Program Overview
Within The Ohio State University’s (OSU) Division of General Internal Medicine, all patients receive high quality, collaborative care from a multi-disciplinary team including pharmacists, nurse practitioners, and physicians regardless of insurance status. This innovative practice has been recognized by the National Committee for Quality Assurance (NCQA) as a tier 3 patient-centered medical home because the patients receive quality care from a collaborative team of health care providers who work together to improve the health of their patients.

The OSU Division of General Internal Medicine also serves as the ambulatory site for medical resident education. In 2010, the OSU Division of General Internal Medicine received a U.S. Department of Health and Human Services Health Resources and Services Administration (HRSA) grant to establish a unique medical residency program to produce primary care physicians. As part of their residency training, medical residents are engaged in the multi-disciplinary diabetes clinic. Training medical residents in a multi-disciplinary team setting creates an environment where resident physicians recognize the value of using a collaborative team approach to care for patients.

Program Partners
The OSU College of Pharmacy and OSU Division of General Internal Medicine partner together to provide patient care at the Martha Morehouse Clinic and CarePoint East Clinic.

Community Champion: Stuart Beatty, PharmD, BCPS, CDE

Patient Profile
Patients with diabetes who see an internal medicine physician at Martha Morehouse or CarePoint East may be referred to the OSU multi-disciplinary diabetes clinic. Diabetes patients from any background may be referred to the clinic, but most patients have multiple other diseases, low income, or low health literacy. Many patients face barriers that create issues with access to care or adherence to medications and diabetes recommendations (e.g., lack of insurance, high co-pay for medications).

Pharmacists’ Role on the Collaborative Care Team
A multi-disciplinary diabetes clinic has existed at OSU since 2008. During the diabetes clinic, a medical resident or nurse practitioner and a clinical pharmacist interview the patient in the exam room simultaneously. Together, the team performs a diabetes-focused review of systems, physical exam and medication review to gather important information about the patient that will guide therapy decisions. Using the information gathered during the patient interview, pharmacists, nurse practitioners, and physicians use shared decision making with the patient to develop a therapeutic plan. The pharmacist then takes the lead and delivers patient-centered diabetes-related education on a relevant topic chosen by the care team with input from the patient. The pharmacist also helps the patient develop individual goals and addresses any questions or concerns the patient may have before concluding the visit. In between visits, the pharmacist provides follow up with the patient to assess adherence to the therapeutic plan and patient progress toward goal achievement. If issues arise between visits, the pharmacist can identify the problem and bring it to the attention of the care team so it can be addressed accordingly. This collaborative team approach has
received positive feedback from patients and has demonstrated success through significant improvements in key clinical outcomes.

**Relevant Statistics – Community Level**

According to the Ohio Diabetes Prevention and Control Program:1
- It is estimated that more than 10 percent of Ohio adults have been diagnosed with diabetes
- Nearly 200,000 Ohio adults have been diagnosed with gestational diabetes or prediabetes, which increases their risk of developing Type 2 diabetes later in life
- In Franklin County, diabetes disproportionately affects black adults, people over the age of 65, those with an yearly income of less than $15,000, and those who have a high school degree as their highest level of education

**Diabetes Epidemic at the National Level**

**Impact of Diabetes**2,3
- 25.8 million people, which is 8.3% of the U.S. population, are estimated to have diabetes
  - 18.8 million people have been diagnosed with diabetes
  - 7 million people are undiagnosed; in other words, are unaware they have diabetes
- 1.9 million people aged 20 years and older are newly diagnosed with diabetes each year
- The prevalence of diabetes in the United States increased by 128% from 1988 to 2008
- If present trends continue, 1 in 3 adults in America will have diabetes in 2050
- 79 million adults have prediabetes, which increases their risk of developing Type 2 diabetes later in life
- Diabetes is a major cause of heart disease and stroke
- Diabetes is the leading cause of kidney failure, nontraumatic lower-limb amputations, and new cases of blindness among adults in the United States
- Diabetes contributes to the death of 231,404 Americans each year

**Cost of Diabetes**3
- Total cost of diagnosed diabetes in the United States = $245 billion per year
  - Direct medical costs = $176 billion per year
  - Indirect costs (e.g., disability, reduced productivity) = $69 billion per year
- Health care costs for a person with diabetes are 2.3 times higher than a person without diabetes
- 1 out of every 10 health care dollars is spent treating diabetes and its complications

**References**