



THE BIRTH OF CHANGE

HEALTHY MOTHERS. HEALTHY INFANTS.



Delaware Healthy Mother
and Infant Consortium
Reducing Infant Mortality in Delaware

ANNUAL PROGRESS REPORT | DECEMBER 2008

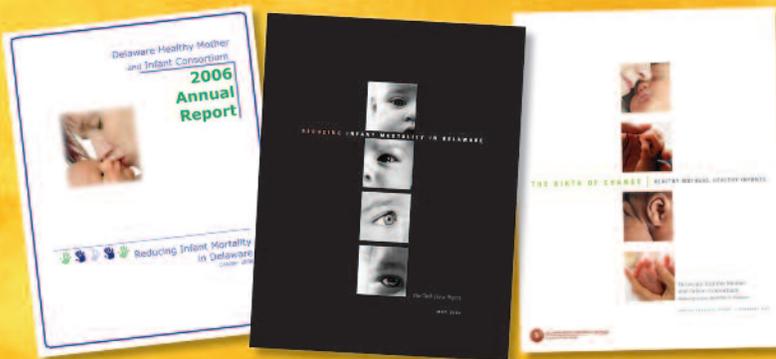
OUR PROGRESS HAS MADE AN IMPACT:

- ▶ **WE'VE LISTENED TO AND SURVEYED** over 1,000 women between two and four months postpartum who gave birth in Delaware through the Pregnancy Risk Assessment Monitoring System (PRAMS).
- ▶ **WE'VE ESTABLISHED COMMITTEES** within the Delaware Healthy Mother and Infant Consortium, each working to reduce infant mortality in Delaware.
- ▶ **WE'VE STUDIED THE RISK FACTORS** for repeat poor birth outcomes to help us better target services and programs for women in Delaware.
- ▶ **WE'VE EXAMINED FETAL-INFANT MORTALITY** by birth weight and age at death to better focus our fetal and infant mortality prevention efforts.
- ▶ **WE'VE ENROLLED NEARLY 15,000 WOMEN** in our preconception care program—that's a 231% increase since last year.
- ▶ **WE'VE TARGETED PROGRAM SERVICES** to include care for infants, and increased participation of pregnant women in Delaware—we've reached more than 20% of all pregnant women in the state.
- ▶ **WE'VE CREATED A PROGRAM** to provide services to women most at risk for poor birth outcomes. Between January and June 2008, 61% of high-risk women who received progesterone therapy through the Prematurity Prevention Program avoided premature labor and delivery.
- ▶ **WE'VE IMPLEMENTED A SAFE-SLEEPING CAMPAIGN** to educate the public about infant sleep safety. We've implemented a Statewide Media Campaign to educate the public about infant mortality risk factors. We've promoted Perinatal HIV testing among Delaware Comcast Cable subscribers to prevent the transmission of the virus from mothers to their babies.
- ▶ **WE'VE CONTINUED TO MONITOR TRENDS** in pregnancy, delivery and infant care to better identify and understand factors leading up to infant death.

All progress reported in this document is for Fiscal Year (FY) 2008.

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The Third Annual Report of the Delaware Healthy Mother and Infant Consortium (DHMIC) is attached. The mission of DHMIC is to provide statewide leadership and coordination of efforts to prevent infant mortality and improve the health of women of childbearing age and infants throughout Delaware.



It has been three years since the publication of the 2005 Infant Mortality Task Force recommendations. Although many of the 20 recommendations from the Task Force report have been implemented, more recommendations need to be implemented to reduce infant mortality significantly, sustain that reduction, and eliminate the racial disparity ratio in infant mortality rates. The focus of the DHMIC has been to reduce infant deaths. This goal can only be achieved through continued improvement of maternal health beginning with preconception health care programs and continuing with intervention programs during the prenatal and postpartum periods.

The consortium coalesces with the Delaware Division of Public Health, which has made great strides in establishing infant mortality reduction programs, the Governor's Office, and the Delaware Legislature, which have offered ongoing support of the DHMIC's programs. Our prenatal programs are now reaching 20% of all pregnancies in Delaware. We are working towards preventing premature labor and helping women maintain longer pregnancies by providing 17 Alpha Hydroxy Progesterone Caproate (17P), the only drug demonstrated to reduce premature birth, to low-income women. Other programs of the consortium include a Fetal and Infant Mortality Review, a Pregnancy Risk Assessment Monitoring System, and a Center for Family Health Research & Epidemiology.

Although strides and successes can be documented, much more time and sustained funding and support are indispensable to remove Delaware from the infamy of being in the bottom decile in the United States when it comes to infant mortality rate and the attendant racial disparity. The consortium looks forward to working with you to improve maternal health and to reduce infant mortality in Delaware.

Sincerely,

A handwritten signature in black ink that reads "De Paul MD". The signature is written in a cursive, slightly stylized font.

David A. Paul, MD
Chair
Delaware Healthy Mother and Infant Consortium

A handwritten signature in black ink that reads "Jaki Gorum". The signature is written in a cursive, slightly stylized font.

Jaki Gorum, DSW
Co-Chair
Delaware Healthy Mother and Infant Consortium

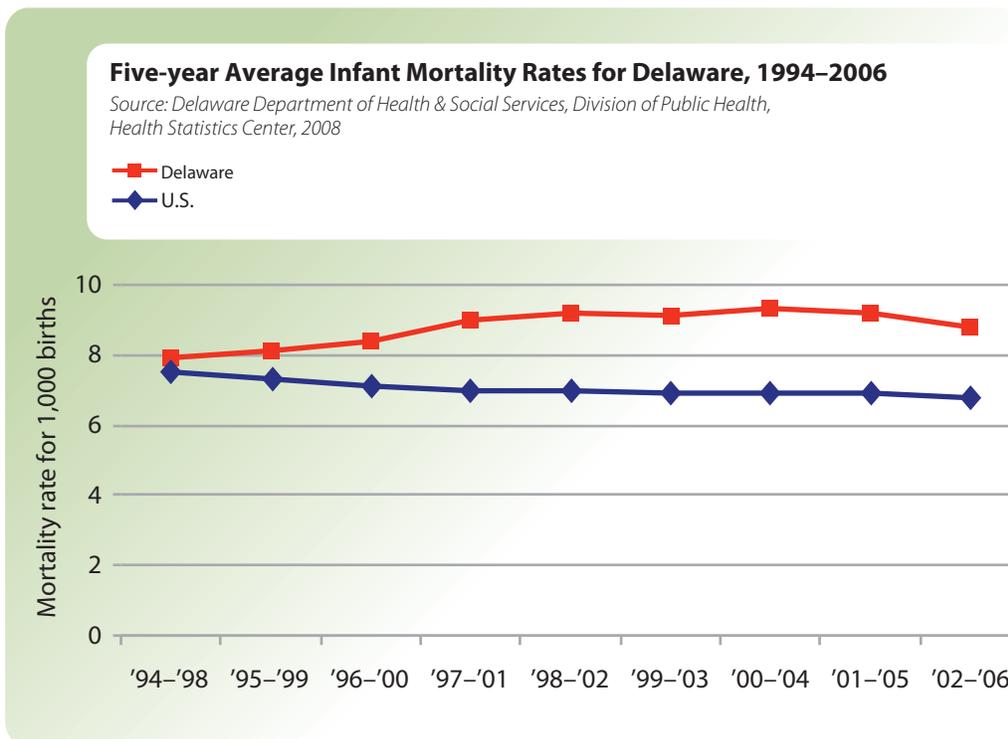


INFANT MORTALITY BACKGROUND

DELAWARE'S INFANT MORTALITY RATE HAS REMAINED STEADY SINCE THE LATE-1990'S WHILE THE U.S. RATE HAS DECREASED. Infant Mortality—the record of the number of babies who die from the first day of birth up to

12 months of life—is an indicator of the health of the prior generation. In Delaware, mothers who aren't getting prenatal care, have a chronic illness or don't wait long enough between pregnancies are having babies who are sick when they're born.

WHAT DOES THE INFANT MORTALITY RATE LOOK LIKE IN DELAWARE?



Delaware's Infant Mortality Rate (IMR)*, 2002–2006, is 8.8 deaths per 1,000 live births.

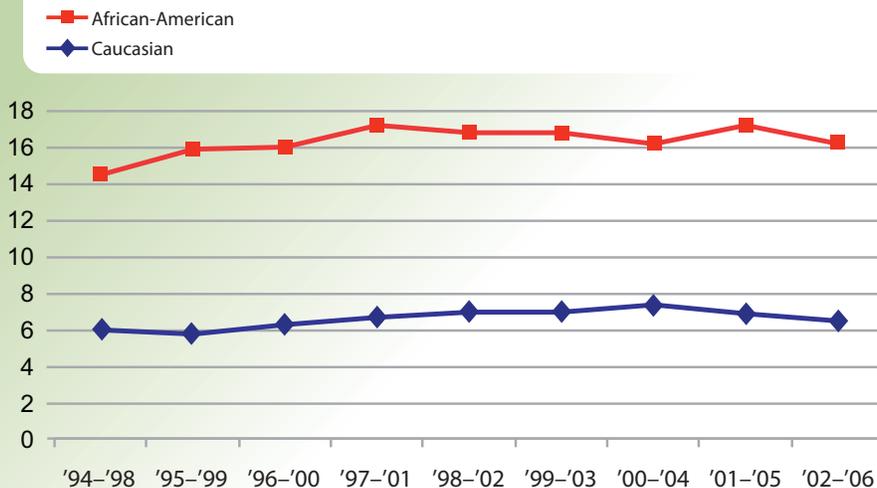
*The Infant Mortality Rate is the number of infant deaths per 1,000 live births.

➤ In Delaware, there is a significantly higher Infant Mortality Rate among African-American infants—as much as two to nearly three times that of Caucasian infants.

➤ The Infant Mortality Rate for African Americans is consistently higher than for Caucasians in all three counties.

Five-year Average African-American and Caucasian Infant Mortality Rates for Delaware, 1994–2006

Source: Delaware Department of Health & Social Services, Division of Public Health, Health Statistics Center, 2008



Infant Mortality Rates by Race and County for Delaware, 2002–2006

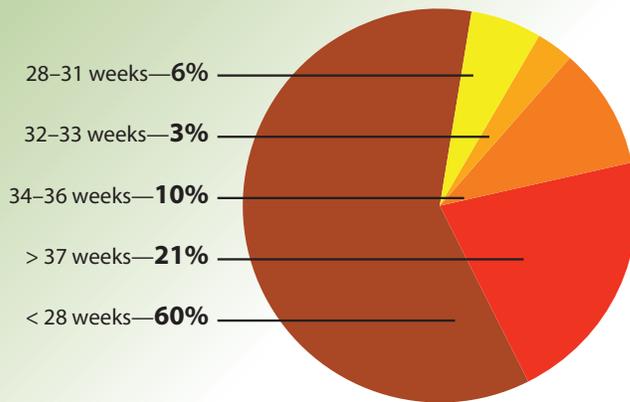
Source: Delaware Department of Health & Social Services, Division of Public Health, Health Statistics Center, 2008



— African-American	16.3	14.8	16.9
— Caucasian	6.8	7	5

Infant Deaths by Gestational Age, 2002–2006

Source: Delaware Department of Health & Social Services, Division of Public Health, Health Statistics Center, 2008



➔ Among all infant deaths in Delaware, 60% occur at less than 28 weeks gestation.

➔ The leading cause of infant death among Caucasians and African Americans is prematurity and low birth weight.

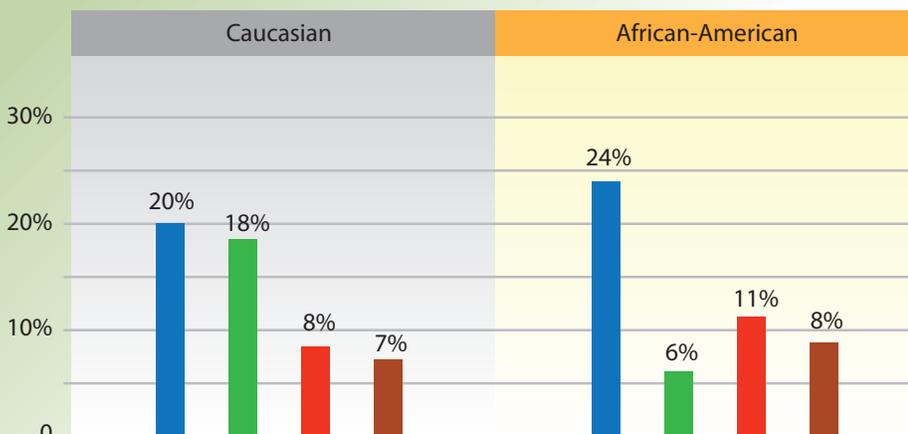
Key facts about Infant Mortality in Delaware:

- Between 2002 and 2006, 21% of all infant deaths were caused by infants being born too early and too small.
- The second- and third-leading cause of death varies among Caucasians and African Americans.
- The second-leading cause of death among Caucasians between 2002 and 2006 is birth defects, while maternal complications of pregnancy is the second-leading cause of infant death among African Americans.
- The third-leading cause of death among Caucasians between 2002 and 2006 is maternal complications of pregnancy, while Sudden Infant Death Syndrome is the third-leading cause of infant death among African Americans.
- Between 2002 and 2006, 48 infant deaths were caused by maternal complications of pregnancy such as premature rupture of membranes.

Leading Causes of Deaths among Caucasian and African-American Infants for Delaware, 2002–2006

Source: Delaware Department of Health & Social Services, Division of Public Health, Health Statistics Center, 2008

- Prematurity & Low Birth Weight
- Birth Defects
- Maternal Complications of Pregnancy
- Sudden Infant Death Syndrome (SIDS)

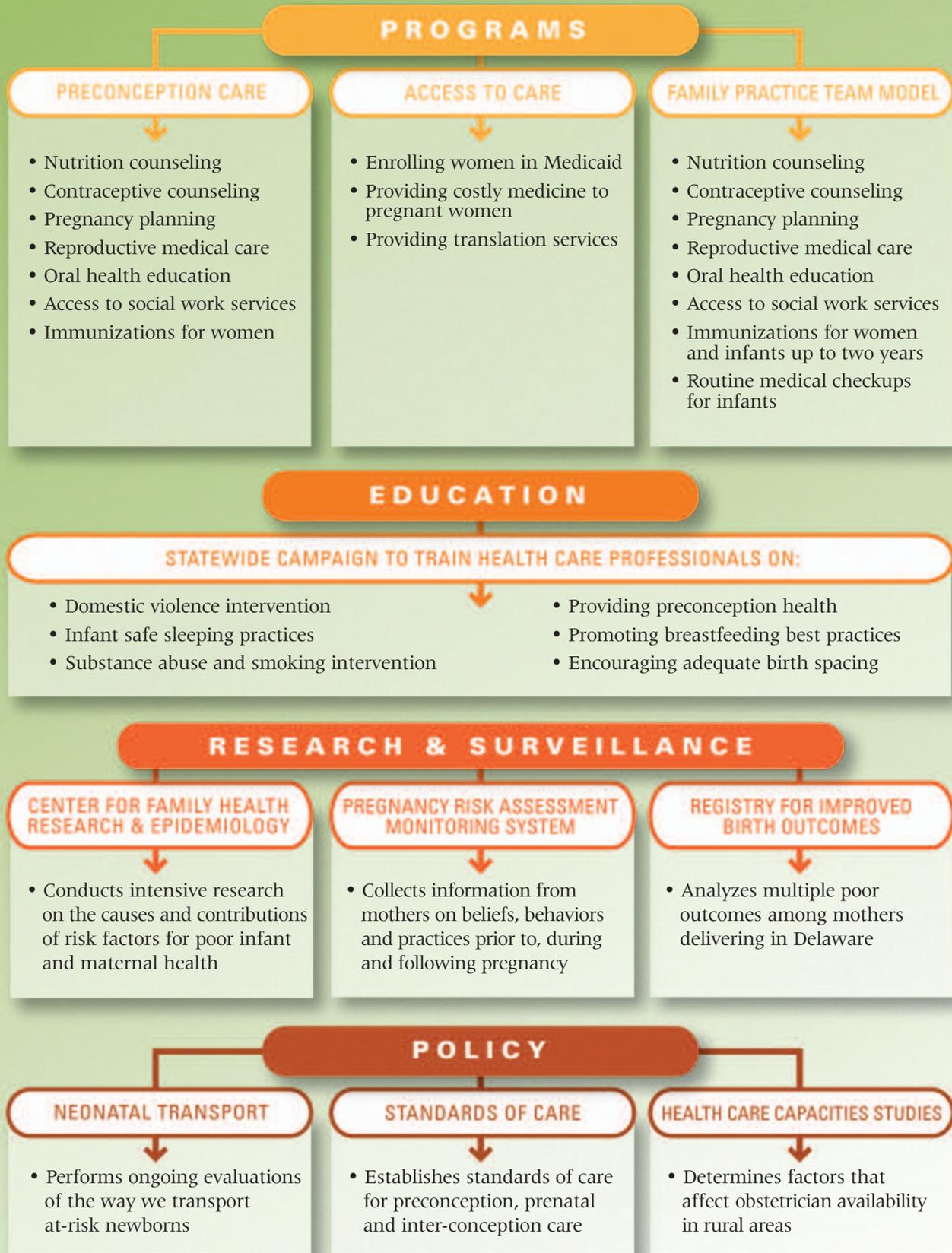


➔ Maternal complications of pregnancy can be prevented. This tells us that more work must be done in this area.

WHAT WE'VE ACCOMPLISHED.

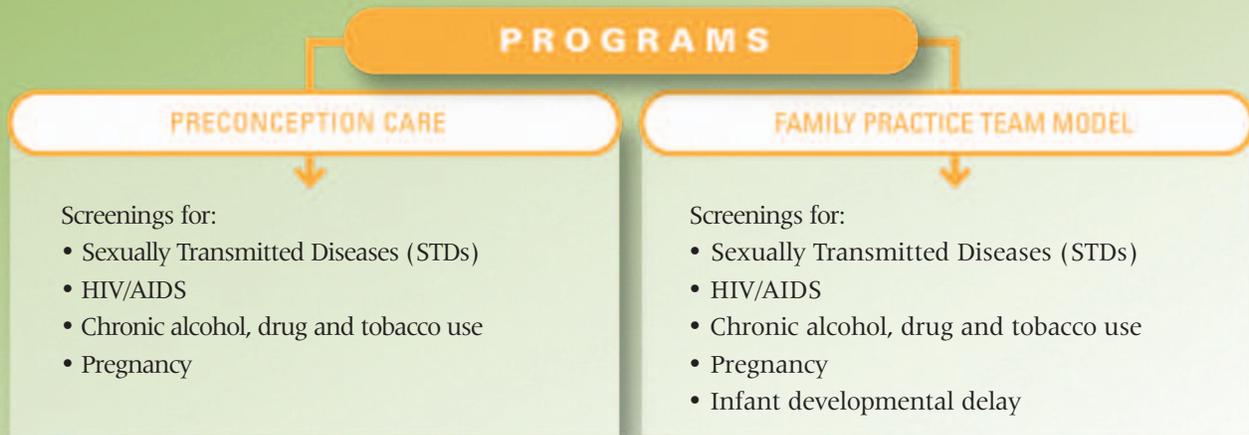
PRIMARY PREVENTION

Actions taken to avoid a given health care problem such as immunizations, promotion of healthy behavior and counseling



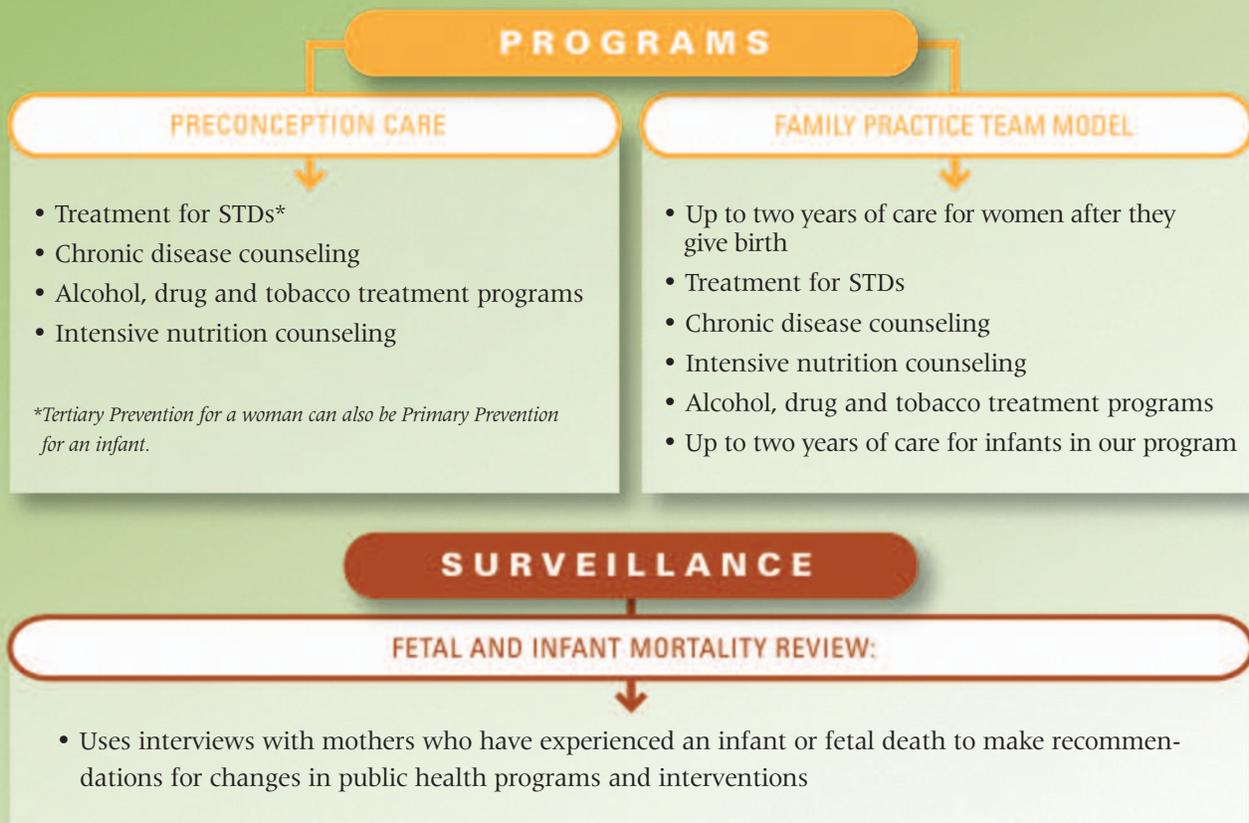
SECONDARY PREVENTION (EARLY DETECTION/SCREENING)

Actions taken to identify people who have already developed a condition to prevent its spread or provide care and treatment



TERTIARY PREVENTION (TREATMENT & AFTER-CARE)

Actions taken to provide permanent health care to individuals with lifelong illnesses, conditions or injuries



THERE'S STILL MORE WORK TO BE DONE.

"We have implemented programs based on the most recent evidence, we also know that the IMR in Delaware is still among the highest in the nation, indicating a need for us to continue—and expand—our efforts with populations most at risk..."

PROGRAMS & INSURANCE

FULL REPRODUCTIVE HEALTH SERVICES THAT WOULD INCLUDE:

- Free or low-cost family planning services for uninsured and underinsured women and women living 300% below the poverty line
- Covering services for sexually transmitted infection screening

If we expand insurance coverage for family planning services, then we will be able to extend birth spacing intervals, improve diagnoses of diseases and reduce infant mortality.

Cost: approximately \$297,600 in the first year

ORAL HEALTH CARE THAT WOULD INCLUDE:

- Periodontal assessments
- Outreach education on oral health care

If we include oral health treatment programs for women during the perinatal period, then women will have healthier pregnancies.

Cost: approximately \$75,000 in the first year

EDUCATION

CULTURALLY AND LINGUISTICALLY APPROPRIATE SERVICES:

- Translating services for all ethnic groups
- Providing reading materials in preferred languages
- Free language assistance services to patients with limited English

If we implement standards requiring staff to receive training in service delivery to patients of different cultures, then we eliminate language and cultural barriers to health care.

Cost: approximately \$100,000 in the first year

CULTURAL COMPETENCE:

- Cultural competency training for providers to ensure they effectively communicate with their diverse patient population
- Offering education on family planning, domestic violence and clinical depression

If we require cultural competency training, then health care providers will be better equipped to provide quality care among different ethnic populations, reducing disparities in health care.

Cost: approximately \$100,000 in the first year

RESEARCH EFFORTS

CONTINUOUS QUALITY IMPROVEMENT:

- Program evaluations of infant mortality interventions

If we evaluate our infant mortality program impact and participant outcomes, then our programs are more effective in improving birth outcomes.

Cost: approximately \$100,000 in the first year

LINKED DATABASE SYSTEM:

- Creation of a Maternal & Child Health (MCH) Data System

If this linked database is created, then we will obtain a better understanding of infant mortality, which will help us focus health services to meet health care needs.

Cost in the first year: \$500,000

ENVIRONMENTAL RISKS:

- Identify environmental risks for poor birth outcomes

If we identify environmental risks, we will develop strategies to eliminate these factors in the environment.

Cost in the first year: \$25,000

SURVEILLANCE

BIRTH DEFECTS REGISTRY:

- Identify causes of birth defects
- Provide birth defects reporting requirements to health care providers

If we identify causes of birth defects and increase provider reporting, we will develop prevention strategies and better connect affected children to services.

Cost in the first year: \$30,000

EPIDEMIOLOGICAL SURVEILLANCE SYSTEM:

If we examine the availability of obstetrical services, then we will develop strategies to ensure these services are accessible to women living in underserved communities.

Cost in the first year: \$25,000

RECOMMENDATION: FAMILY PRACTICE TEAM MODEL

Implement a comprehensive and holistic Family Practice Team Model so that pregnant women can learn from other mothers, outreach workers, nurses, social workers and nutritionists how to better care for themselves and their infants up to two years after giving birth.



FY08 GOALS

FAMILY PRACTICE TEAM MODEL

- **INCREASE THE NUMBER OF WOMEN SERVED**
- **COLLECT INFORMATION ON WOMEN AND INFANTS IN THE PROGRAM**
- **EXPAND PROGRAM THROUGHOUT DELAWARE**

FY08 ACCOMPLISHMENTS

FAMILY PRACTICE TEAM MODEL

- We've expanded the program throughout Delaware:

EXISTING CLINICS

- Christiana Care Healthy Beginnings
- Delmarva Rural Ministries
- La Red Health Clinic
- St. Francis Tiny Steps
- Westside Health

EXPANSION OF EXISTING CLINICS

- Christiana Care Healthy Beginnings
- Westside Health

NEW CLINICS

- Henrietta Johnson Medical Center
- Private Practice of Dr. Cecil Gordon

- We've increased by 90% the number of pregnant women served from FY07. In FY08, we served 2,449 participants compared to 1,292 in FY07.
- We've increased by 98% the number of African-American participants served from FY07. In FY08, we served 758 African-American women compared to 383 in FY07.
- We've increased the number of Hispanic women served by 68%. In FY08, we served 1,248 Hispanic women compared to 745 in FY07.
- We've provided care to 1,707 infants.
- We've collected information on women's health history, previous pregnancy history and the services they received from the program.

Samantha Phillips learned about Stork's Nest—a Healthy Beginnings program—when she became pregnant, and attended the classes. She also consulted with a dietician through the services offered. Most importantly, she appreciated that—knowing her life would change becoming a single mother—she had someone to talk to. “They even helped me look for a place to live,” Samantha recalls. She delivered a healthy, full-term baby boy at Christiana Care and now receives help for herself and her son so they can both stay healthy.

SAMANtha PHILLIPS

PROGRAM PARTICIPANT FROM
NEW CASTLE, DELAWARE

The picture is not of the actual individual.

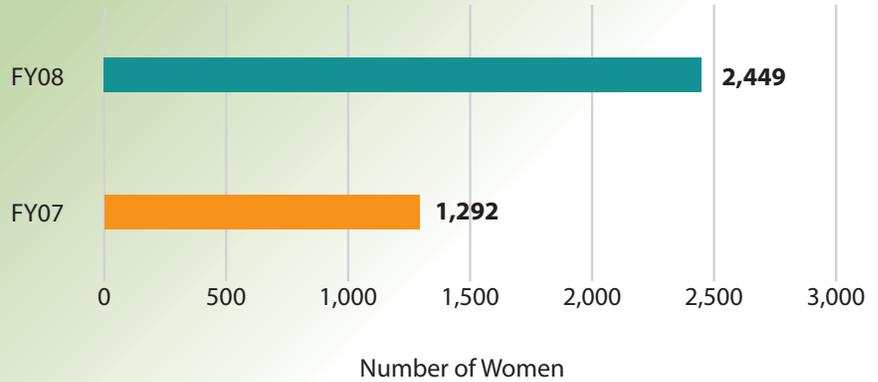


▶ In FY08, we increased the number of pregnant women served by 90% from FY07.

▶ Of those who participated in the program, 92% delivered normal birth weight babies.

Number of Pregnant Women Served, starting FY07

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



WHAT WERE THE OUTCOMES OF OUR PROGRAM?

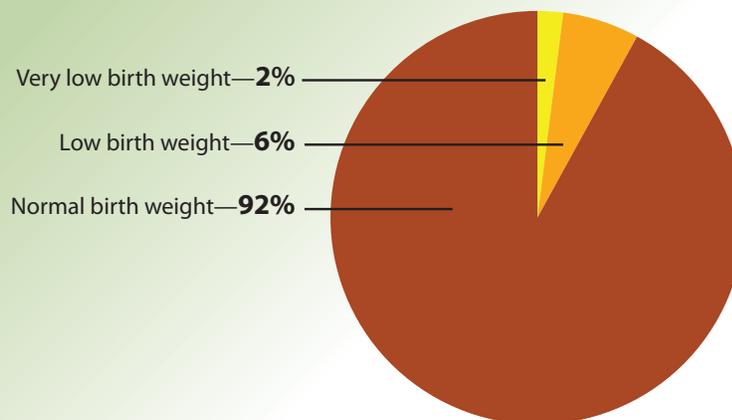
FAMILY PRACTICE TEAM MODEL—OUTCOMES

Out of 1,707 infant deliveries:

- 9 infant deaths occurred—42% lower than expected in our target population
- 8 fetal deaths occurred

Weight of Infants Delivered by Mothers in Our Program

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology

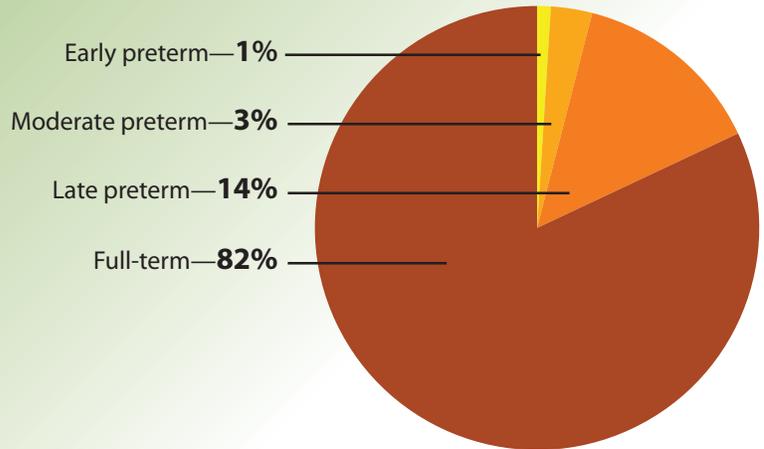


Of women who participated in our program, **82%** had full-term deliveries.

Among the 1,707 infant deliveries, **96%** of women in our program did not experience pregnancy complications. Only **4%** of women experienced pregnancy complications that affected either their health or their infants.

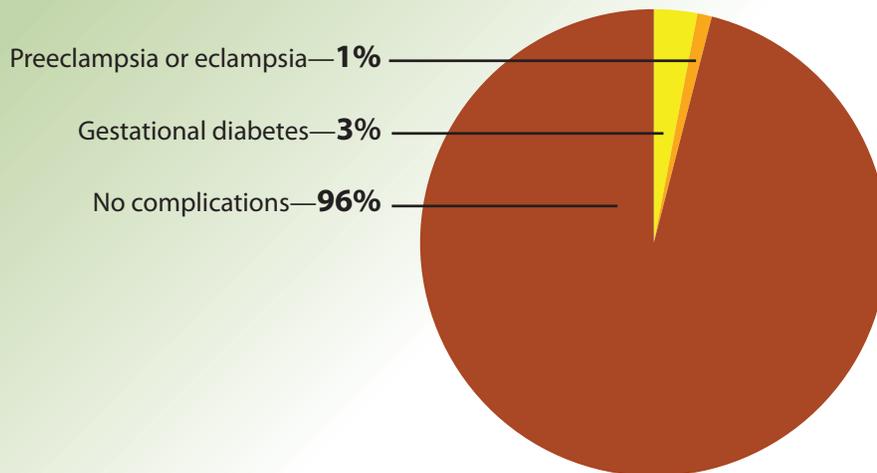
Age of Infants Born to Mothers in Our Program

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Complications During Pregnancy

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology

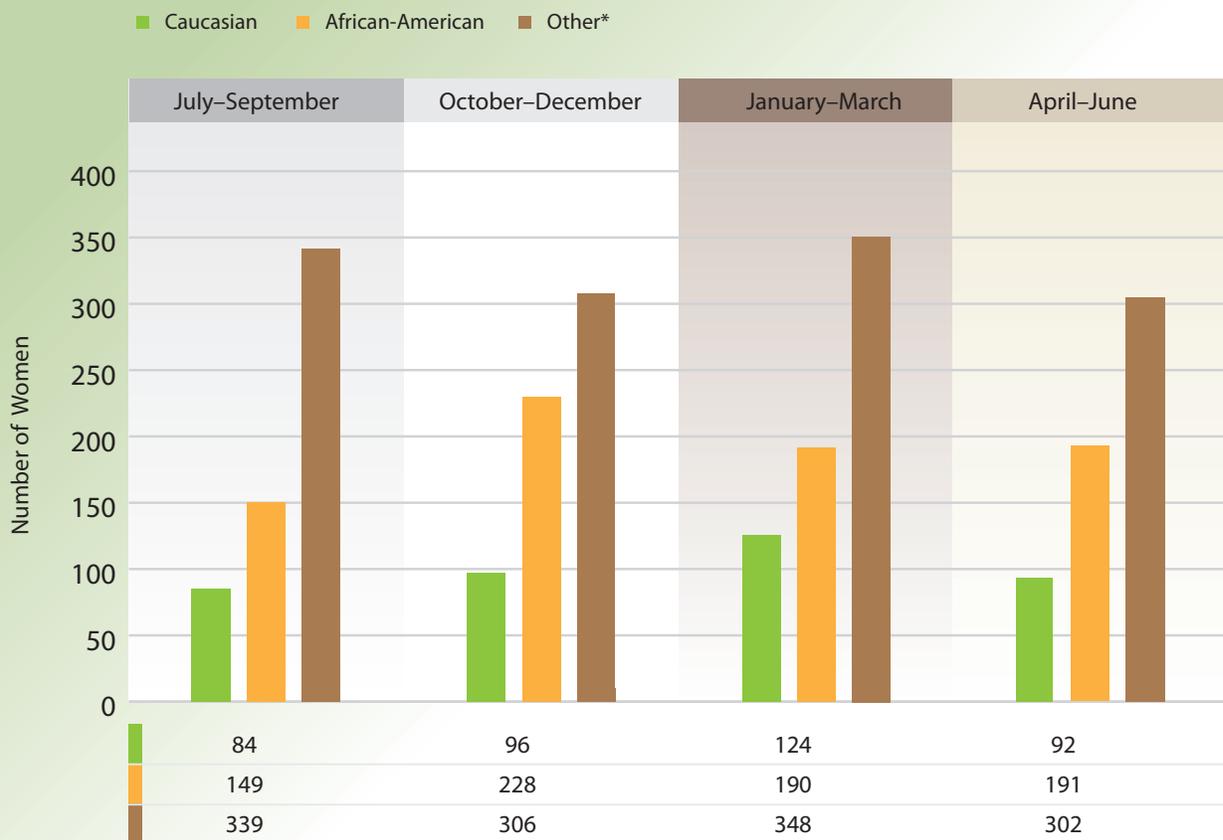


FAMILY PRACTICE TEAM MODEL—WHO DO WE TARGET?

- African-American women and other ethnic or minority populations
- The uninsured or underinsured
- Women who had previous poor birth outcomes
- Those coping with chronic diseases
- Those who live in high-risk geographic locations

Race and Ethnicity of Pregnant Mothers in Our Program

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



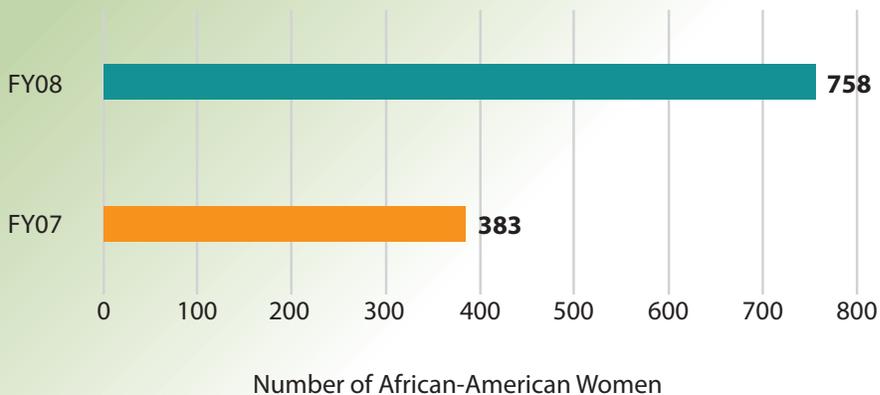
*Other is composed of mostly Hispanic women.


In 2008, we served 758 African-American women, 98% more than the number served in 2007.


In 2008, Hispanic women made up 51% of all pregnant participants.

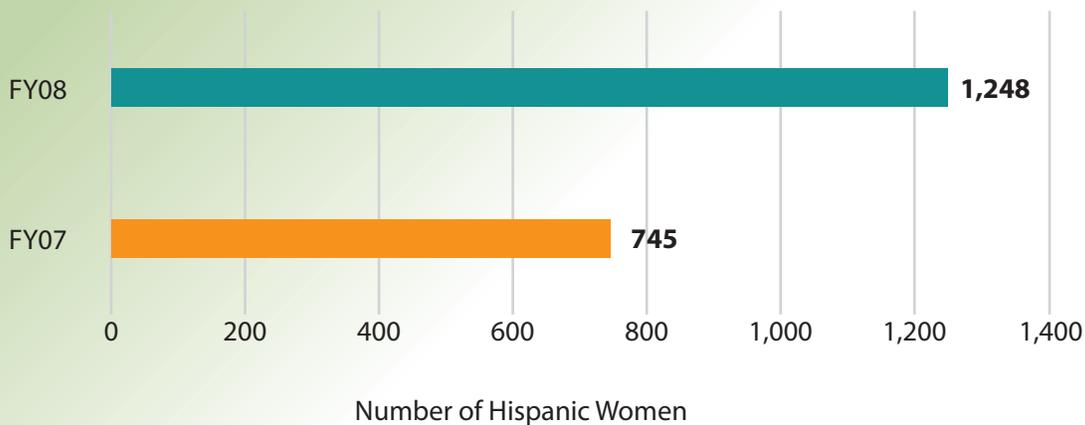
Number of African-American Women Served, starting FY07

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Number of Hispanic Women Served, starting FY07

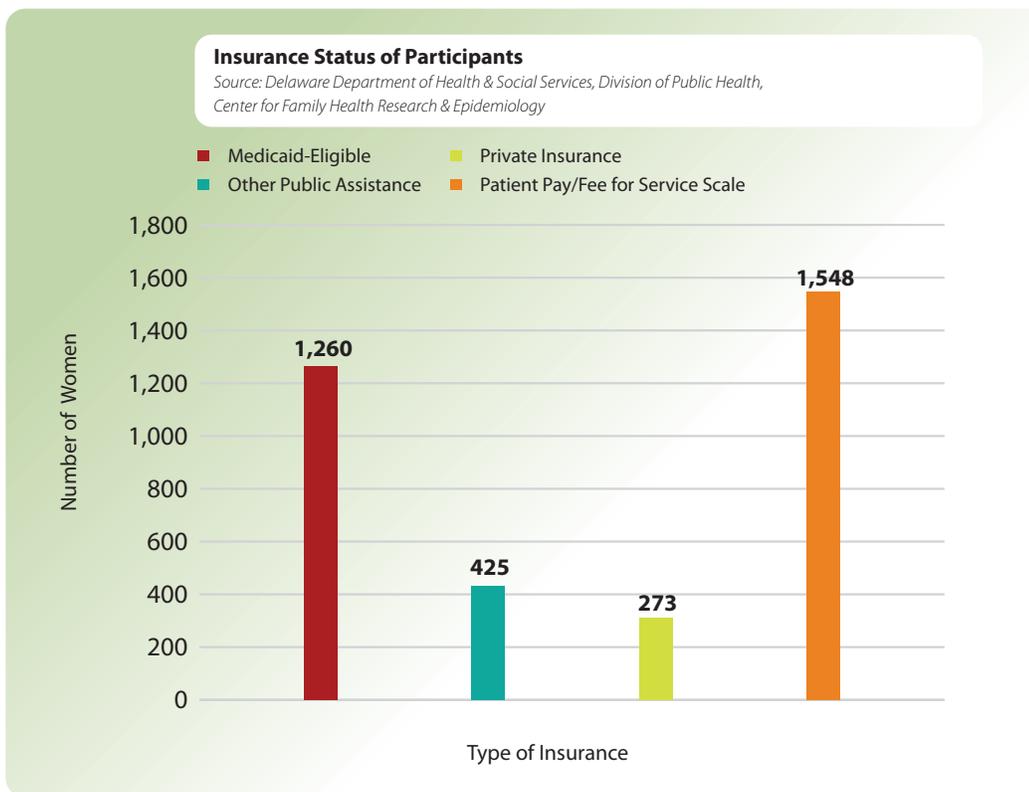
Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



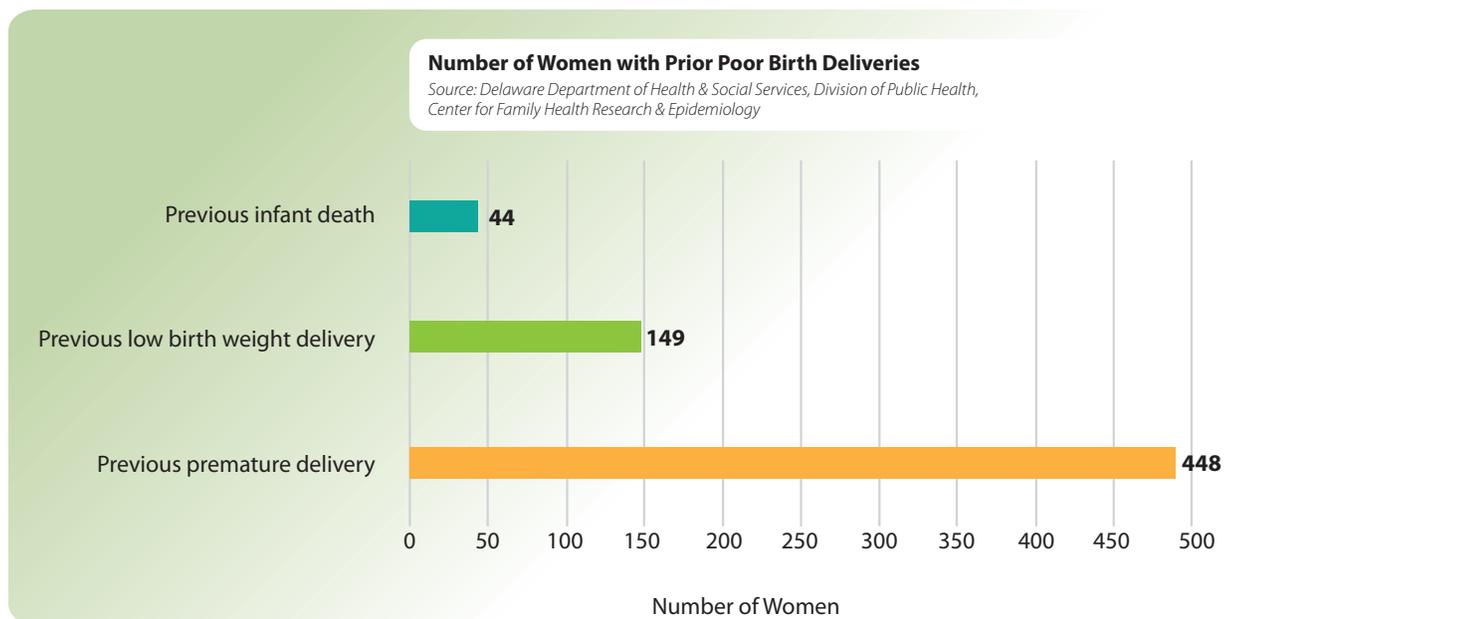
➔ We've continued to focus on women who have no insurance and women who are Medicaid-eligible.

➔ Of the 2,449 participants, 20% had a prior premature delivery, 6% delivered a prior low birth weight infant and 2% experienced a prior infant death.

HOW ARE THESE WOMEN COVERED?



WHAT HAPPENED WITH THESE WOMEN'S OTHER PREGNANCIES?

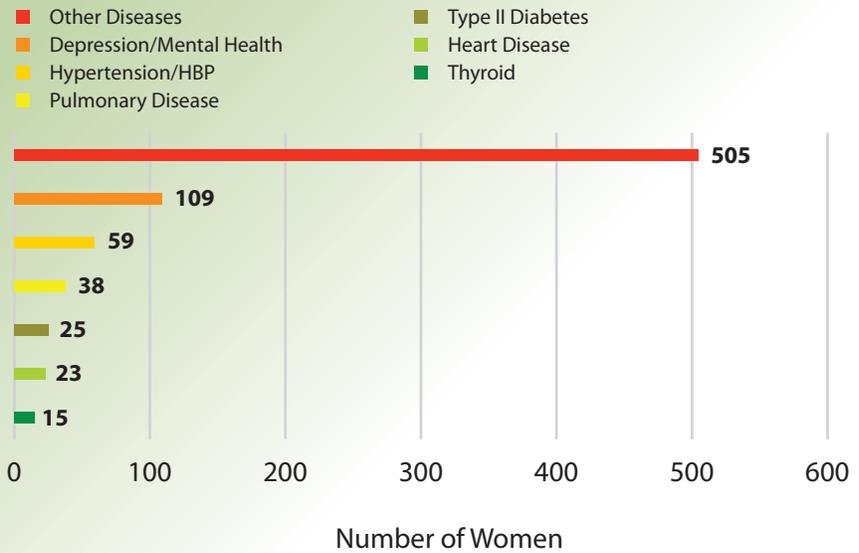


▶ We've continued to enroll women who have chronic diseases. Among the 2,449 participants, 32% were coping with chronic diseases.

HOW HEALTHY ARE THESE WOMEN?

Chronic Conditions Among Participants

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Thyroid disease, pulmonary disease and depression/mental health were only collected January–June 2008. In 2007, these disorders were included under “other diseases.”

FAMILY PRACTICE TEAM MODEL—NEXT STEPS FOR FY09

- Conduct fiscal evaluation of program
- Continue program evaluation
- Streamline services to target highest-risk women

RECOMMENDATION: PRECONCEPTION CARE

Provide access to preconception care to all women of childbearing age with a history of poor birth outcomes.



FY08 GOALS

PRECONCEPTION CARE

- **INCREASE THE NUMBER OF WOMEN SERVED**
- **COLLECT INFORMATION ON WOMEN IN PROGRAM**
- **EXPAND PROGRAM THROUGHOUT DELAWARE**
- **MAINTAIN COMMUNITY PARTNERSHIPS WITH CHRISTIANA CARE HEALTHY BEGINNINGS AND PLANNED PARENTHOOD OF DELAWARE**

FY08 ACCOMPLISHMENTS

PRECONCEPTION CARE

- We are on track to become the first state in the nation to implement a preconception care program.
- We've expanded the program throughout Delaware. We started our program in FY07. By FY08, all services were in place at Christiana Care Healthy Beginnings and Planned Parenthood of Delaware.
- We've increased the number of participants by 231%. In FY08, we served 14,839 women compared to 4,485 in FY07.
- We've collected information on women's health history, previous pregnancy history and the services they received from the program.
- We've completed an evaluation of the program.
- We've maintained community partnerships.
- We're working with other states to identify areas of women's preconception health using national measures.
- Our program was highlighted in *Women's Health Issues*, an international journal.



Rachael Pannhorst delivered her first child premature. When she became pregnant with her second, she was concerned she would deliver early again—especially since there would be just 4 months between pregnancies. When she began to see an obstetrician at Westside Health, she learned how critical prenatal care was. “The first time I got pregnant, I had a hard time finding a doctor who would accept Medicaid insurance. But this time, my doctor was so great, she even would call me to follow up.” After the second child was born full term, Rachael was encouraged to use birth control and get healthy again before she had any more children. “I have an ovarian disorder I didn’t know I had.” She’s eager to address her health issues so she and her husband can have healthy babies in the future.

RACHAEL PANNHORST

PROGRAM PARTICIPANT FROM

TOWNSEND, DELAWARE

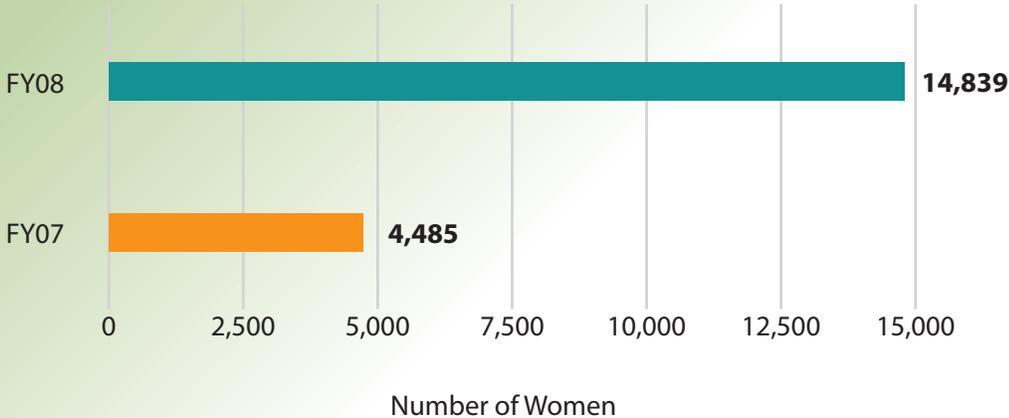
Since FY07, we've increased the number of women served by 231%.

This program touched 8.5% of the eligible population in a state with a population of almost 175,000 women between the ages of 14 and 44.

Our program may become a model for preconception care across the nation!

Number of Women Served, starting FY07

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



OUR PRECONCEPTION CARE PROGRAM AT A GLANCE

PROGRAM COMPONENTS

- Personalized care for women’s lifestyle
- Help with pregnancy planning
- Help coping with chronic diseases
- Counseling for women who had previous pregnancy complications
- Depression, anxiety and stress counseling
- Intensive nutrition counseling
- Social work services for women and their families
- Community outreach for women with social service needs

WHO PROVIDES THESE SERVICES?

- Christiana Care Healthy Beginnings
- Planned Parenthood of Delaware

PROGRAM DIFFERENCES

CHRISTIANA CARE HEALTHY BEGINNINGS

- Outpatient clinics in Newark (Christiana Care Hospital) and in Wilmington (Wilmington Hospital Health Center)
- Women are enrolled when they come to the doctor or right after they have a baby
- One-stop shopping—all clinical care and social services are provided on-site
- Screens for health risks and shapes care around women’s lifestyle assessment

Screening for health risks includes:

- Assessing depression, anxiety, stress
- Assessing insurance coverage
- Assessing folic acid use, and pregnancy planning
- Identification of infections and chronic diseases

PLANNED PARENTHOOD OF DELAWARE

- Outpatient clinics in Claymont, Dover, Newark, Rehoboth and Wilmington
- Provides referrals to partner agencies for extra services
- Responsibility of referral follow-up is on partner agencies, not the patient
- Provides “Wellness Coaching”

What is Wellness Coaching?

Wellness Coaching includes goal-setting, help applying for Medicaid, personalized care and referral follow-up.

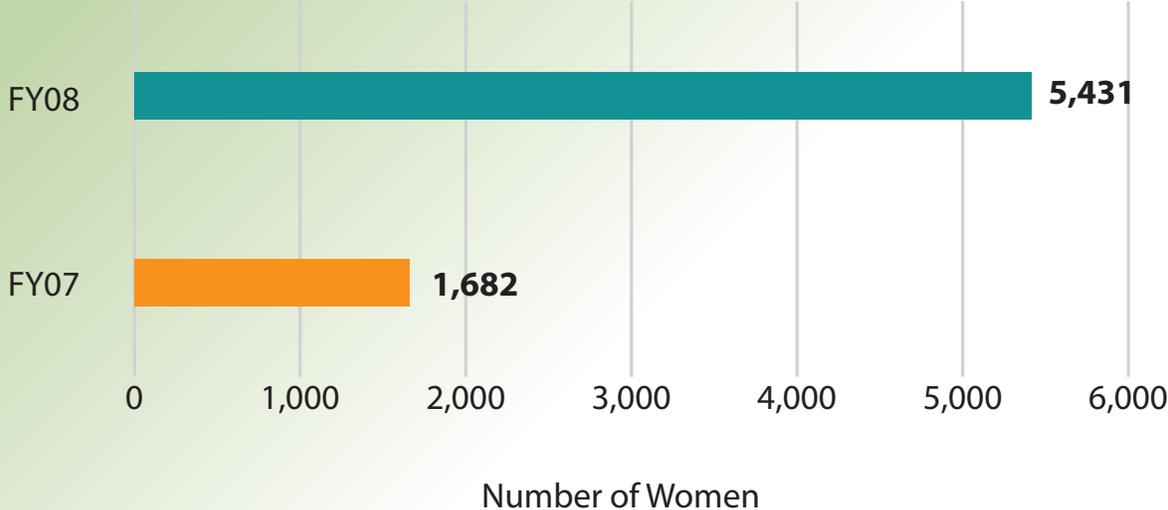
What is the purpose of coaching?

To enhance healthy lifestyles for women.

➔ In FY08, we served 5,431 African-American women, 223% more than last year.

Number of African-American Women Served, starting FY07

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



PRECONCEPTION CARE—WHO DO WE TARGET?

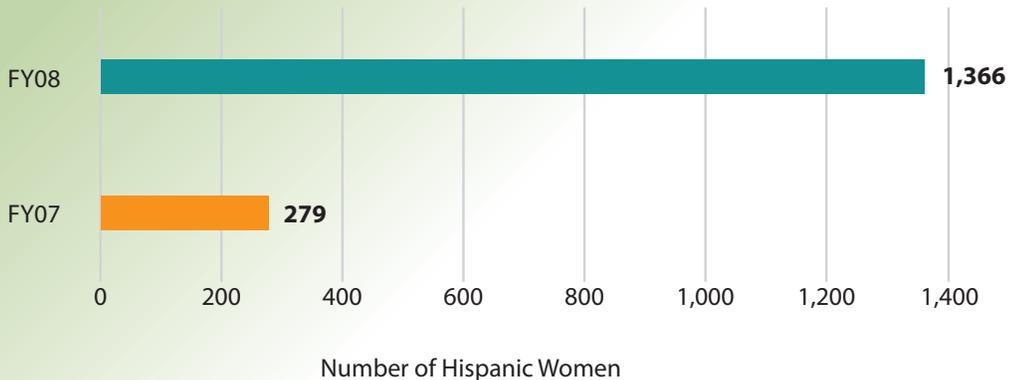
- African-American women and other ethnic or minority populations
- The uninsured or underinsured
- Women who had previous poor birth outcome
- Those coping with chronic diseases
- Those who live in high-risk geographic locations

In FY08, we increased the number of Hispanic women served by 390%.

Of the 14,839 women served by our program in FY08, 9% were Hispanic.

Number of Hispanic Women Served, starting FY07

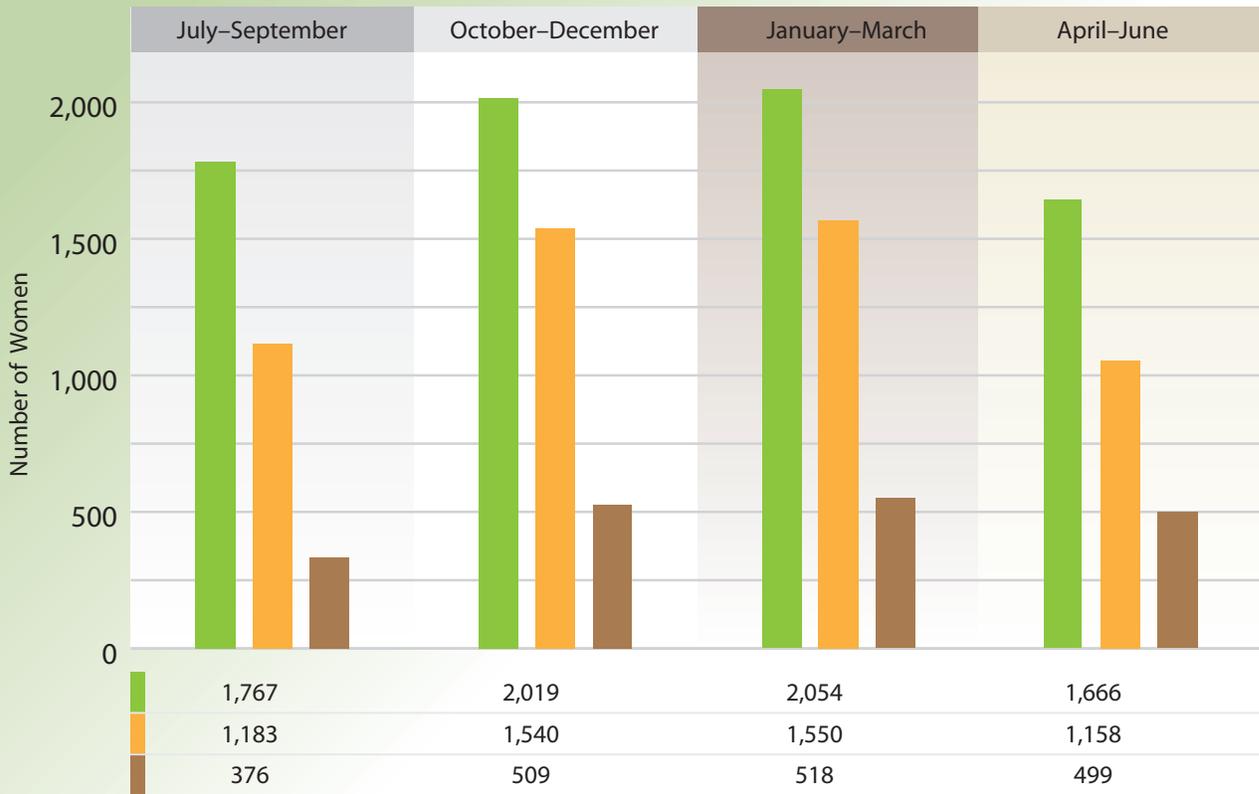
Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Race and Ethnicity of Women in Our Program

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology

■ Caucasian ■ African-American ■ Other*



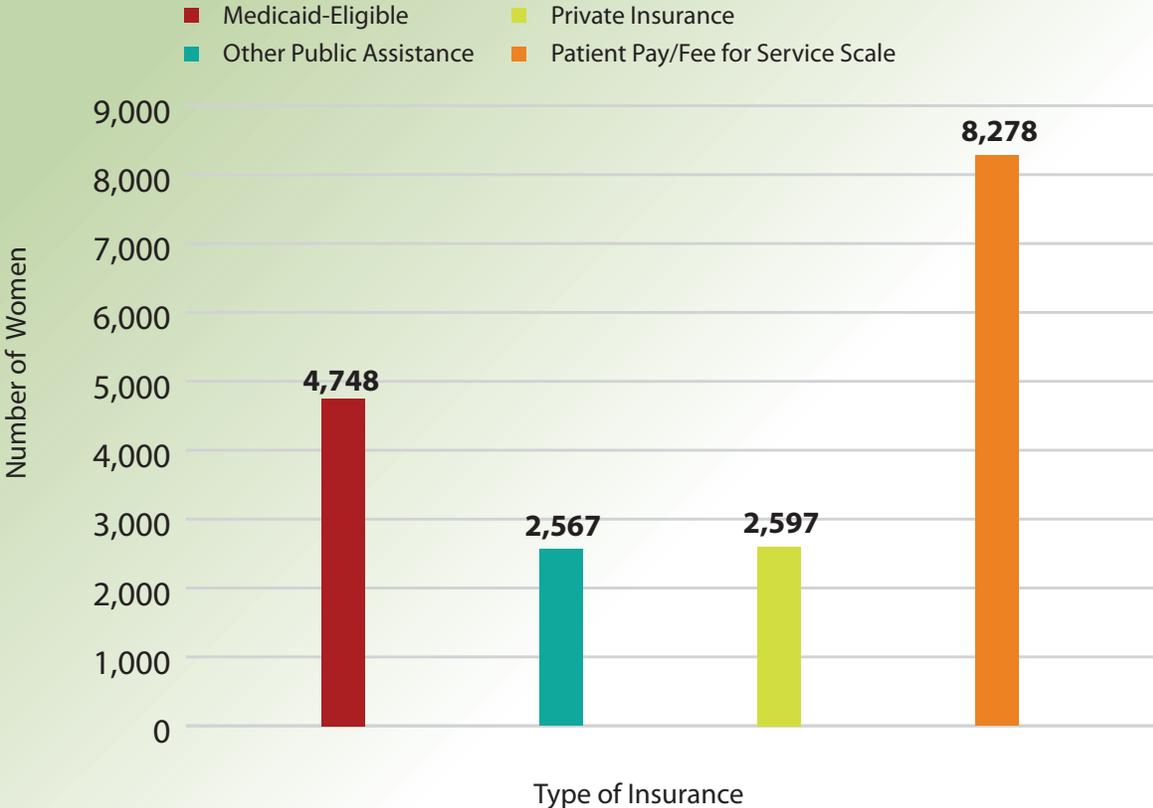
*Other is composed of mostly Hispanic women.

▶ We've continued to focus on women who have no insurance and women who are Medicaid-insured.

HOW ARE THESE WOMEN COVERED?

Insurance Status of Participants

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Women may have multiple insurers.

WHY IS PRECONCEPTION CARE SO IMPORTANT?

If women are healthy before they become pregnant, they will have better birth outcomes. While prenatal care is important, women often receive it too little and too late.

WHAT DO WE KNOW ABOUT PREGNANCIES?

- About half of all pregnancies in the United States are unplanned (www.marchofdimes.com).
- Short amounts of time (less than 18 months) between pregnancies are a risk factor for premature birth, low birth weight delivery and infant deaths.
- Smoking during pregnancy contributes to infertility, problems with the placenta, premature delivery and stillbirths.
- Taking folic acid during pregnancy greatly reduces the risk for neural tube defects. Folic acid must be taken within the first 28 days of pregnancy to be most effective. **Most women will not even know they are pregnant within the first 28 days.**

WHAT DO WE KNOW ABOUT PRECONCEPTION CARE?

- Preconception care must start before women plan to become pregnant. Planning for pregnancy and being in good health before pregnancy are keys to improving a woman's chance of having a healthy pregnancy and baby.
- Critical periods of fetal development occur before a woman is **aware** she is pregnant.
- The U.S. Public Health Service in its "Healthy People 2000" report estimated that only 20–50% of providers routinely offer preconception care.

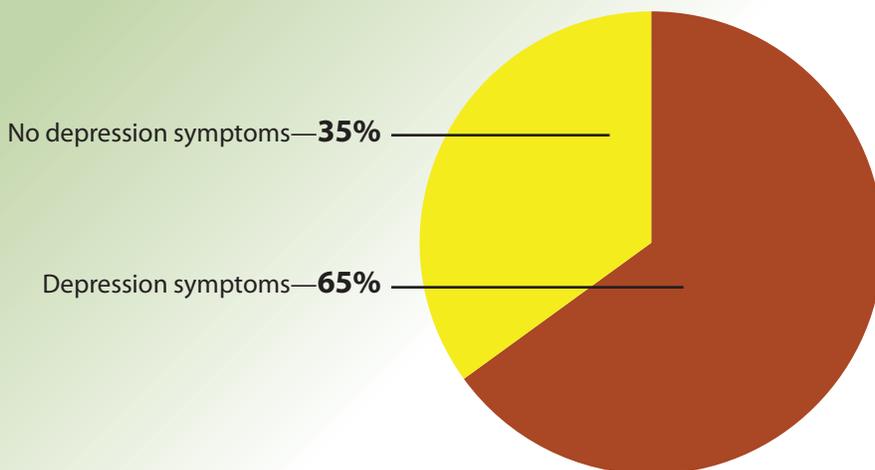
WE KNOW THAT PRECONCEPTION CARE IS NEEDED.

HOW DO WE KNOW THIS?

Our findings tell us that preconception care is needed and that we're reaching the right groups of women. More than 50% of the women in our Preconception Care program, not planning to get pregnant, *do not* use contraceptives.

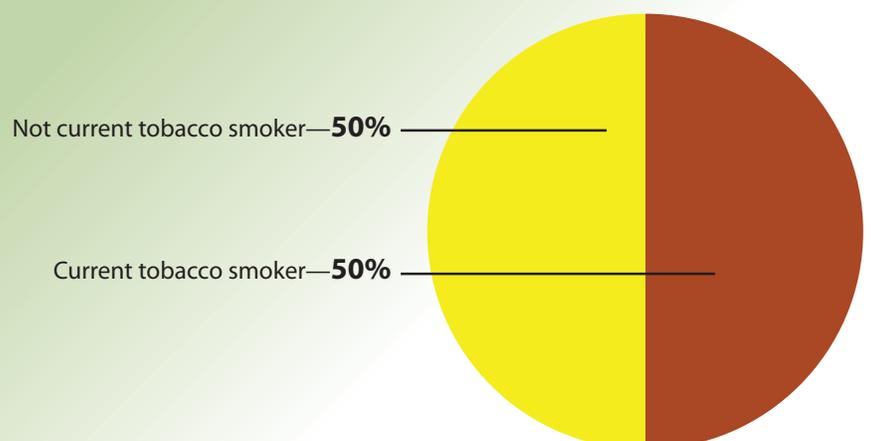
Women with and without Symptoms of Depression

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Women Who Are and Are Not Tobacco Smokers

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



➤ **Approximately two-thirds of the women in our Preconception Care program have symptoms of depression.**

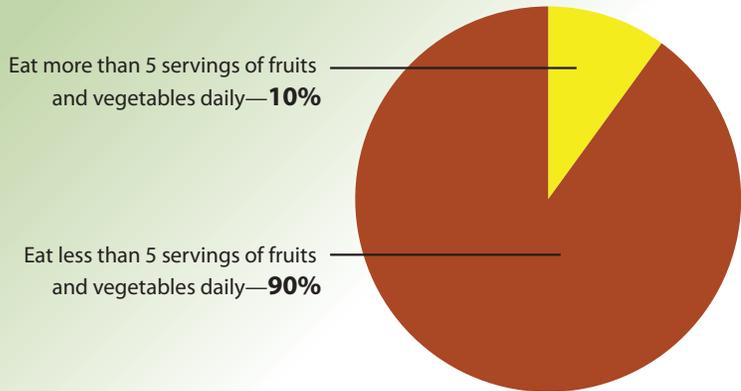
➤ **Half of the women in our Preconception Care program are tobacco smokers.**

90% of women in Christiana Care’s Healthy Beginnings Preconception Care program eat less than 5 servings of fruits and vegetables daily.

50% of the women in our Preconception Care program do not take folic acid.

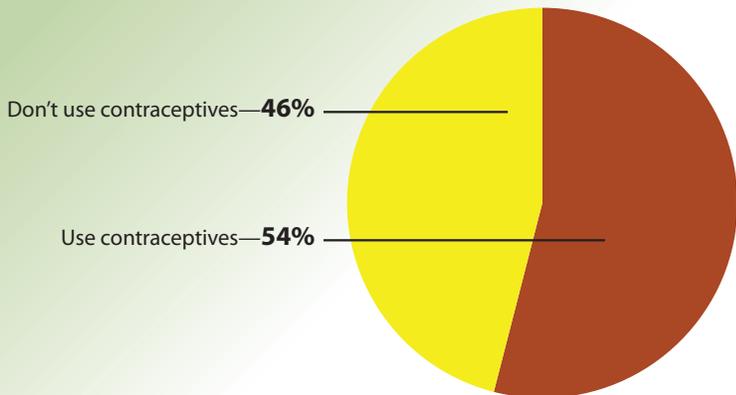
Women Who Eat More Than or Less Than 5 Servings of Fruits and Vegetables Daily

Source: Christiana Care Healthy Beginnings



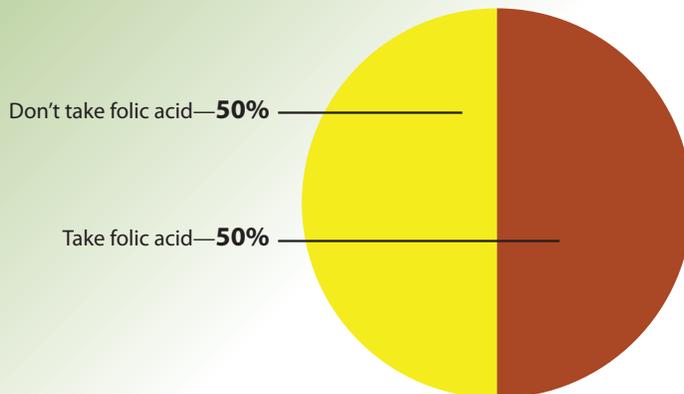
Women Who Do and Do Not Use Contraceptives

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Women Who Do and Do Not Take Folic Acid

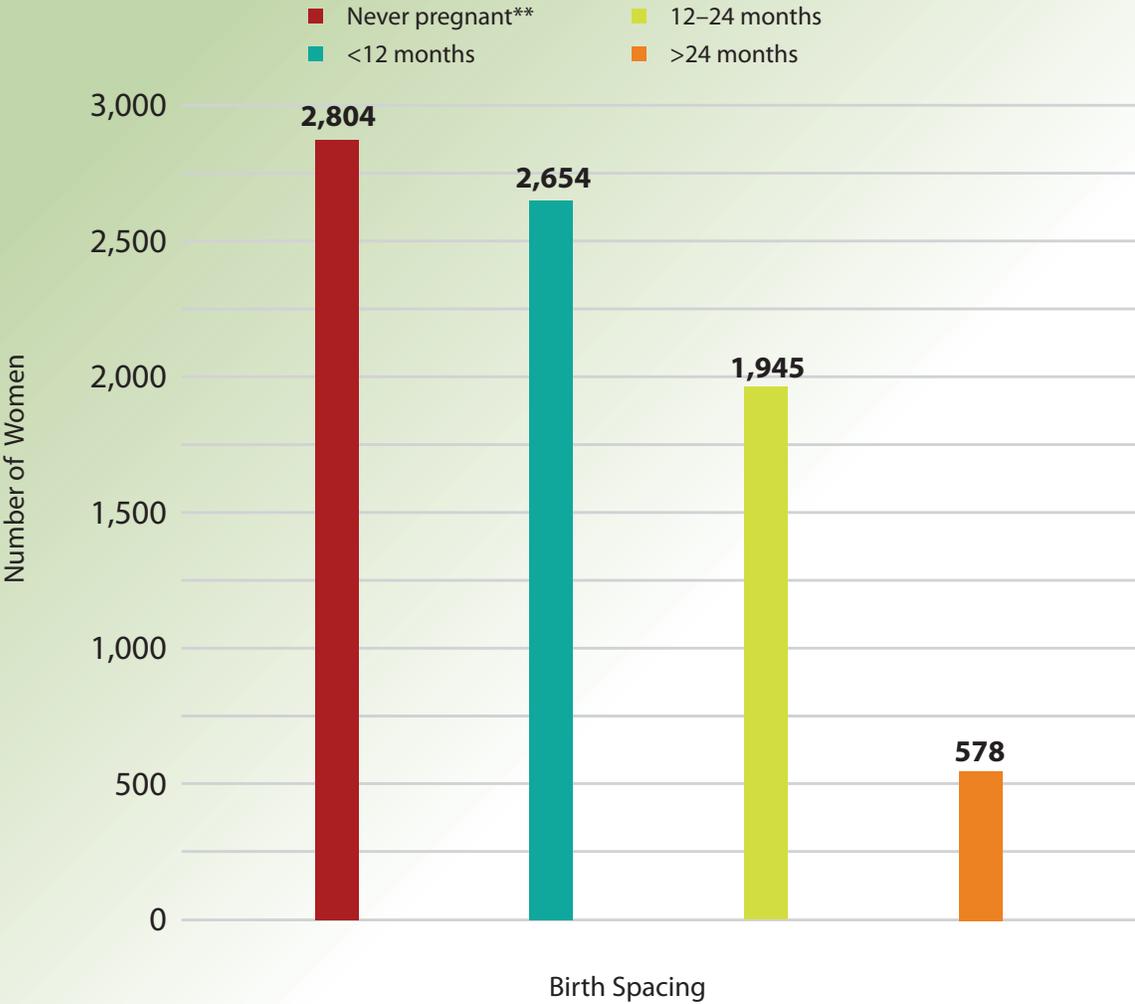
Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



18% of women in our Preconception Care program waited less than 12 months from their last delivery before getting pregnant again.

Time Between Pregnancies for All Participants*

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



*Data are not available from some sites. These numbers do not add up to the total number of participants.

**Data for "never pregnant" women were not collected from July 2007 to December 2007. We began collecting data for this category in January 2008. These data were collected from January to June 2008.

PRECONCEPTION CARE PROGRAM HELPS PREPARE WOMEN'S BODIES FOR PREGNANCY.

WE WANT WOMEN TO BE IN THE BEST POSSIBLE HEALTH BY:

- Maintaining a healthy weight
- Eating a nutritious diet, including adequate amounts of folic acid daily
- Managing chronic diseases
- Being tobacco- and substance-free

SERVICES OFFERED:

- A majority of women were offered follow-up visits with a program nurse or were referred to discuss pregnancy plans and unhealthy behaviors.
- Many women received referrals for extra services.
 - ~ 50% were referred to an on-site dietician.
 - ~ 66% were referred to a community-based weight management program.
 - ~ 25% were referred for further mental health evaluation.

PRECONCEPTION CARE—NEXT STEPS FOR FY09

- Expand services throughout sites
- Streamline services to target highest-risk women

RECOMMENDATION: ACCESS TO CARE

Improve access to care for populations disproportionately impacted by infant mortality. The Access to Care program helps provide services to women of childbearing age in Delaware. We are working to remove the barriers to care for this population, which include: lack of bilingual services, lack of transportation, lack of or not enough insurance to cover services and lack of specialized providers like pediatricians or obstetricians in certain regions.



FY08 GOALS

ACCESS TO CARE PROGRAM

- **INCREASE SERVICES TO WOMEN WHO ARE MOST AT RISK FOR POOR BIRTH OUTCOMES**
- **MONITOR THE USE OF BILINGUAL SERVICES**
- **PROVIDE PROGESTERONE TO PREGNANT WOMEN WHO PREVIOUSLY DELIVERED A PREMATURE BABY**

FY08 ACCOMPLISHMENTS

ACCESS TO CARE PROGRAM

- We've provided program services to over 200 women.
- We've provided progesterone to at-risk women throughout Delaware at a rate of 18 vials per month.
- We've provided bilingual services to Spanish-speaking families and providers:

BILINGUAL SERVICES

- Our bilingual staff travels to women's homes, clinics, doctor's offices and other places where Spanish translation is needed.
- Our translators provide approximately 80–90 hours of services per month to assist clients and staff.

When Ivethe Ortiz began receiving her prenatal care at Westside Health, she was concerned about more than her pregnancy. Ivethe speaks only Spanish and was worried about finding a doctor who could communicate with her. At Westside she discovered practitioners who spoke her language. And others who could help her understand all she should know about providing the best care for both herself and her baby—including the importance of breastfeeding and the best sleeping positions for a newborn. When Ivethe delivered a healthy baby on October 1, 2008, she had an immediate appreciation for the care that was there when she needed it.



IVETHE ORTIZ

PROGRAM PARTICIPANT FROM
WILMINGTON, DELAWARE

WHAT IS PROGESTERONE?

It is a hormone that helps maintain pregnancy.

USES OF PROGESTERONE

- Women who do not produce enough progesterone may receive progesterone injections to increase hormone production.
- Women with a history of pregnancy loss due to inadequate progesterone production may receive progesterone.
- Progesterone is currently being used in the prevention of prematurity.
- Since 2003, research studies have found that treatment with the hormone progesterone reduces the rate of premature birth among some women (www.marchofdimes.com).

WHY IS IT IMPORTANT TO USE PROGESTERONE TO REDUCE INFANT MORTALITY?

- The prematurity rate in Delaware is high.
- The leading cause of death among infants in Delaware is prematurity and low birth weight.
- **In order to reduce the number of infant deaths in Delaware, we need to reduce the number of premature births in Delaware.**

Source: Delaware Department of Health & Social Services, Division of Public Health, Health Statistics Center, 2008

WHO PROVIDES THESE SERVICES?

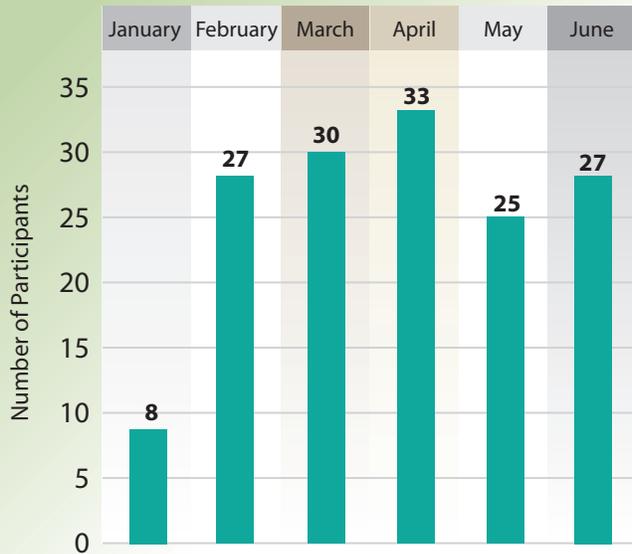
- Christiana Care Health System's Prematurity Prevention Program
- This program provides progesterone to pregnant woman throughout the state.

WHO IS ELIGIBLE FOR THE PREMATURETY PREVENTION PROGRAM?

- Women who have had a previous premature delivery
- Women showing signs of premature labor with the current pregnancy

Total Number of Prematurity Prevention Program Participants by Month for FY08

Source: Christiana Care Health System's Prematurity Prevention Program



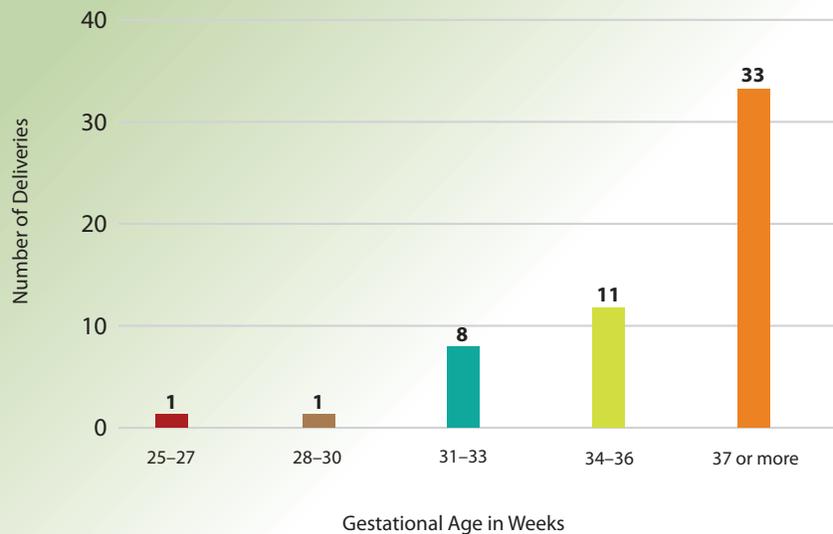
➔ In FY08, 150 women received progesterone through Christiana Care Health System's Prematurity Prevention Program.

➔ Of the 54 women who delivered babies in FY08, 33 (61%) avoided premature labor and deliveries.

➔ The remaining 96 women receiving progesterone are still pregnant.

Number of Deliveries by Gestational Age

Source: Christiana Care Health System's Prematurity Prevention Program



ACCESS TO CARE—NEXT STEPS FOR FY09

- Continue to provide bilingual services to women in Delaware
- Continue to provide progesterone to women at risk for premature delivery in Delaware
- Promote enrollment of high-risk women in preconception care and family practice team model programs

RECOMMENDATION: STATEWIDE EDUCATION CAMPAIGN

Conduct a statewide education campaign on infant mortality targeted at high-risk populations.



FY08 GOALS

STATEWIDE EDUCATION CAMPAIGN

- **IMPLEMENT MEDIA CAMPAIGN AIMED AT HIGH-RISK POPULATIONS**
- **COORDINATE WITH THE CHILD DEATH, NEAR DEATH AND STILLBIRTH COMMISSION (CDNDSC) ON ITS SAFE-SLEEPING CAMPAIGN**
- **PROMOTE PERINATAL HIV TESTING**
- **PARTNER WITH THE SUPPLEMENTAL NUTRITION PROGRAM FOR WOMEN, INFANTS & CHILDREN (WIC) TO PROMOTE BREASTFEEDING IN DELAWARE**

FY08 ACCOMPLISHMENTS

STATEWIDE EDUCATION CAMPAIGN

- We've successfully implemented our media campaign via television commercials, web banners and brochures.
- We've placed an HIV testing web banner on Comcast.net for all Delaware Comcast web users. Our web banner was viewed 900,000 times from April through June.
- Commercials promoting HIV testing for pregnant women aired on 15 channels from April through June. Our commercials were viewed 7,084 times by Comcast Cable subscribers during this period.
- We participated in a "Comcast Newsmakers" interview about our HIV Perinatal Prevention Campaign. Our interview was shown statewide 12 times from May through June.
- We've coordinated with CDNDSC on its Safe-Sleeping Campaign.
- We've coordinated with the Delaware WIC program on the Breastfeeding Encouragement & Support Media Campaign.
- Our "Breast Feed with Confidence" commercial aired on 6 channels from May through June. It was viewed 2,887 times by Comcast Cable subscribers during this period.



For Mykeia Willingham, her experience as both a prenatal and preconception patient at Westside Health has opened her eyes. She enthusiastically reports how “I realized I had to step it up when it came to nutrition.” Mykeia learned how healthy eating had a great deal to do with delivering a healthy baby. And she has another reason to continue her new eating habits since her baby arrived in August of 2007. She wants to be a good example for her daughter. Mykeia also feels that, at Westside Health, she learned much more that benefited her overall health—including the importance of good personal hygiene and ways to avoid chronic diseases. “They always made me feel comfortable—they were always there to help.”

MYKEIA WILLINGHAM

PROGRAM PARTICIPANT FROM

WILMINGTON, DELAWARE

WHAT IS THE PURPOSE OF OUR MEDIA CAMPAIGN?

To educate people about infant mortality risk factors.

There are four components of our media campaign:



HIV PREVENTION MEDIA CAMPAIGN

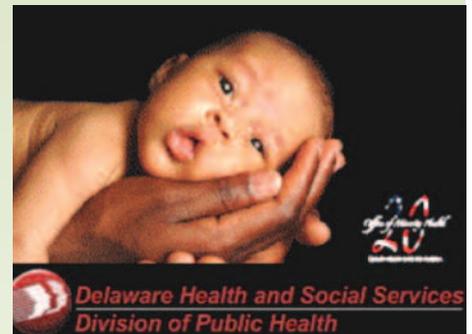
To ensure that all women are tested for HIV early in their pregnancy to prevent transmission of HIV from the mother to her baby.

WHO DO WE TARGET? Pregnant women

WHAT DO WE KNOW ABOUT THE EFFECT MEDIA HAS ON PEOPLE?

- People are greatly impacted by what they see.
- Adults spend an average of four and a half hours watching television each day.
- People are more likely to remember what they see when images are presented repeatedly.

Source: 2002-2003 Cable TV Facts



SAFE-SLEEPING CAMPAIGN

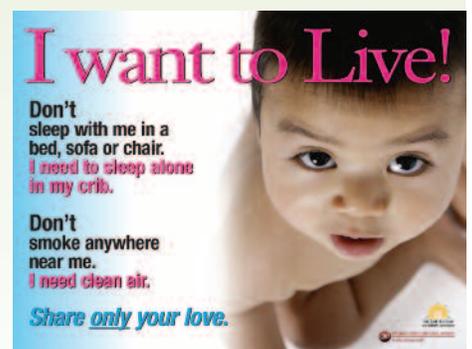
To prevent the number of infant deaths associated with unsafe sleeping practices, such as co-sleeping with adults and sleeping on soft surfaces.

WHO DO WE TARGET? Pregnant women

WHAT DO WE KNOW ABOUT INFANT DEATHS AND SLEEPING?

- Between 2002 and 2006, 58 infant deaths were associated with infants co-sleeping with adults and/or sleeping on soft surfaces such as couches.
- Of the 37 Sudden Infant Deaths that occurred between 2002 and 2006, 35% were related to infants co-sleeping with adults and/or sleeping on soft surfaces.

Sources: Department of Health & Social Services, Division of Public Health, Health Statistics Center, 2008



BREASTFEEDING ENCOURAGEMENT & SUPPORT MEDIA CAMPAIGN

To increase awareness of the benefits of breastfeeding throughout Delaware, and encourage women to get breastfeeding counseling through the Delaware WIC program.

WHO DO WE TARGET? Low-income women with infants and children

WHAT DO WE KNOW ABOUT INFANTS AND BREASTFEEDING?

- African Americans have the highest incidence of infant mortality and the lowest rates of breastfeeding.
- Human milk is the best source of nutrition for the health, growth and development of infants.
- Breastfeeding reduces the likelihood of infants developing asthma and childhood obesity.
- Exclusive breastfeeding for the first six months of life, with breastfeeding continuing through the first year of life, is recommended by the American Academy of Pediatrics.



Sources: U.S. Department of Health & Human Services, U.S. Department of Agriculture, U.S. Surgeon General, American Academy of Pediatrics, World Health Organization, UNICEF

PRECONCEPTION HEALTH

To improve awareness of the impact of preconception health on birth outcomes.

WHO DO WE TARGET? Women throughout their reproductive years, specifically African-American women

WHAT DO WE KNOW ABOUT ABOUT PRECONCEPTION HEALTH?

- Healthy women have healthy babies.
- Good nutrition and physical activity are important for a woman’s health.
- A woman’s health before she becomes pregnant has a significant impact on her birth outcome.
- Even women who have underlying chronic diseases can improve their birth outcomes if those diseases are well managed and under control.



Source: U.S. Centers for Disease Control and Prevention, March of Dimes

STATEWIDE MEDIA CAMPAIGN—NEXT STEPS FOR FY09

- Develop preconception educational resources
- Begin preconception statewide education campaign
- Maintain existing campaigns

RECOMMENDATION: FETAL AND INFANT MORTALITY REVIEW

Review every fetal and infant death in Delaware using the Fetal and Infant Mortality Review (FIMR) process, which includes reviewing medical records, death certificates and other health information, and interviewing mothers. FIMR helps us understand why there is a high number of fetal and infant deaths in Delaware. From our interviews with mothers, we make recommendations for changes in public health programs and interventions.

“It was nice to have someone ask me about my experience since doctors do not do this. I hope FIMR can present some valuable information to workers in the medical field to improve care for women and babies. I thought the interviewer was very professional and was genuine with her empathy and concern for me and other mothers’ well-being.”

“FIMR allowed me to talk about events surrounding the death of my son rather than just the birth and days shortly after. I just hope that other mothers take advantage of your services and hopefully there will one day be an answer.”

FY08 GOALS

FETAL AND INFANT MORTALITY REVIEW

- **START REVIEWING CASES FOR FIMR**
- **IDENTIFY AND ACT ON ISSUES LEARNED BY CASE REVIEW TEAMS**
- **IMPLEMENT AN INFANT SAFE-SLEEPING CAMPAIGN**
- **CONDUCT A BEREAVEMENT CONFERENCE WITH HOSPITAL AND PUBLIC HEALTH STAFF**

FY08 ACCOMPLISHMENTS

FETAL AND INFANT MORTALITY REVIEW

- 158 fetal and infant deaths were referred to FIMR (within the Child Death, Near Death & Stillbirth Commission).
- We've started the Wilmington FIMR Case Review Team.
- We've displayed safe-sleeping practices at seven community events.
- We began our DART Bus Media Campaign on Safe-Sleeping in July 2007.
- We held our first Annual Statewide Bereavement Conference in September 2007.

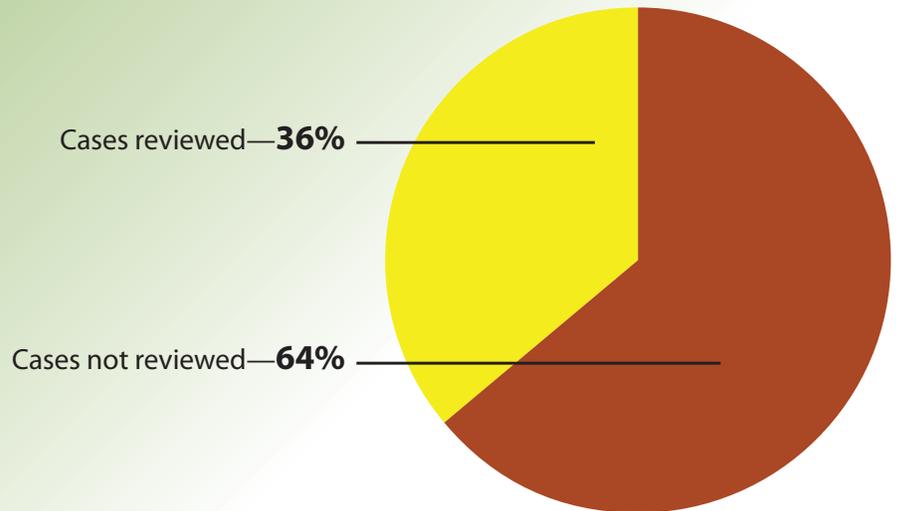
Of the 158 fetal and infant deaths eligible for review, 57 were reviewed by FIMR.

We've conducted 15 interviews with mothers who had a fetal or infant loss.

9 mothers declined a maternal interview. 34 mothers were unable to be located and did not respond to letters or phone calls.

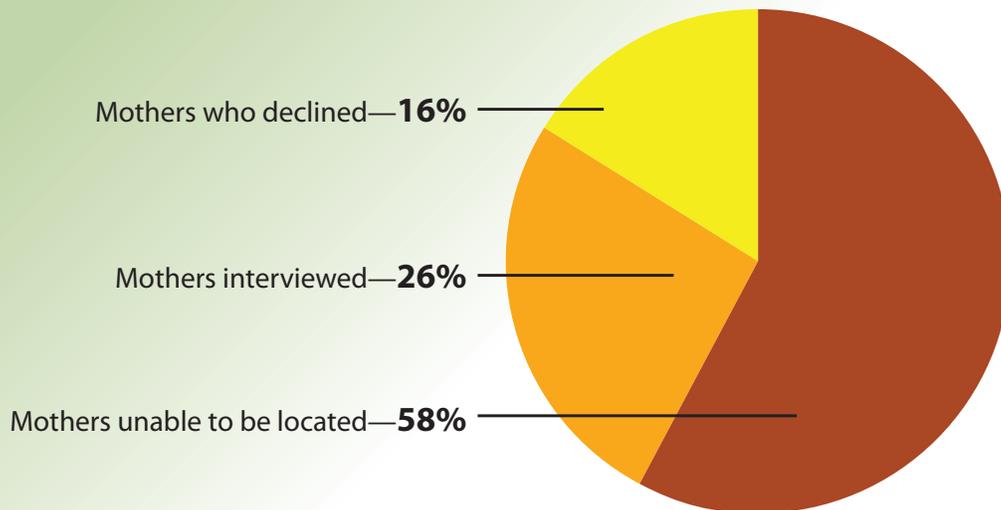
Fetal and Infant Deaths Reviewed and Not Reviewed by FIMR

Source: Fetal and Infant Mortality Review



Mothers Interviewed and Not Interviewed Who Had a Fetal or Infant Loss

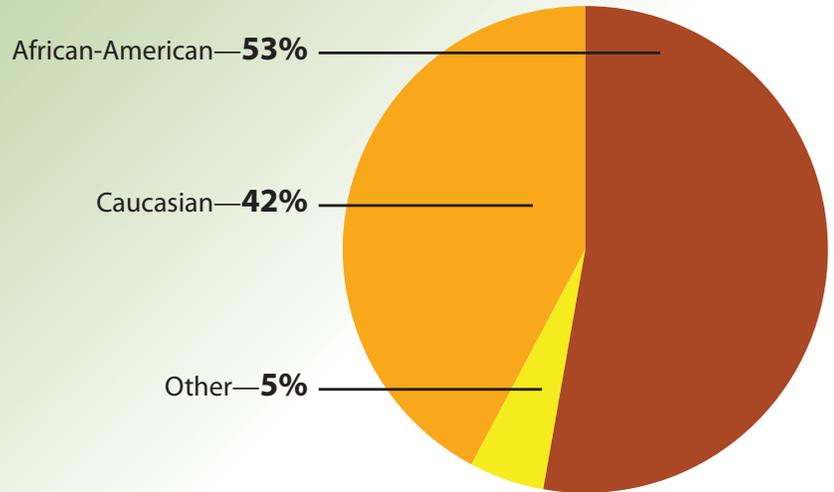
Source: Fetal and Infant Mortality Review



Of the 57 FIMR cases referred, 53% were African-American infants, 42% were Caucasian infants and 5% were "other."

Percentage of Cases Referred by Race/Ethnicity

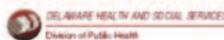
Source: Fetal and Infant Mortality Review



Sleeping With Your Baby Risks Infant Death!

10 Steps to Promote Infant Sleep Safety

1. Place your baby to sleep on its back for naps and at nighttime, not on its tummy or sides.
2. Do not put your baby to sleep on a sofa or bed with others. Your infant should sleep in a crib or bassinet near your bed.
3. Use a firm mattress that fits and has no gap between it and the frame of the crib.
4. Use the right size fitted sheet for the mattress and tuck blankets in.
5. Do not use bumper pads, sleep position wedges, or pillows in the crib.
6. Keep toys and fluffy blankets out of the crib while your baby sleeps.
7. Make sure your baby's room is in the safe temperature range of 68°F to 75°F.
8. Position the crib away from the heat vent.
9. Prevent overheating by layering baby's clothes and not overdressing.
10. Keep all cigarette smoke away from pregnant women and all babies.

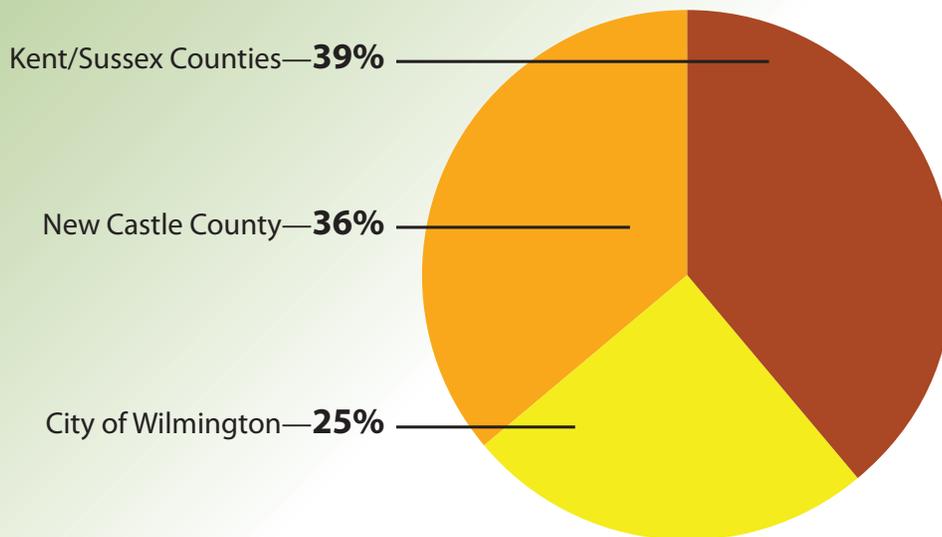


AS PART OF OUR SAFE-SLEEPING CAMPAIGN, OUR GOAL IS TO REDUCE THE NUMBER OF INFANT DEATHS ASSOCIATED WITH BED SHARING AND SLEEPING ON SOFT SURFACES!

Of the 158 fetal and infant death cases eligible for review, 57 cases were reviewed by our Case Review Teams throughout Delaware.

Percentage of Cases Reviewed in Delaware Counties and the City of Wilmington

Source: Fetal and Infant Mortality Review



FETAL AND INFANT MORTALITY REVIEW—NEXT STEPS FOR FY09

- Release FIMR “Report Card”
- Direct issues learned from case review teams will be taken to community action teams
- Continue to collect FIMR information and collaborate with the Center for Family Health Research & Epidemiology
- Provide Spanish interpretation of all FIMR materials and a Spanish-speaking interpreter for interviews
- Provide multicultural training to bereavement professionals

RECOMMENDATION: PREGNANCY RISK ASSESSMENT MONITORING SYSTEM

Create a monitoring system to increase understanding of the risks faced by pregnant women in Delaware.



WHAT IS PRAMS?

It is a program that surveys the behaviors, beliefs, practices and experiences of new mothers before, during and after pregnancy.

WHO IS SELECTED TO PARTICIPATE IN PRAMS IN OUR STATE?

A group of new mothers is selected from all women who give birth in Delaware and are between two and four months postpartum.

WHY DOES PRAMS EXIST?

- To reduce the number of low birth weight infant deliveries and infant deaths.
- Research suggests mothers' behaviors during pregnancy may influence the weight of the baby and the age at which the baby is born.
- PRAMS provides a way to measure our progress toward achieving our goal of reducing infant mortality.

"We had a child who was born at 26 weeks' gestation. I went into labor for no apparent reason at 24 weeks. I didn't have any health conditions during pregnancy, received prenatal care and had a healthy lifestyle. She passed away from prematurity, after only 5 hours and 16 minutes of life. Although we don't have a lot of money my husband and I wanted children desperately and after 9 years of marriage it finally happened, then she was taken from us. I am thankful every day for having a second daughter. We love her more than I thought possible as we did our first daughter as well. I hope this survey helps in identifying the underlying issues of prematurity and unhealthy babies."

"These questions make me realize how lucky I am to have a job, health care and a good husband. My baby is a big, healthy, 3-month-old boy. I hope your study will help other moms to have similar babies in the future!"

"Becoming a mother for the first or subsequent time is so important. I am so lucky to have a supportive, helpful family. My baby is thriving and healthy but it can be hard taking care of a newborn. I hope that this survey truly does help those mothers and babies who need it. Thank you!"

FY08 GOALS

PREGNANCY RISK ASSESSMENT MONITORING SYSTEM

- **BEGIN INTERVIEWING MOTHERS FOR PRAMS PROJECT ON AUGUST 1, 2007**
- **SURVEY A SAMPLE OF WOMEN WHO DELIVER IN DELAWARE**
- **SUBMIT AN INTERIM PROGRESS REPORT TO CDC**
- **USE PRAMS RESULTS TO CHANGE CURRENT STATE PROGRAMS AND STREAMLINE SERVICES TO TARGET HIGH-RISK WOMEN**

FY08 ACCOMPLISHMENTS

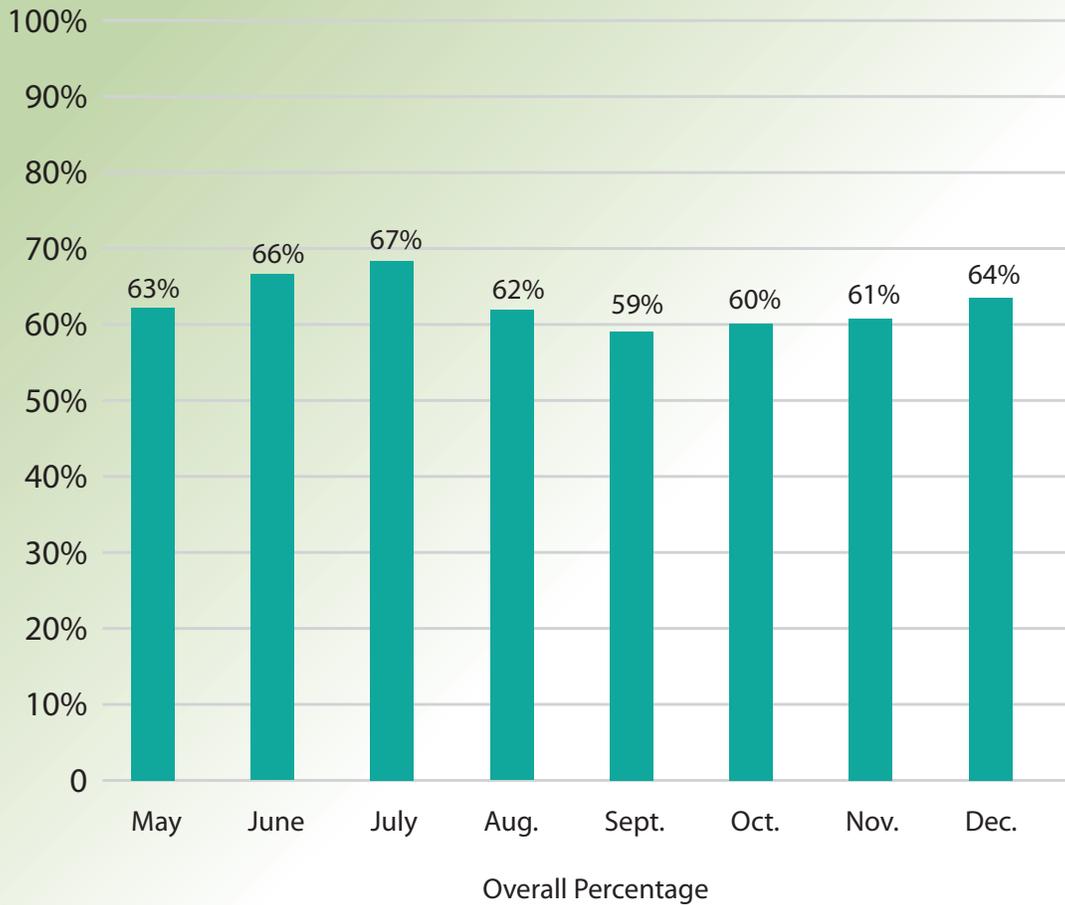
PREGNANCY RISK ASSESSMENT MONITORING SYSTEM

- We began interviewing mothers for PRAMS on July 27, 2007.
- We've surveyed 1,106 women between two and four months postpartum who gave birth in Delaware in 2007.
- We submitted the PRAMS interim progress report to CDC in January 2008, six months earlier than our goal.

▶ We averaged an unweighted response rate of 64% in the first year of our PRAMS project.

PRAMS Unweighted Response Rate by Month, 2007

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



WHAT ELSE HAVE WE DONE WITH PRAMS?

- Instead of having someone else call our mothers to get their opinions, we decided to call them ourselves.
- We wanted to reward PRAMS mothers for participating in our survey, so we decided to give them a drugstore gift card.
- With these changes, we've been able to increase the response rate from our mothers.
- While we were waiting for our PRAMS data to be approved by CDC, we decided to look at national PRAMS data. We were interested in exploring the effects of life stresses on repeated premature deliveries.
- In a joint PRAMS project with University of Illinois Chicago (UIC), we looked at the impact stress has on repeated premature deliveries.

WHAT DID WE FIND?

Infections and chronic diseases, stressful life events, and smoking during the last 3 months of pregnancy increase the likelihood of delivering another premature infant.

PREGNANCY RISK ASSESSMENT MONITORING SYSTEM— NEXT STEPS FOR FY09

- Begin analysis of PRAMS data
- Determine whether drugstore gift card encourages mothers to complete survey
- Use PRAMS results to change current state programs to streamline services to high-risk women
- Use PRAMS results to create a report of pregnancy risks for targeted intervention

RECOMMENDATION: REGISTRY FOR IMPROVED BIRTH OUTCOMES

The Registry is a list of all women who gave birth between 1989 and 2004 (the most recent data we have), and who had a poor birth outcome. The Registry was established in partnership with the Delaware Health Statistics Center and is maintained by the Center for Family Health Research & Epidemiology. Why is the Registry important? It contains information on the risks that women with more than one poor birth outcome face in Delaware.

AH00004492 OBS 06/25/06		Hospital No. 4		BABY GIRL AH00005565 NEW 06/25/06		Hospital No. H	
IDENT-A-BAND® Bracelet Signature, Person Applying IDENT-A-BAND® Bracelet		INFANT'S Sex Sc		Weight 8lb 4oz		Sex Female	
PRINTS		Infant's 6-25-06		Length 21 inches		Color or Race W	
INDEX		INFANT'S LEFT FOOTPRINT (or palmprint)		INFANT'S RIGHT FOOTPRINT (or palmprint)			
		Delivery Room Nurse		Nursery Nurse			



FY08 GOALS

REGISTRY FOR IMPROVED BIRTH OUTCOMES

- **UPDATE REGISTRY ANNUALLY AS INFORMATION BECOMES AVAILABLE**
- **CONTINUE TO STUDY RISK FACTORS FOR POOR BIRTH OUTCOMES**

FY08 ACCOMPLISHMENTS

REGISTRY FOR IMPROVED BIRTH OUTCOMES

- We've continued to update the Registry as information becomes available.
- We've studied the risk factors for poor birth outcomes.

Between 1989 and 2004, 20,977 women experienced at least one poor birth outcome.

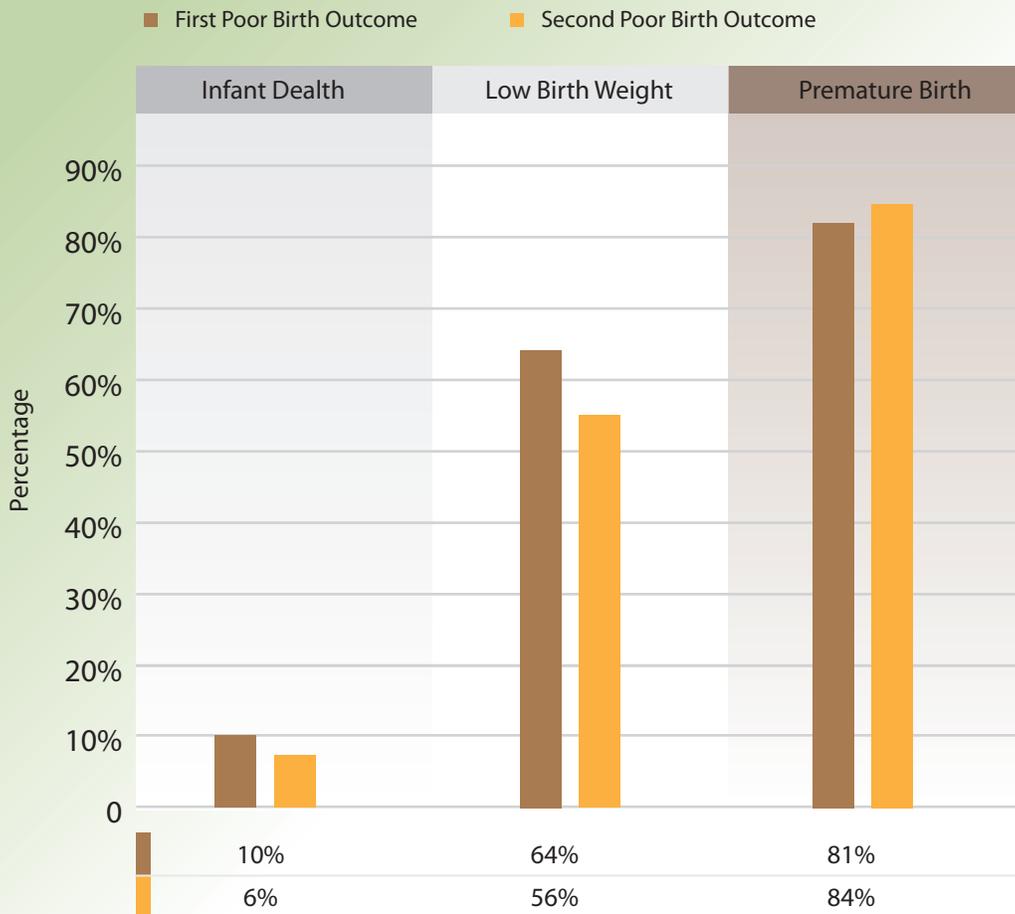
Between 1989 and 2004, 2,297 women experienced a second poor birth outcome.*

*After removing twins, triplets and other multiples.

WHAT HAS INFORMATION FROM THE REGISTRY TOLD US?

Percentage of First and Second Poor Birth Outcomes

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Of the 2,297 women who experienced their second poor birth outcome, 129 (6%) experienced an infant death.*

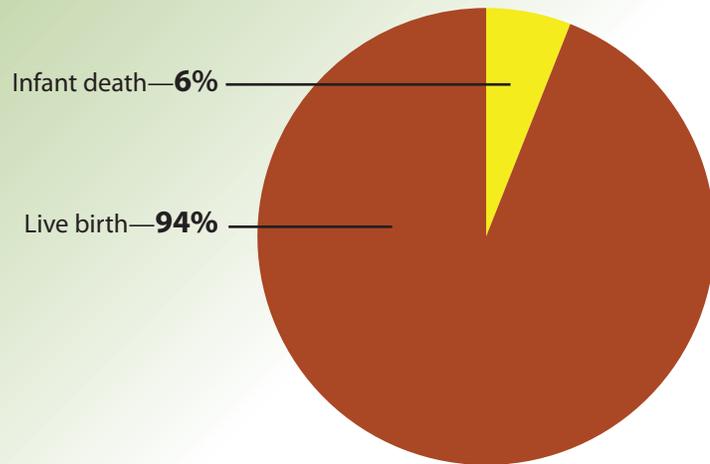
*After removing twins, triplets and other multiples.

Of the 2,297 women who experienced their second poor birth outcome, 1,281 (56%) delivered a low birth weight infant.*

*After removing twins, triplets and other multiples.

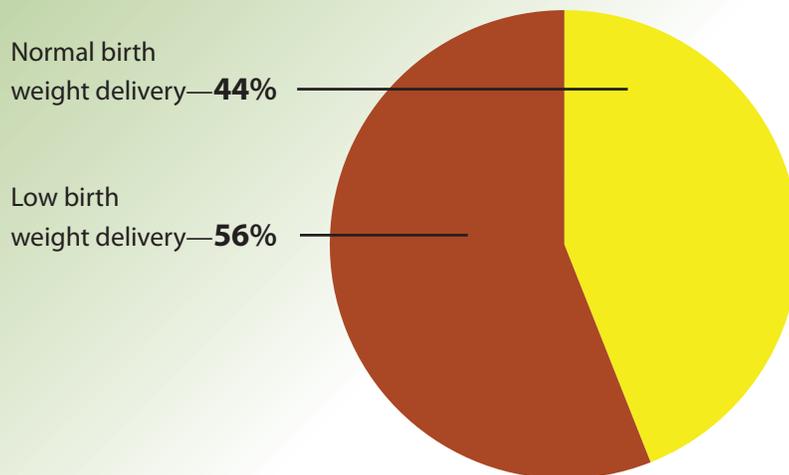
Second Poor Birth Outcome, Infant Death and Live Birth

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Second Poor Birth Outcome, Low and Normal Birth Weight Deliveries

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology

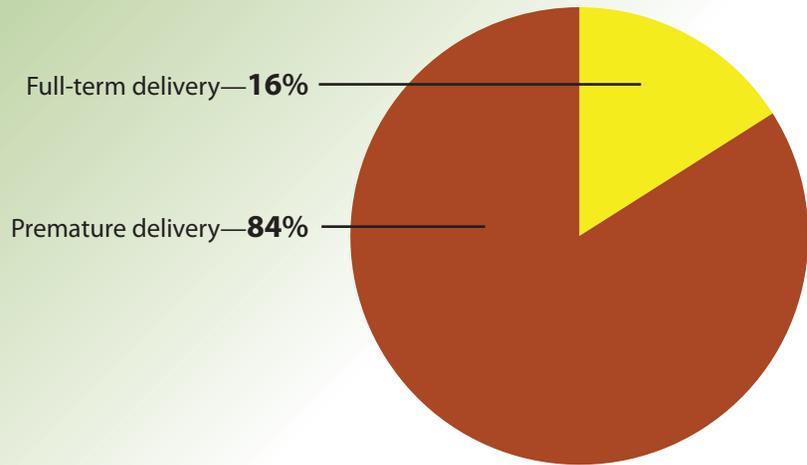


Of the 2,297 women experiencing their second poor birth outcome, 1,918 (84%) delivered a premature infant. This represents a 4% increase in premature birth from the first poor birth outcome.*

*After removal of twins, triplets and other multiples.

Second Poor Birth Outcome, Premature and Full-Term Birth Delievery

Source: Delaware Department of Health & Social Services,
Division of Public Health, Center for Family Health Research & Epidemiology



Last year we highlighted women's behaviors during pregnancy. This year, we highlighted the effect these behaviors had on their second pregnancies.



WHAT IS ASSOCIATED WITH A SECOND INFANT DEATH?*

TOO LITTLE TIME BETWEEN PREGNANCIES

Women who do not allow more than one year wait between pregnancies **are over two times more likely** to experience infant death compared with women who wait more than one year between pregnancies.

(Odds Ratio: 2.11; 95% Confidence Interval: 1.51, 3.85)

TOO LITTLE OR TOO MUCH WEIGHT GAIN DURING PREGNANCY

Women who gained too little or too much weight during pregnancy were **81% more likely** to experience infant death compared with women who gained adequate weight during pregnancy.

(Odds Ratio: 1.81; 95% Confidence Interval: 1.10, 3.00)

**After removing the effects of county of residence, maternal age, marital status, education, plurality, number of prenatal care visits, method of delivery and race.*

WHAT IS ASSOCIATED WITH A SECOND LOW BIRTH WEIGHT DELIVERY?*

TOO LITTLE TIME BETWEEN PREGNANCIES

Women who do not allow more than one year wait between pregnancies are **52% more likely** to deliver low birth weight infants compared with women who wait more than one year between pregnancies.

(Odds Ratio: 1.52; 95% Confidence Interval: 1.03, 2.26)

SMOKING DURING PREGNANCY

Women who smoke during pregnancy are **76% more likely** to deliver low birth weight infants compared with women who do not smoke while pregnant.

(Odds Ratio: 1.76; 95% Confidence Interval: 1.41, 2.20)

TOO LITTLE OR TOO MUCH WEIGHT GAIN DURING PREGNANCY

Women who gained too little or too much weight during pregnancy are **42% more likely** to deliver low birth weight infants compared with women who gained adequate weight during pregnancy.

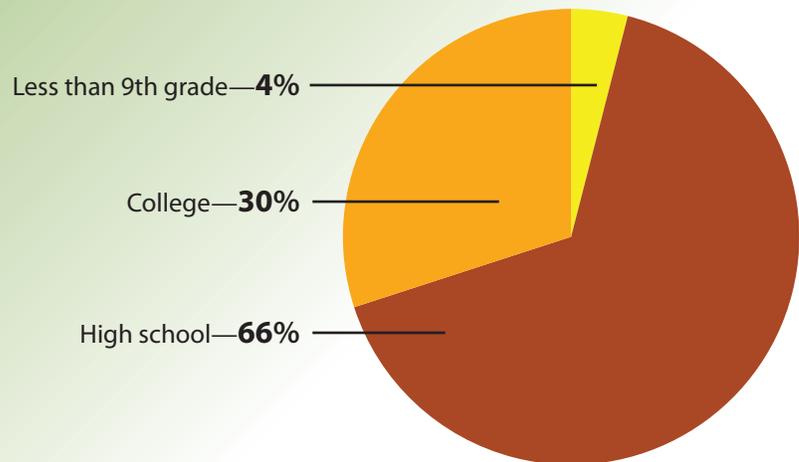
(Odds Ratio: 1.42; 95% Confidence Interval: 1.17, 1.73)

**After removing the effects of county of residence, maternal age, marital status, education, plurality, number of prenatal care visits, method of delivery and race.*

WHO ARE THESE WOMEN?

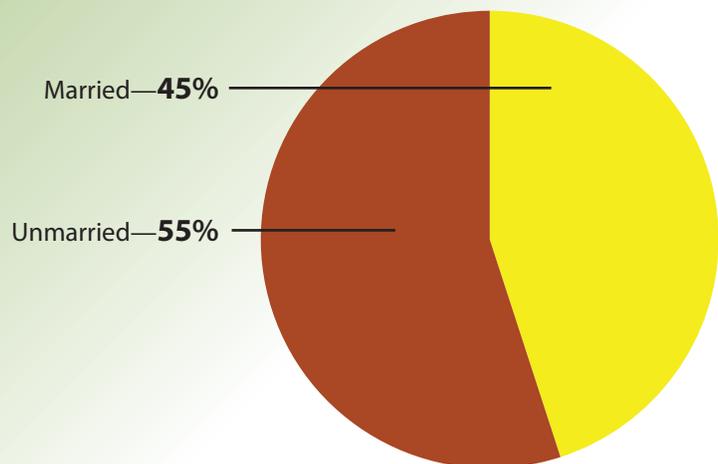
Education Level of Women Experiencing Second Poor Birth Outcome

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Marital Status of Women Experiencing Second Poor Birth Outcome

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Of the 2,297 women experiencing their second poor birth outcome, 4% (83) had less than 9th grade level education, 66% (1,514) were high school educated and 30% (684) were college educated.*

*After removal of twins, triplets and other multiples.

70% of women experiencing a repeat poor birth outcome are high school educated or have less than a 9th grade education.

More than half of these women are unmarried.*

*After removal of twins, triplets and other multiples.

➤ **Nearly one-third of women experiencing their second poor birth outcome had Cesarean section deliveries.***

*After removing twins, triplets and other multiples.

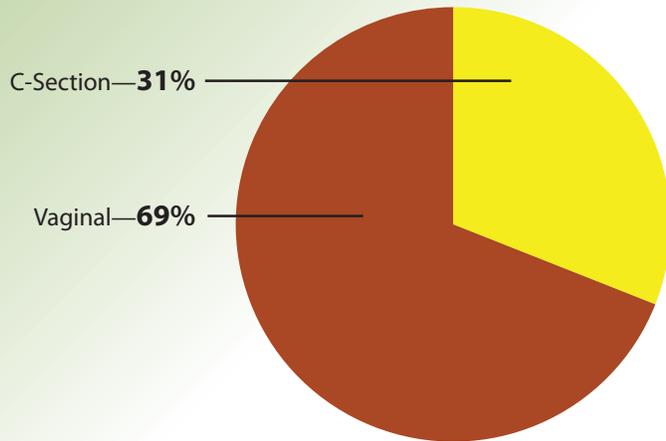
➤ **There is a 34% increase in C-sections from the first poor birth outcome.**

➤ **Of the 2,297 women experiencing their second poor birth outcome, 7% (157) had no prenatal visits.***

*After removal of twins, triplets and other multiples.

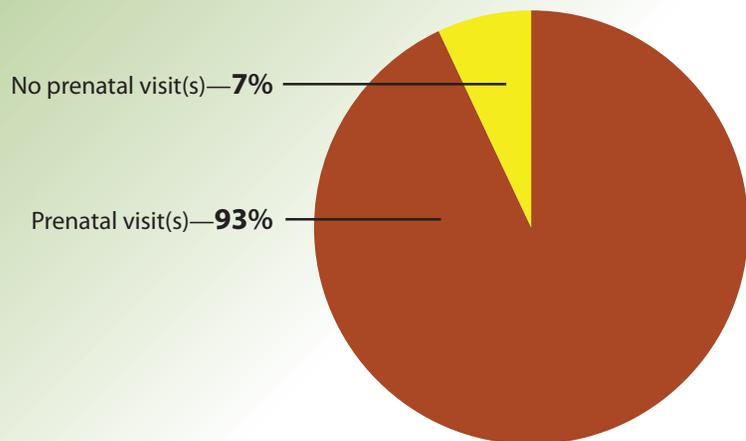
Cesarean Section and Vaginal Deliveries

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



Women Who Did or Did Not Have Prenatal Visits

Source: Delaware Department of Health & Social Services, Division of Public Health, Center for Family Health Research & Epidemiology



REGISTRY FOR IMPROVED BIRTH OUTCOMES—NEXT STEPS FOR FY09

- Update Registry as information becomes available
- Continue to study risk factors for poor birth outcomes

RECOMMENDATION: CENTER FOR FAMILY HEALTH RESEARCH & EPIDEMIOLOGY

Create the Center for Excellence in Maternal and Child Health and Epidemiology within the Division of Public Health. In FY08, the Center's name changed to the Center for Family Health Research & Epidemiology (CFHRE). The CFHRE monitors trends affecting infant mortality by looking at national, state and local data. We create reports using results from our studies. And we monitor, evaluate and document our progress to reduce infant mortality and eliminate disparities in birth outcomes.



FY08 GOALS

CENTER FOR FAMILY HEALTH RESEARCH & EPIDEMIOLOGY

- **PROVIDE SCIENTIFIC GUIDANCE FOR ALL INFANT MORTALITY INITIATIVE RECOMMENDATIONS**
- **COLLABORATE ON RESEARCH-BASED PROJECTS WITH CDC**
- **EXPLORE FUTURE RESEARCH COLLABORATIONS WITH UNIVERSITIES**
- **CONTINUE STUDENT INTERNSHIP PROGRAM**

FY08 ACCOMPLISHMENTS

CENTER FOR FAMILY HEALTH RESEARCH & EPIDEMIOLOGY

- We've provided scientific support for the Fetal and Infant Mortality Review (FIMR), the Pregnancy Risk Assessment Monitoring System (PRAMS), the Preconception Care program, the Family Practice Team Model program and the Delaware Healthy Mother and Infant Consortium annual report.
- We've provided 100% of PRAMS management.
- We've collaborated on research-based projects with the CDC.
- We've partnered with the University of Delaware's Health Services Policy Research Group to evaluate the Preconception Care program.
- We've continued our internship program.

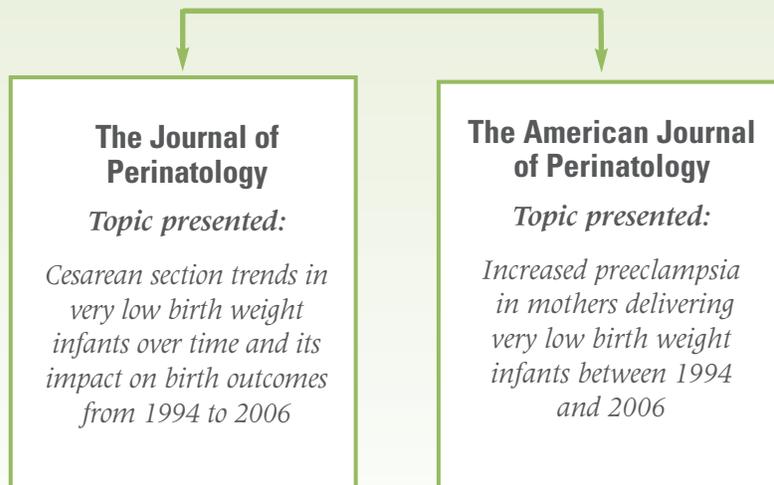
OUR RESEARCH ACCOMPLISHMENTS

We've published an article on our Preconception Care program entitled, "Translating Policy to Practice and Back Again: Implementing a Preconception Program in Delaware." Our article was highlighted in *Women's Health Issues*, an international journal.

We've presented at three national conferences.



We've submitted two collaborative articles for publication in national journals.



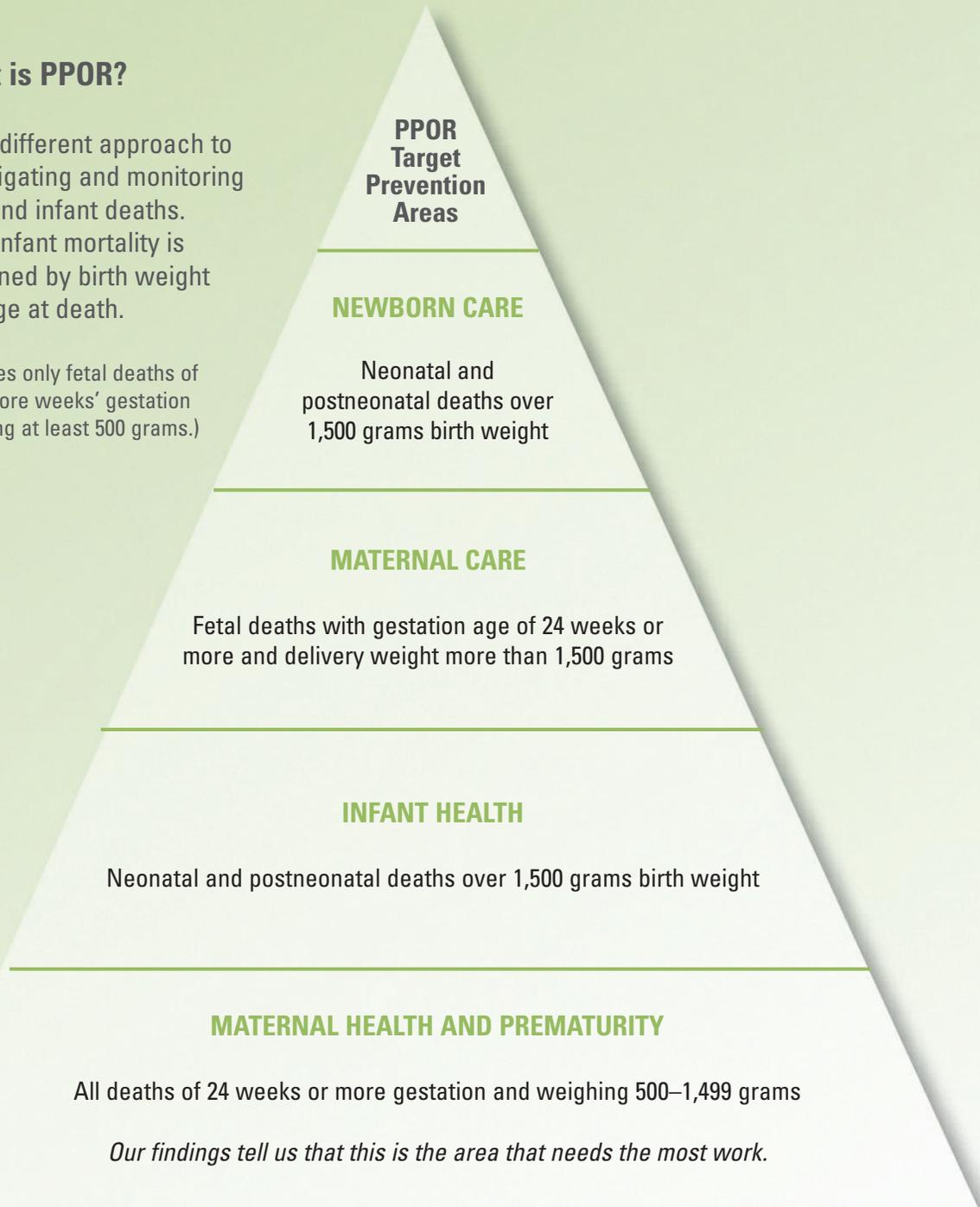
OUR RESEARCH ACCOMPLISHMENTS

We've begun using a Perinatal Periods of Risks (PPOR) approach to help us focus our fetal and infant mortality prevention efforts in Delaware.

What is PPOR?

It is a different approach to investigating and monitoring fetal and infant deaths. Fetal-infant mortality is examined by birth weight and age at death.

(Includes only fetal deaths of 24 or more weeks' gestation weighing at least 500 grams.)



OUR RESEARCH ACCOMPLISHMENTS

- We've partnered with CDC to analyze national PRAMS data of life stressors linked with a history of premature births.
- In partnership with University of Delaware, we've begun evaluating our intervention programs (Preconception Care and Family Practice Team Model).
- We've analyzed data from the Registry for Improved Birth Outcomes.
- We've created a patient satisfaction survey tool for our intervention programs (Preconception Care and Family Practice Team Model).

OUR PERSONNEL ACCOMPLISHMENTS

- Our previous Master's-level intern received a three-year fellowship with CDC as a Public Health Prevention Specialist.
- Through comprehensive integration of data and science, and program planning, our center has become recognized as a state leader in research.
- In order to reduce infant mortality and eliminate disparities in birth outcomes, it is critical to continue at the forefront of research and education efforts.



Hashini Seneviratne

CENTER FOR FAMILY HEALTH RESEARCH & EPIDEMIOLOGY— NEXT STEPS FOR FY09

- Continue to provide scientific guidance for all infant mortality initiative recommendations
- Continue to partner with the University of Delaware's Health Services Policy Research Group to evaluate our intervention programs
- Continue student internship program
- Maintain complete management for PRAMS project
- Maintain Registry for Improved Birth Outcomes
- Collaborate on the Maternal & Child Health Title V Needs Assessment
- Implement patient satisfaction surveys of our intervention programs

RECOMMENDATION: DELAWARE HEALTHY MOTHER AND INFANT CONSORTIUM (DHMIC)

Establish the Delaware Healthy Mother and Infant Consortium as successor to the Perinatal Board.



WHAT ARE THE ROLES OF DHMIC?

- Ensure the effective implementation of infant mortality initiatives
- Review and analyze evaluations and reports
- Make policy recommendations to improve health care systems

WHAT HAVE THE DHMIC COMMITTEES ACCOMPLISHED THIS YEAR?

EDUCATION AND PREVENTION COMMITTEE

ACCOMPLISHMENTS FOR 2008

- Contributed to the development and review of the Request for Proposal for the statewide education campaign
- Planned and implemented an interactive session on Best Practices in Preconception Health Care at the 3rd Annual Delaware Summit on Maternal and Infant Health: Healthy Mothers, Healthy Babies
- Provided a forum for the exchange of ideas among providers of preconception health care throughout the state
- Collaboratively worked to engage consumers in promotion and understanding of a “Reproductive Life Plan” and preconception health

GOALS FOR 2009

- Provide input to the statewide education campaign
- Ensure the dissemination of consistent messages regarding preconception health
- Continue collaboration among providers and community agencies
- Outreach and work with consumers to promote preconception health

STANDARDS OF CARE COMMITTEE

ACCOMPLISHMENTS FOR 2008

- Approved a preconception nutrition statement—“Food and drink affect a woman’s lifetime health, including how ready her body is to support a pregnancy. Choosing good foods now will help prepare a woman’s body for a healthy lifetime and a healthy pregnancy.”
- Adopted a 24-month birth spacing interval as the standard
- Completed revisions of the Care Classification chapter of the Standards of Care Manual for physicians and hospitals in Delaware
- Completed update of the Inter-hospital Transport of Obstetrical/Neonatal Patients: Clinical Practice Guidelines section of the Standards of Care Manual for physicians and hospitals in Delaware

GOALS FOR 2009

- Proceed to revise Standards of Care Manual for physicians and hospitals in Delaware beginning with chapter 2—Preconception Counseling Guidelines
- Continue to monitor performance of the Neonatal Transport system

SYSTEMS OF CARE COMMITTEE

ACCOMPLISHMENTS FOR 2008

- Reviewed obstacles for the implementation of the Infant Mortality Task Force’s recommendation on improving comprehensive reproductive health services for uninsured and underinsured Delawareans
- Developed strategies for improving access to family planning waiver services for clients who are currently eligible for the program
- Developed strategies for expanding access to family planning waiver services to cover clients who are currently not eligible

GOALS FOR 2009

- Monitor implementation of strategies to improve access to family planning waiver services for clients who are eligible for these services but are not accessing them
- Collaborate on the development of a strong federal application for funding expansion of family planning waiver services to cover underinsured clients not currently eligible for these services

HEALTH DISPARITIES COMMITTEE

ACCOMPLISHMENTS FOR 2008

- Developed an instrument to survey client population impression on how race and ethnicity affect the level and quality of services they receive
- Identified Delaware State University Graduate Nursing Students to administer the survey at Federally Qualified Health Center
- Memorandum of Understanding between The Division of Public Health and Delaware State University's Department of Nursing was initiated for this survey project

GOALS FOR 2009

- Complete the survey and report findings
- Approve a curriculum for cultural competence training
- Monitor implementation of a cultural competence training program

DATA AND SCIENCE COMMITTEE

ACCOMPLISHMENTS FOR 2008

- Monitored the progress of the Fetal and Infant Mortality Review (FIMR) and provided a forum by which to discuss possible methods of increasing the rate of reviewing cases as well as additional avenues of funding and resources
- Monitored the implementation and progress of the Pregnancy Risk Assessment Monitoring System (PRAMS) and provided an avenue through which to distribute PRAMS brochures to potential mothers
- Coordinated the 3rd Annual Delaware Summit on Maternal and Infant Health: Healthy Mothers, Healthy Babies that addressed topics of interest including: Late Premature Births, 17 Alpha Hydroxy Progesterone Caproate (17P) therapy and Best Practices in Delaware
- Engaged in a work group established to improve the current, passive Birth Defects Registry
- Partnered with the Division of Public Health and Christiana Hospital Department of Obstetrics and Gynecology and Division of Neonatology to complete and analyze research projects on topics pertaining to increased rate of preeclampsia, previable births and Cesarean deliveries

GOALS FOR 2009

- Develop a research agenda for the Delaware Healthy Mothers and Infant Consortium pertaining to maternal child health and infant mortality
- Continue active review of present research pertaining to maternal child health and infant mortality in the state

WHAT HAS THE DHMIC ACCOMPLISHED THIS YEAR?

We held our 3rd Annual Delaware Summit on Maternal and Infant Health: Healthy Mothers, Healthy Babies.

- We had 270 people attend our summit
- The focus of our summit was Preconception Care and Prematurity
- Our keynote speaker was Milton Kotelchuck, PhD, Maternal and Child Health Department, Boston University
- Keynote topic: *Women's Health and Preconception Care between Pregnancies*

The topics that were discussed at the summit included:

- Late Premature Birth
- Best Practices in Delaware for Integrating Preconception Health
- Preventing Premature Labor



DELAWARE HEALTHY MOTHER AND INFANT CONSORTIUM (DHMIC)— NEXT STEPS FOR FY09

- Focus on the implementation of cultural competence and continuous quality improvement recommendations
- Coordinate the 4th Annual Summit on Maternal and Infant Health

POLICY RECOMMENDATIONS

We've continued to review standards of care for women and children in Delaware and we've continued to monitor the statewide neonatal transport program. We've also reviewed the 2008 Health Capacity Studies with the Center for Family Health Research & Epidemiology and the Health Systems Bureau.

WHAT DID WE LEARN FROM THE HEALTH CAPACITY STUDIES?

We learned where capacity is high.

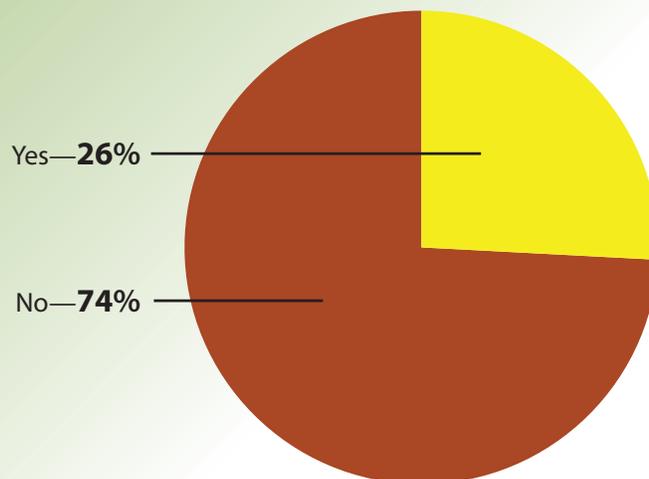
- Approximately 80% of physicians in Delaware said they would be active five years from now
- 88% of all primary care physicians are accepting new primary care patients in Delaware
- 99% of Delaware's primary care physicians are members of managed-care networks—this allows physicians to offer services to a wider range of patients

Source: Center for Applied Demography and Survey Research, University of Delaware

We also learned where capacity is low.

Census County Divisions Facing Potential Shortage, Some Shortage or Significant Shortage of Primary Care Physicians

Source: Center for Applied Demography and Survey Research, University of Delaware



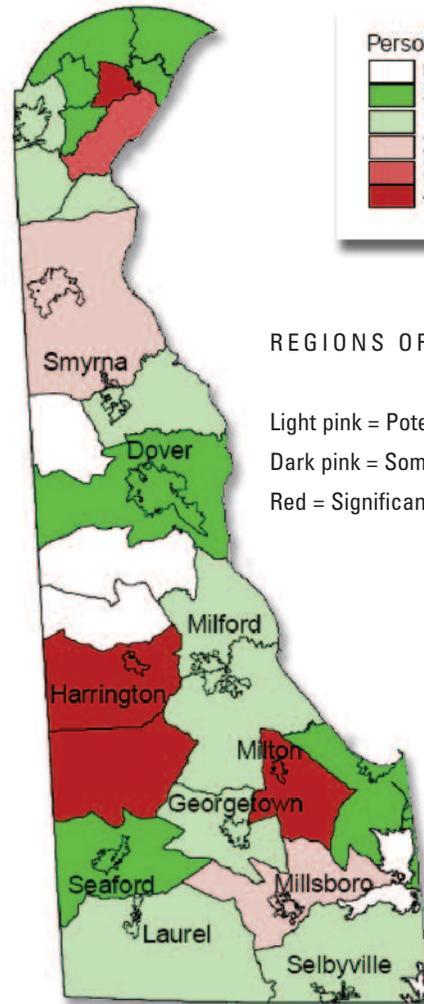
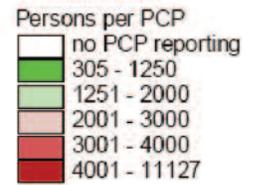
▶ 34% of primary care physicians are not accepting new Medicaid patients in Delaware.

7 out of 27 (26%) Census County Divisions have a potential shortage, some shortage or significant shortage of primary care physicians (PCPs).

Of the 737 full-time practicing primary care physicians, 11% are Obstetrician/Gynecologists.

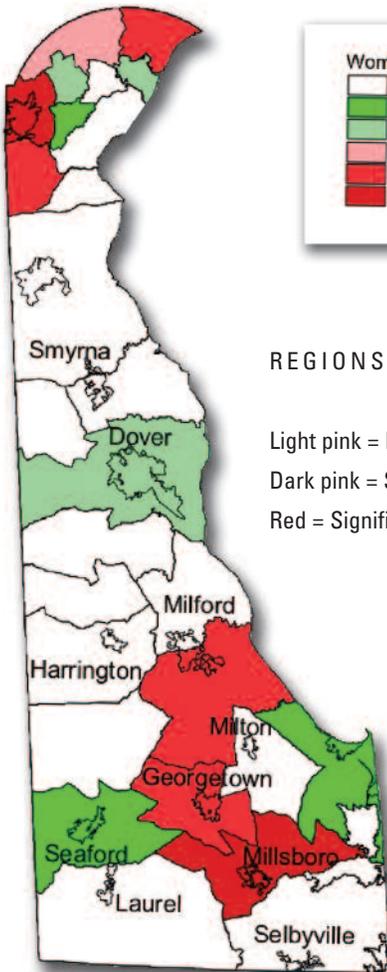
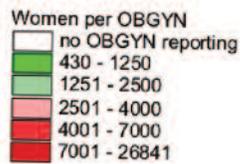
Kent and Sussex counties are the most underserved in Obstetrics/ Gynecology practice sites.

13 of the 27 Census County Divisions have OBGYN practice sites.



REGIONS OF CONCERN

Light pink = Potential shortage of PCPs
 Dark pink = Some shortage of PCPs
 Red = Significant shortage of PCPs



REGIONS OF CONCERN

Light pink = Potential shortage of OBGYN
 Dark pink = Some shortage of OBGYN
 Red = Significant shortage of OBGYN

Source: Center for Applied Demography and Survey Research, University of Delaware

- Lower Christiana, Harrington, Milton and Bridgeville-Greenwood Census County Divisions are in significant need of more primary care physicians (Red)

- Greater Newark and Millsboro Census County Divisions are in significant need of more Obstetrician/Gynecologists (OBGYN) (Red)

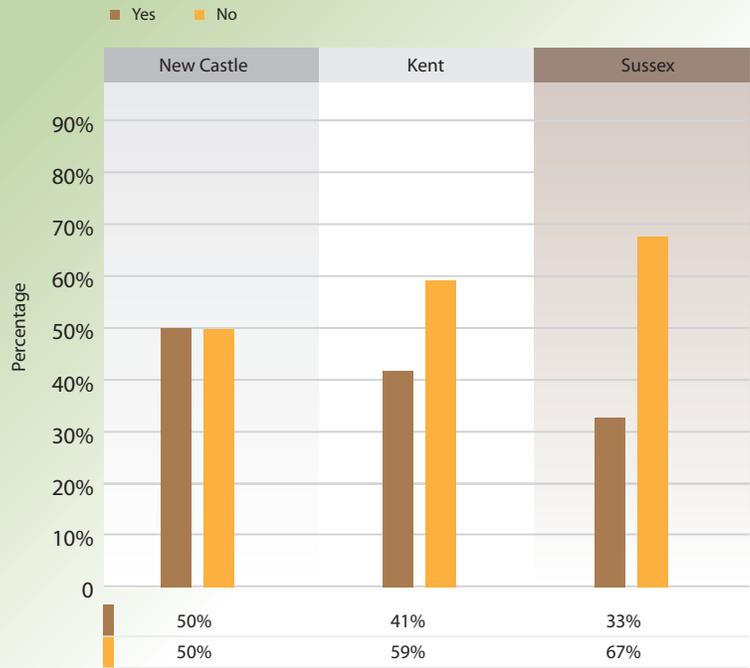
Source: Center for Applied Demography and Survey Research, University of Delaware

➤ **New Castle County Primary Care Physicians are the most likely to refer patients to our intervention programs compared with Primary Care Physicians in Kent and Sussex counties.**

➤ **79% of primary care providers in Sussex County do not refer patients to our preconception care programs.**

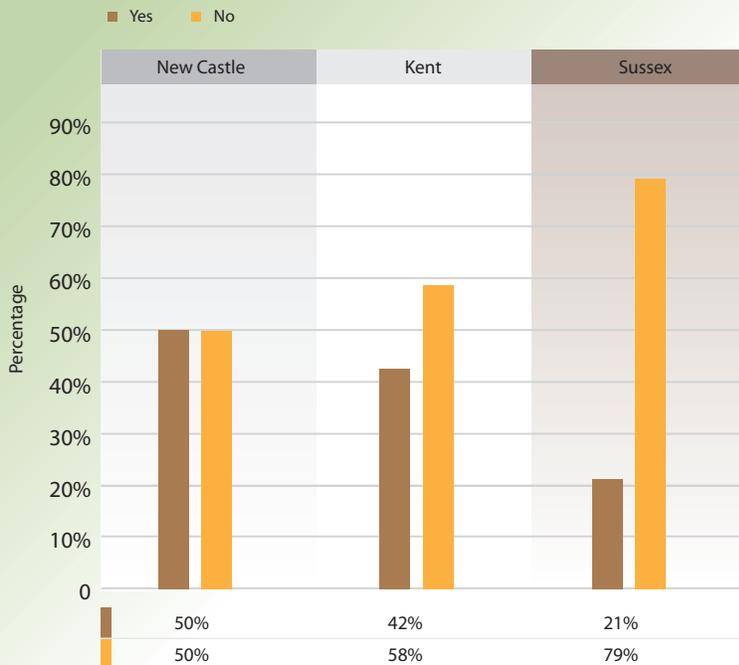
Percentage of Primary Care Physicians Referring Patients to Our Family Practice Team Model Programs by County

Source: Center for Applied Demography and Survey Research, University of Delaware



Percentage of Primary Care Physicians Referring Patients to Our Preconception Care Programs by County

Source: Center for Applied Demography and Survey Research, University of Delaware



WHAT ELSE DID WE LEARN FROM THE HEALTH CAPACITY STUDIES?

- There are 83 practicing Obstetrician/Gynecologists (OBGYNs) in Delaware.
- 64% of OBGYNs practice in New Castle County, 22% practice in Sussex County and 14% practice in Kent County.
- OBGYNs tend to be located near hospitals, which means many women who need OBGYN services can expect to travel.

Source: Center for Applied Demography and Survey Research, University of Delaware

WHAT ELSE DO WE NEED TO DO? HOW CAN WE BETTER COORDINATE CARE?

- We need to expand our infant mortality intervention programs in these areas where there are shortages of Obstetrician/Gynecologists.

POLICY RECOMMENDATION—NEXT STEPS FOR FY09

- Review 2010 physician capacities studies to see if there are changes in care coordination and services

LIST OF MEMBERS

DHMIC-Appointed Members

David Paul, MD
Jaki Gorum, DSW
 The Honorable Liane Sorenson, State Senator
 The Honorable Patricia Blevins, State Senator
 Tiffany Chalk
 Garrett Colmorgen, MD
 Katherine Esterly, MD
 Rev. John Holden
 Lolita Lopez, CHE
 The Honorable Pam Maier, State Representative
 Susan Noyes, RN, MSN
 Anthony Policastro, MD
 Rosa Rivera Prado
 Laura L. Rossi
 Agnes Richardson, PhD
Jaime Gus Rivera, MD
 The Honorable Teresa L. Schooley, State Rep
 Alvin Snyder, MSW

Data & Science

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Robert Locke, DO
Victoria Runyon, FAC
George Yocher, FAC
 Michael Antunes, MD
 Aparna Bagdi, PhD
 Louis Bartoshesky, MD
 Matthew Diguliello, MD
 Jay Greenspan, MD
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DPH

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Petti Cox
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Health Disparities

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Rosa Rivera Prado
Helen Arthur, FAC
Tiffany Reed, FAC
Michelle Mathew
 Tamica Barbour
 The Honorable Patricia Blevins, State Senator
 Dorothy Griffith
Kimberly Henry
 Andrea Hinson
 Rev. John Holden
 Joan Kelley, RN, BSN
Virginia Y. Phillips
 Joan Powell
 Mariann Powell
 Warren Rhodes, PhD
 Cynthia Smith
 Yvonne Stringfield, Ed.D
 Glyne Williams

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Norman Clendaniel, FAC
Katherine Collison, FAC
 Caroline Conard, MSN, RNC, WHNP
 Linda Daniel, RN, MSN, CCM
 Alice Edgell, RN, MSN
 Sandy Elliott, CNM, MSN
 Dot Fowler, MSN, RNC, WHNP
 Richard Henderson, MD, FACOG
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 Virginia Phillips
 Julia Pillsbury, DO
 Carol Post
 Jennifer Pulcinnella

*Names in bold are Chairs and Co-Chairs

**Names in Italic DPH Employees

For more information or to review the report online, please visit: <http://healthybabiesde.com>

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DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health