DIABETES is a group of diseases where people have high levels of blood glucose, or blood sugar, because of defects in insulin production, insulin action or both. It is a serious health issue that affects Indiana females across all ages and segments of the population. Estimates indicate that 9.0% of women in Indiana have been diagnosed with diabetes, and the risk increases with age [Fig. 1]. An additional 6.6% of women in Indiana are estimated to have pre-diabetes. As Indiana’s population ages and the prevalence of risk factors increase, the number of females with diabetes and its complications will likely grow.

In Indiana, diabetes is present at different rates among racial and ethnic communities [Fig. 2]. Estimates indicate that 8.4% of white women have been diagnosed with diabetes, compared to 16.2% of black women. Additionally, women who are Asian, black, Hispanic, Native American or Pacific Islander have a higher risk of developing gestational diabetes than white women.

**Diabetes and heart disease**
- Heart disease is the leading cause of death among women with diabetes.
- Women with diabetes have a 5–7 times higher risk for developing heart disease compared to women who do not have diabetes.
- Women with diabetes are three times as likely to develop fatal coronary heart disease than women without diabetes.
- Women who have diabetes and also smoke are three times as likely to develop heart disease than those with diabetes who do not smoke.

**Gestational diabetes mellitus (GDM)**
- GDM is condition where females develop high blood glucose levels during pregnancy. In 2008, 4.5% of Indiana births involved GDM.
- While most females with GDM deliver healthy babies, children of females with GDM have higher rates of excessive birth weight, hypoglycemia, pre-term birth, and respiratory distress syndrome than children of females who did not have GDM.
- Females with GDM have an increased risk of high blood pressure, pre-eclampsia, and eclampsia.
- While most return to normal blood sugar levels after delivery, females with GDM have a lifetime risk of developing type 2 diabetes that is over seven times higher than females with normal blood sugar levels during pregnancy.

**Pre-existing diabetes and pregnancy**
- Though most females with diabetes deliver healthy babies, poorly controlled diabetes prior to conception and during the first trimester of pregnancy can lead to miscarriages or major birth defects.
- Additionally, poor blood glucose control during second or third trimesters can result in the negative birth outcomes listed previously for GDM.

*Unless specified otherwise, the term diabetes refers to both type 1 and type 2 diabetes, but not gestational diabetes.
†Refers to females ages 18 years and older.
‡Pre-diabetes is blood glucose levels higher than normal, but not high enough to be classified as clinical diabetes. Pre-diabetes is a risk factor for developing diabetes.
§Insufficient data to estimate prevalence of diabetes for this age group.
#Pre-eclampsia is a condition where a woman develops high blood pressure and protein in the urine during late second or third trimester of a pregnancy. Eclampsia is seizure disorder in pregnant women unrelated to pre-existing neurological conditions. Pre-eclampsia can lead to eclampsia.
Diabetes and polycystic ovarian syndrome (PCOS)  
- PCOS is a hormone disorder in females that can involve multiple systems within the body.
- Although the cause of PCOS is unknown, research indicates that insulin resistance can be associated with the syndrome.
- PCOS is the most common cause of female infertility, can cause irregular ovulation or menstrual cycles, and can lead to higher rates of miscarriage, gestational diabetes, pre-eclampsia, and prematurity.

Diabetes and depression
- In a study of over 65,000 women:
  - Those who were clinically depressed were 17% more likely to develop diabetes than those who were not depressed.
  - Those with diabetes were 29% more likely to develop clinical depression than individuals who did not have diabetes.

Diabetes and eating disorders
- Females with type 1 diabetes are more than twice as likely to develop an eating disorder as females of comparable age who do not have diabetes.

TAKE ACTION: Steps you can take to prevent or manage diabetes
- Be tobacco free (www.in.gov/quitline)
- Control your blood pressure
- Maintain a healthy weight
- Eat a healthy diet
- Participate in regular physical activity
- Properly manage your diabetes with guidance from health care professionals
- Learn to recognize the onset of symptoms or physical changes due to diabetes
- Monitor any changes in health status when being treated or taking medications for other conditions
- If you have diabetes and are planning a pregnancy, consult a health care provider
- Get screened for undiagnosed type 2 diabetes at the first prenatal visit if you have risk factors for diabetes
- If you are pregnant and have not been previously diagnosed with diabetes, get screened for GDM at 24–28 weeks gestation
- If you had GDM during pregnancy:
  - Get screened for persistent diabetes at 6–12 weeks postpartum
  - Thereafter, get screened for diabetes or pre-diabetes at least every 3 years

Community resources
- For a listing of diabetes programs by county, visit the Indiana Diabetes Education and Support Program Directory or call the Indiana Family Helpline (855-435-7178).
- Diabetes Prevention Program (DPP): a program that aids in prevention of type 2 diabetes for individuals who are considered pre-diabetic. Contact the “Y” (formerly YMCA) in Bloomington, Fort Wayne, and Indianapolis.
- Diabetes Education Empowerment Program with Tobacco Cessation (DEEP TC): helps people with diabetes develop the skills to better manage the disease (Offered in English and Spanish).
- Living a Healthy Life: a 6-week workshop for people with chronic illnesses to help them gain self-confidence in their ability to manage their disease, control symptoms, and learn how health problems affect their lives.
- For mental health services, call the Indiana Family Helpline (855-435-7178) or visit the Community Mental Health Services Locator.

References