



# ODPCP

OHIO DIABETES PREVENTION AND CONTROL PROGRAM

This special supplement to the diabetes newsletter is brought to you by the Ohio Department of Health (ODH) Gestational Diabetes Collaborative Team. We have lots to share since we first introduced ourselves to you in last Fall's newsletter. In this supplement you will find a description of our team, highlights of what we've learned over the past 18 months about gestational diabetes in Ohio, our plans for National Diabetes Month and more! We'd love to hear from you on what you think of the work we're doing. Enjoy the read!

Signed,

*The ODH Gestational Diabetes Collaborative Team*

## Update on the Ohio Gestational Diabetes Collaborative—2012

*Gestational Diabetes Mellitus (GDM) affects 2-10% of pregnancies in the United States; an estimated 9,000 pregnancies each year in Ohio*

Women with a history of gestational diabetes have a lifetime risk of developing type 2 diabetes mellitus (T2DM) of about 50-70%. Recommendations are for women with this history to be screened for adult-onset diabetes in the immediate post-partum period and at least every three years thereafter. This connection between GDM and Type 2 DM was the impetus to form the Ohio Gestational Diabetes Mellitus Collaborative (OGDMC) in the spring of 2010. Ohio was one of three states selected to participate in a national year-long learning collaborative with Missouri and West Virginia. The project was sponsored by a consortium that included the Association of Maternal and Child Health Programs (AMCHP), the National Association of Chronic Disease Directors (NACDD) Women's Health Council, and the

Centers for Disease Control and Prevention (CDC). Participants on the ODH's team include members from Bureau of Child and Family Health Services, Healthy Ohio's Ohio Diabetes Prevention and Control Program, Women, Infants, and Children (WIC) program, the State Epidemiology Office, Women's Health Program, and the Ohio Department of Jobs and Family Services.

Although the initial one-year learning collaborative has officially ended, the project continues. The goal of the collaborative is to decrease the number of women who develop T2DM. Many of the current activities of the collaborative are described in greater detail in this newsletter. This article will give a brief summary of these activities and outline action steps for the future.

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## Update on the Ohio Gestational Diabetes Collaborative—2012

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The collaborative has devoted much time and energy in collecting primary data for use in developing interventions. Results from two of these efforts will be described in separate articles for this newsletter. These include a survey of healthcare providers and focus groups conducted with women having a history of GDM. In addition, this newsletter contains an article about resources available to women to improve their ability to have a healthy diet and increase exercise. This was a need identified by both providers and by women. There is also an article on an evidenced-based strategy, the Five A's, normally used to decrease smoking in pregnancy but now applied to a new population designed to encourage weight loss.

The provider survey highlighted deficits in the knowledge base of providers about GDM and post-partum management. This finding led the team to develop an educational webinar for clinical and public health providers. The webinar starts with an overview of GDM and T2DM and the link between the two. The webinar, *Gestational Diabetes in Ohio: What Healthcare Providers Need to Know*, may be accessed by Ohio Train. Please see the announcement within this newsletter for information about this. Continuing education credits are available.

The team will again utilize social media to increase public awareness of this topic. Messages about reducing the risk of T2DM have been crafted for ODH Facebook and Twitter accounts as well as the ODH website. Information obtained from the focus groups has helped to direct these messages. The link between GDM and T2DM and the need for lifelong screening will be emphasized during National Diabetes Month in November, National Birth Defects Month in January, and Women's Health Week in May.

The OGDMC is still processing the wealth of information obtained in our provider survey and focus group of women. However some themes have emerged. Provider education is needed particularly in the area of post-partum screening. Both providers and consumers reiterated the need for educational materials and community resources for exercise and dietary improvements. Based on focus group input, educational materials already developed such as posters will undergo re-design to better communicate information to patients. The priority of the coming year will be to use the gathered data to develop actionable interventions.

### Resources Available

*There are many free resources for women coping with gestational diabetes. From food plans to smart phone applications, a little research can yield much information on the road to a healthy pregnancy and a healthy future for mother and baby. If you are interested in finding GDM resources online, simply Google, "Gestational Diabetes Tools" and spend a few minutes browsing the results. Below are a few of our favorites.*

**Gestational Diabetes Message Boards:** Found on the American Diabetes Association website ([www.diabetes.org](http://www.diabetes.org)), you can connect with other mothers who are dealing with GDM. Sometimes the advice and encouragement of a friend can't be beat.

<http://bit.ly/XoZ1Hx>

**My Food Advisor:** Also found on the American Diabetes Association website ([www.diabetes.org](http://www.diabetes.org)). It offers a free diabetic friendly meal planner, recipes, and nutritional information.

<http://bit.ly/R4SvEm>

**Diabetes 24/7:** Found on the American Diabetes Association website ([www.diabetes.org](http://www.diabetes.org)) Diabetes 24/7 is a personal health record that allows you to manage your diabetes and share valuable health information with others on your health care team. This application integrates with Microsoft's HealthVault, which allows you to securely import data from your doctor, pharmacy, or laboratory and track your blood pressure, weight, and medications.

<http://bit.ly/VaZvU7>

**GDM Friendly Recipes:** GDM Friendly Recipes ([www.gestationaldiabetesrecipes.com](http://www.gestationaldiabetesrecipes.com)) is a blog filled with great recipes and wonderful pictures of GDM friendly foods. The blog author is a mother who coped with GDM while pregnant.

<http://gestationaldiabetesrecipes.com/>

**OnTrack Diabetes:** OnTrack is an application to help diabetics manage their diabetes by tracking various items such as blood glucose, food, medication, blood pressure (BP), pulse, exercise and weight. Simply search the app name on your android device.

## Improving the Health of Ohio's Women of Reproductive Age: Using the 5As Model Adaptation to Address Obesity and Gestational Diabetes

Obesity in the preconception period and during pregnancy has been linked to various birth defects and other poor birth outcomes. Good health before becoming pregnant is an important contributor to a healthy pregnancy and baby and addressing health risks and behaviors before pregnancy can help reduce the risk of poor birth outcomes.

While the causes of about 70 percent of birth defects are unknown, most birth defects are thought to be caused by a complex mix of factors that include genes, environment, and life style behaviors. Most birth defects occur in the first 3 months of pregnancy, before many women even know they are pregnant. Assessing pre-pregnancy risk factors is a key component of strategies to improve reproductive health outcomes. Individual level interventions provided by health care professionals, such as brief counseling methods have been shown to change women's behaviors. The Ohio Connections for Children with Special Needs (OCCSN), Ohio's birth defects

surveillance registry, established the Obesity Control project to improve birth outcomes by promoting preconception health, specifically obesity control in reproductive age women of Appalachian Ohio. It is suggested from literature that culturally appropriate interventions to improve preconception health may be warranted for this population.

**Literature supports the effectiveness of the 5As (Assess, Advise, Ask, Assist, and Arrange) as a model for addressing obesity in women.**

The 5A's counseling framework is an evidence-based way to teach providers to counsel obese patients and measure the quality of obesity counseling. The Obesity Control 5A's Project initiate two pilot projects aim at combating Ohio's high rates of overweight and obesity in reproductive age women.



Preventive counseling services are an essential component of primary health care. Nevertheless, research has consistently shown low rates of preventive services counseling in everyday primary care practice. Studies have shown that intervention patients who received provider's advice to exercise before receiving education materials were more likely to change behavior than patients who received no advice. The 5A's model has been validated and applied to a variety of behaviors that include smoking cessation, exercise behavior, contraceptive use and dietary behavior. In addition, brief counseling sessions lasting five to 15 minutes have been proven as effective as longer visits in alcohol prevention and substance abuse programs.

The 5A's intervention is based on the Trans-theoretical model of Behavior Change which proposes that individuals are at different stages of readiness to adopt a new behavior and that individuals are required to

progress through various "stages of change". The model hypothesizes that the balance of potential risks and benefits of change (decisional balance) and self-efficacy predict movement through these various stages. They suggest that individuals pass through a series of five stages when attempting to change their behavior, the first three of which are motivational and the remaining two action stages.

The Obesity Control 5A's Project is the first project using 5A's brief counseling tool among reproductive aged women in Appalachian Ohio. If this pilot project is successfully implemented, it could be extended to other parts of Ohio and will act as foundation for future programs. For additional information about the project or potential implementation, contact

Dr. Norma J. Ryan, RN, MCHES, OCCSN Coordinator, at [Norma.Ryan@odh.ohio.gov](mailto:Norma.Ryan@odh.ohio.gov) or 614.752.9523.



## Among Women with Previous GDM, Prevention and Early Diagnosis of Type 2 Diabetes Can Save Lives: What are Ohio Healthcare Providers Doing?

Type 2 diabetes T2DM can be a destructive disease over a person's life, especially when undiagnosed or uncontrolled. It doesn't have to be. The development of T2DM can be prevented or delayed in most people. When it occurs, the earlier it is diagnosed and treated, the better a person's outcomes. Prevention and early diagnosis can save lives.

There is a readily identifiable group of women among whom approximately 70 percent will develop T2DM. These are women who have had gestational diabetes (GDM). To help ensure that these women receive the information and resources they need to prevent or delay T2DM, and that they receive the screenings necessary for early diagnosis and treatment, the Ohio Department of Health GDM Collaborative Team surveyed Ohio healthcare providers in the fall of 2010. We sought to learn what Obstetrician/Gynecologists (OB/GYN), Certified Nurse Midwives (CNM), Family Practitioners (FP), and Internists knew and how they cared for women with a GDM history.

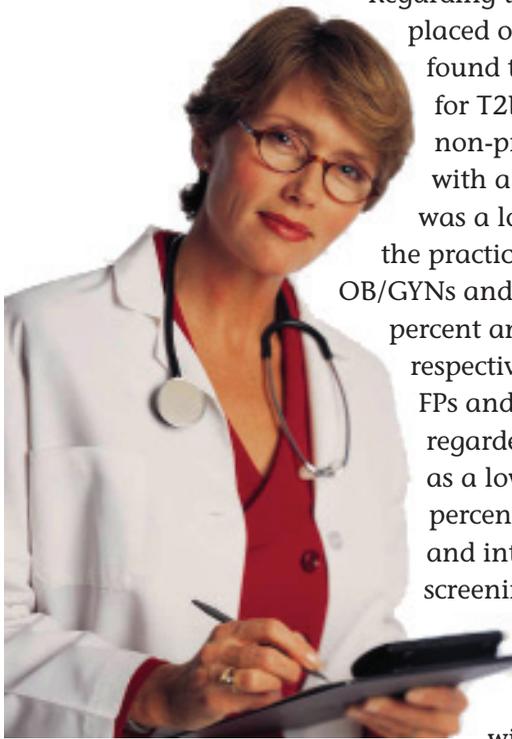
**We learned much that we are using to try to improve care for women with a GDM history.**

**Some of the most important are:**

- 1) **providers are not aware how great the risk for future T2DM is among women diagnosed with GDM**
- 2) **screening for T2DM among women with a GDM history is not a high priority for many practitioners**
- 3) **the provision of preventive care,**
- 4) **including counseling and referrals, is low**

Regarding knowledge of the risk for T2DM, only about one-third of practitioners knew that more than 40 percent of women with GDM will develop T2DM. Surprisingly, this was equally true for all four types of providers. However, the percentage of internists and FPs "unsure" of the correct risk was greater than among OB/GYNs and CNMs (about 20 percent vs. four percent and 11 percent respectively). Conversely, OB/GYNs and CNMs more often incorrectly believed that the risk was actually 40 percent or lower (65 percent of OB/GYNs and 54 percent of CNMs vs. about 47 percent of internists and FPs). Looking further, we found that practitioners who were knowledgeable of the extent of the risk for T2DM had other positive beliefs and practices. Compared to similar practitioners with incorrect knowledge, knowledgeable FPs and internists more often regarded screening as a high priority in their practices; knowledgeable OB/GYNs screened postpartum women more frequently.





Regarding the priority placed on screening, we found that screening for T2DM among non-pregnant women with a history of GDM was a low priority in the practices of many OB/GYNs and CNMs (41 percent and 55 percent respectively). Fewer FPs and internists regarded this screening as a low priority (23 percent). Among FPs and internists, holding screening as only a moderate or low priority was associated with less strong agreement that

GDM has long-term agreement for women's health, that it is important to increase patient knowledge of their future risk of T2DM, and that there is a need for periodic screening for T2DM among women with prior GDM. Furthermore, only about half (55 percent) of these primary care practitioners' practices collect health histories on previous GDM in women patients. These practitioners may then not know if their patients have this risk indicator, even when they hold screening as a high priority.

Finally, preventative care practices were less common than desirable. These include practices that would inform women of their future risk, educate women about screening recommendations for early detection, and educate and assist women in making lifestyle changes to prevent or delay T2DM. Only one half to two thirds of practitioners informed women of their increased risk for T2DM, about one third to one half told women that they should be tested for T2DM before subsequent pregnancies, one fifth to one third counseled women on nutrition, and 5 percent to one third provided nutrition referrals to women who were also overweight or obese. The barriers to optimizing these practices are complex and exist on multiple levels, including system, practitioner, and patient. Practitioners perceive barriers to include improved insurance coverage for lifestyle

modification programs, counseling on nutrition and exercise, and postpartum diabetes testing; better patient education materials; and improved patient access to medical nutrition therapy, certified diabetes educators and affordable community lifestyle programs.

### ***The Ohio GDM Collaborative Team aims to prevent, delay, or detect early the development of T2DM among women with a GDM history.***

To do this, we believe we must increase the knowledge of postpartum and primary care providers, raise the priority that practitioners place on identifying and screening women with prior GDM, and reduce barriers to optimum preventative care. Please join us in our efforts to improve care for Ohio women.

If you have any ideas or ongoing activities to share, please contact us at: [danielle.michael@odh.ohio.gov](mailto:danielle.michael@odh.ohio.gov)

**Note:** This work was sponsored in part by the Association of Maternal and Child Health Programs (AMCHP), the National Association of Chronic Disease Directors (NACDD) Women's Health Council and The Centers for Disease Control and Prevention (CDC). The Ohio Department of Health, in collaboration with the Case Western Reserve University's Prevention Research Center, and the Centers for Disease Control and Prevention (CDC), conducted a survey of prenatal and primary health care providers in Ohio. A request for assistance (referred to as an EPI-AID) was made to the CDC. Epidemic Intelligence Service Officers (EISOs) from the CDC, at the invitation of the Ohio Department of Health, provided technical assistance in the development and implementation of the survey. After piloting the survey were sent by mail and the internet to a sample of health care providers in Ohio from September through December, 2010. Recipients included licensed and practicing internal medicine physicians, family medicine physicians, obstetricians and gynecologists (OB/GYN), and certified nurse midwives (N=2,035). The overall response rate was 46 percent. Co-authors on this work include Elizabeth J Conrey, PhD, RD; Jean Y Ko, PhD; Loren Rodgers, PhD; Patricia M Dietz, DrPH; Cynthia Shellhaas, MD MPH; Sherry L Farr, PhD; Cheryl L Robbins, PhD; Reena Oza-Frank, PhD, RD; Andrew Wapner, DO, MPH; Jo M Bouchard, MPH. More information may be found in the ODPCP FALL 2011 SUPPLEMENT.

— Submitted by Elizabeth Conrey, PhD, RD

## Learning from Women with Prior Gestational Diabetes: Ohio Focus Groups

*Earlier detection, prevention or delay of T2DM among women with a history of gestational diabetes (GDM) would lead to improved women's health and birth outcomes, and decreased health care costs.*



2012 at a mix of rural and urban sites (Athens, Chillicothe, Cincinnati, Cleveland, Columbus, Ironton, Liberty Center, Mansfield, Toledo, and Zanesville). Four of the Hispanic groups were composed of Spanish-speaking immigrants and were conducted in Spanish. Those sessions were then translated into English.

*Most women perceived a limited capacity to balance their lifestyle; the ongoing difficulty of breaking bad eating habits and usual routines were key issues*

However, both health care providers and women themselves encounter barriers to improving prevention and detection. The Ohio Department of Health (ODH), Gestational Diabetes Collaborative Team aims to improve early detection and prevention/delay in Ohio and sought to better understand the knowledge, experiences and barriers within high risk women through a series of focus groups conducted by LaVERDAD, a marketing research firm from Cincinnati, Ohio.

Fourteen group sessions were conducted with women, age 21 to 45 years old, who had been diagnosed with diabetes during pregnancy within the last ten years. To ensure that a diversity of women's voices were heard, we went to communities across Ohio and invited women at high risk for developing diabetes, African American women, Hispanic women, and women living in Appalachia. Discussions were conducted between February and May

We identified differences among race/ethnic groups of women in terms of diabetes knowledge, diabetes management, and access to needed resources.

Each group had specific cultural nuances and habits which directly affect their everyday life, although low income and the ability to access information were the common threads limiting women's ability to eat well and be physically active to reduce their health risks in general.

Many women told us their doctor played a small role in informing, educating, and managing their concerns about GDM. Rather, a nutritionist was the person who educated the women mostly about the disease. Almost all of the women had a post-partum visit around six weeks after their babies were born. All but a few made the appointment. Many women told us their doctor played a small role in informing, before leaving the hospital after delivery. Many were unsure if they were tested at the post-partum visit for diabetes.



These brochures are available from local WIC clinics.

Almost none of mothers recalled their doctors telling them they needed to tell their baby's doctor about their GDM diagnosis. They did not make the connection between their illness and their child's future risks.

The majority of participants, regardless of race or ethnicity, were not aware of their ability to prevent type 2 diabetes mellitus (T2DM) by their lifestyle choices (eating habits and/or level of physical activity). Those who were aware of T2DM but hadn't yet developed it either ignored the risks or felt unable to prevent them. Most women perceived a limited capacity to balance their lifestyle; the ongoing difficulty of breaking bad eating habits and usual routines were key issues. Managing a proper diet and physical activity were difficult due to expense and availability of resources within the neighborhoods in which the women lived. Information about GDM and T2DM was needed and would be welcomed from sources such as the internet, radio, television, doctors and nurses, flyers and pamphlets, community services, and others.

We asked the women to give us their opinions on posters, PSA's and other education materials that might be used with women in Ohio. Most were well received and viewed as being helpful in informing them about the risks of GDM and T2DM and how to manage them. A brochure developed and used by the Ohio WIC program received particularly positive remarks. The women offered perceptions about and suggestions for improving the other materials. All that we learned from the focus groups is being used as the Collaborative Team plans our next several years of work. Our sincere gratitude goes out to all the women who gave of their time and to the agencies and organizations that assisted in the recruitment of women and the hosting of the sessions.

—Jo Bouchard; Elizabeth Conrey; Andrew Wapner;  
Anne Kutys; Melody Sexton; Cynthia Shellhaas;  
Gwen Stacy; Norma Ryan; Reena Oza-Frank;  
LaVERDAD, Cincinnati, Ohio

## Healthy Diet Linked to Reduced Type 2 Diabetes



A study supported by the National Institutes of Health has found that women who develop diabetes during pregnancy can greatly reduce their risk of developing type 2 diabetes if they commit to a healthy diet in the years after pregnancy. Previously, it was not known how much the risk T2DM in these women could be lowered through adhering to healthy diet.

In about 5 percent of U.S. pregnancies, women who do not have diabetes before becoming pregnant develop high blood sugar levels during pregnancy. This condition, called gestational diabetes (GDM), raises a woman's risk of developing T2DM later in life up to sevenfold, compared to pregnant women who don't have gestational diabetes. Little is known about the role healthy lifestyle factors may have in preventing progression from GDM to T2DM later in life.

The study found the greatest reductions in T2DM risk were for women who followed diets rich in whole grains,

fresh fruits, vegetables, and legumes, and included poultry, seafood, and nuts, with limiting intake of red and processed meats. In the years after having gestational diabetes, women who followed these healthy eating plans greatly reduced their T2DM risk by about half that of women who did not engage in healthy eating habits.

"Our findings indicate that women with gestational diabetes aren't necessarily preordained to develop type 2 diabetes," said senior author Culin Zhang, M.D., Ph.D., of the Epidemiology Branch at the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), the NIH institute where much of the analysis was conducted. "It appears they may have some degree of control. Sticking to a healthy diet may greatly reduce their chances for developing diabetes later in life."

Research has shown that, among the general population, healthy eating can reduce the risk of developing T2DM. Dr. Zhang and her colleagues have shown previously that, before they conceive, women who follow a diet low in cholesterol and animal fat, low in sugar sweetened beverages, but high in fiber, and who are physically active have a reduced risk of GDM.

This study included 4,413 women who developed GDM between 1991 and 2001. The women were taking part in a long-term study of nurses called the Nurses' Health Study II. As part of the ongoing study, the nurses filled out questionnaires every other year on lifestyle and health. They completed a questionnaire every four years about their intake of several common food items during the previous year.

Of the women in the study, 491 later developed T2DM. The researchers found that women who adhered most closely to these diets lowered their risk for T2DM considerably when compared to the least compliant group. On average, these women developed T2DM about 14 years after they had experienced GDM.

Tobias DK; Hu FB; Chavarro J; Rosner B; Mozaffarian D; Zhang C. Healthful Dietary Patterns and Type 2 Diabetes Mellitus Risk Among Women With a History of Gestational Diabetes Mellitus. *Arch Intern Med.* 2012; 1-7. doi:10.1001/archinternmed.2012.3747.