Next Steps: Working towards developing a plan that would ensure funding stability and appropriate program services for mothers and children affected by substance abuse.

Members of the Rhode Island Task force on Premature Births

Maureen G. Phipps, MD, MPH (Chair)

Associate Professor, Obstetrics & Gynecology
and Community Health
Alpert Medical School of Brown University
Women & Infants Hospital of Rhode Island

Nichole Aguiar

Director of Program Services
March of Dimes of Rhode Island

Betsy Akin

State Director
March of Dimes of Rhode Island

Jill Beckwith

Policy Analyst
Rhode Island KIDS COUNT

Jim Berson

Director of Business Development & Grants
Meeting Street

Kristine Campagna, MEd

Manager, Newborn and Early
Childhood Screening and Follow-up Programs
Rhode Island Department of Health

Edward Chien, MD

Assistant Professor, Obstetrics & Gynecology
Alpert Medical School of Brown University
Maternal Fetal Medicine
Women & Infants Hospital of Rhode Island

Patrice E. Cooper

Executive Director
United Healthcare of New England

Tanya Dailey, MD

Assistant Professor, Obstetrics & Gynecology
Alpert Medical School of Brown University
Maternal Fetal Medicine
Women & Infants Hospital of Rhode Island

Stephen Davis, MD, MPH

Associate Medical Director
Neighborhood Health Plan of Rhode Island

Patricia J. Flanagan, MD

Director, Teens with Tots Program
Hasbro Children's Hospital
Chair, Rhode Island Teen Pregnancy Coalition

Denise Flinn

Senior Project Coordinator, Research Division
Women & Infants Hospital of Rhode Island

Robyn Hoffmann, RN, MSN

Rhode Island Department of Human Services
Quality Improvement Consultant
ACS State Healthcare Solutions

William Hollinshead, MD, MPH

Medical Director (Retired)
Rhode Island Department of Health

Jennifer Hosmer, MD, MPH

Chair, Department of Obstetrics & Gynecology
Providence Community Health Centers

Margaret Miller, MD

Assistant Professor of Medicine
Alpert Medical School of Brown University
Women & Infants Hospital of Rhode Island

Maureen Morrow, CNM

American College of Nurse Midwives -
Rhode Island Chapter

Janet Muri

President
National Perinatal Information Center

Patricia A. Nolan, MD, MPH

Executive Director
Rhode Island Public Health Institute

Ana Novais, MA

Executive Director
Division of Community, Family Health & Equity
Rhode Island Department of Health

James F. Padbury, MD

Professor and Associate Chair for Research
Department of Pediatrics
Alpert Medical School of Brown University
Pediatrician-In-Chief
Women & Infants Hospital of Rhode Island

Paula Reid

Medical Home Project Manager
Rhode Island Parent Information Network

Cynthia Rosengard, PhD, MPH

Associate Professor, Obstetrics & Gynecology and
Medicine
Alpert Medical School of Brown University
Women & Infants Hospital of Rhode Island

Lynn Ryzewicz, PhD

Clinical Director
Project Link, Women & Infants Hospital

Lisa Schaffran

Associate Director/Director
Parent Consultant Programs
Rhode Island Parent Information Network

Julie Shocksneider, RNC

Associate Vice President
National Perinatal Information Center

Anne Marie Silvia

HIV/Sexuality Specialist
Rhode Island Department of Education

Debra Venancio, RN, BSN

Assistant Clinical Manager
Maternal and Child Health
Newport Hospital

Samara Viner-Brown, MS

Chief, Center for Health Data & Analysis
Rhode Island Department of Health

Betty Vohr, MD

Professor of Pediatrics
Alpert Medical School of Brown University
Director, Neonatal Follow-up Clinic
Women & Infants Hospital of Rhode Island

Catherine B. Walsh

Deputy Director
Rhode Island KIDS COUNT

Tricia Washburn

Program Manager
Rhode Island Department of Health
Family Planning Program

REFERENCES:

- ¹ Martin, JA, Hamilton, BE, Sutton, PD, et al (2010). Births: Final Data for 2007. *National Vital Statistics Reports* 58(24). Hyattsville, MD, Centers for Disease Control & Prevention (CDC).
- ² Klien, JD & the Committee on Adolescence, American Academy of Pediatrics (AAP). Adolescent Pregnancy: Current Trends and Issues. *Pediatrics*, 2005, 116, 281-286.
- ³ Rhode Island Dept of Health, Maternal & Child Health (MCH) Database, 1991-2007. Data for 2007 provisional.
- ⁴ American College of Obstetricians & Gynecologists (ACOG), *ACOG Practice Bulletin*, Emergency Contraception, Number 69, December 2005.
- ⁵ Goldsmith, KA, Kasehagen, LJ, Rosenberg, KD, et al. Unintended Childbearing and Knowledge of Emergency Contraception in a Population-Based Survey of Post-Partum Women: 2001. *J Mat Child Health*, Aug 2007.
- ⁶ Behrman, RE, and Stith Butler, A (Editors). Committee on Understanding Premature Birth and Assuring Healthy Outcomes. Preterm Birth: Causes, Consequences, and Prevention. *National Academies Press*, July 13, 2006. Washington, DC. National Academy of Sciences.
- ⁷ Rhode Island Dept of Health, Pregnancy Risk Assessment Monitoring System (PRAMS) Database, 2007 (final).
- ⁸ Rhode Island Department of Health, MCH Database, 2007 (provisional).
- ⁹ State Policies in Brief: State Medicaid Family Planning Eligibility Expansions. Washington, DC: AGI (11/1/10).
- ¹⁰ Frost, JJ; Sonfield, A; and Benson Gold, R. Estimating the Impact of Expanding Medicaid Eligibility of Family Planning Services. Washington, DC: AGI, Occasional Report No. 28, August, 2006.
- ¹¹ Behrman, RE, and Stith Butler, A (Editors). Committee on Understanding Premature Birth and Assuring Healthy Outcomes. Preterm Birth: Causes, Consequences, and Prevention. *National Academies Press*, July 13, 2006. Washington, DC. National Academy of Sciences.
- ¹² Rhode Island Department of Health, Women's Health Screening and Referral Program (WHSRP) Database, 2005.
- ¹³ Spong, CY, Meis, PJ, Thom EA, et al. Progesterone for Prevention of Recurrent Preterm Birth: Impact of Gestational Age at Previous Delivery. *Am J of Obstetrics & Gynecology*, September 2005, 193 (3), 1127-1131.
- ¹⁴ Rhode Island Department of Health, Maternal & Child Health Database, 2007 (provisional).
- ¹⁵ Behrman, RE, and Stith Butler, A (Editors). Committee on Understanding Premature Birth and Assuring Healthy Outcomes. Preterm Birth: Causes, Consequences, and Prevention. *National Academies Press*, July 13, 2006.
- ¹⁶ Behrman, RE, and Stith Butler, A (Editors). Committee on Understanding Premature Birth and Assuring Healthy Outcomes. Preterm Birth: Causes, Consequences, and Prevention. *National Academies Press*, July 13, 2006.
- ¹⁷ Women & Infants Hospital of Rhode Island and Hasbro Children's Hospital (internal data). Providence, RI
- ¹⁸ Rhode Island Department of Health, MCH Database, 2007 (provisional).
- ¹⁹ Rhode Island Department of Health, MCH Data Base, 2007 (provisional).
- ²⁰ Rhode Island Department of Health, MCH Data Base, 2009 (provisional).
- ²¹ Rhode Island Department of Health, PRAMS Database, 2007 (final).
- ²² Finkelstein, N. Treatment Programming for Alcohol and Drug-Dependent Pregnant Women. *International Journal of Addiction*, 28 (13), 1275-1309, 1993.
- ²³ Lester, BM, Twomey, JE. Treatment of Substance Abuse During Pregnancy. *Women's Health*, 4 (1): 67-77, 2008.