

Diabetes Care – How do we compare?

At Licking Memorial Health Systems (LMHS), we take pride in the care we provide. To monitor the quality of that care, we track specific quality measures and compare them to benchmark measures. Then, we publish them so you can draw your own conclusions regarding your healthcare choices.

Check out our Quality Report Cards online at www.LMHealth.org.

- 1** Much of the care diabetes patients receive takes place in the outpatient or physician office setting. The physician offices of Licking Memorial Health Professionals (LMHP) measure the most critical indicators for diabetes.

	LMHP 2011	LMHP 2012	LMHP 2013	National
LMHP diabetes patients receiving eye exam	71%	67%	67%	58%⁽¹⁾
LMHP diabetes patients having HbA1c test	97%	96%	96%	88%⁽¹⁾
LMHP diabetes patients having lipid profile	95%	94%	95%	83%⁽¹⁾
LMHP diabetes patients having microalbuminuria test	92%	90%	90%	84%⁽¹⁾
LMHP diabetes patients having foot exam	92%	92%	90%	80%⁽²⁾

- 2** While having the testing done is important, the test results (or outcomes) indicate how well the physician, in collaboration with the patient, is managing the diabetes. The hemoglobin A1c (HbA1c) test is a simple lab test that shows the average amount of sugar (also called glucose) that has been in a person's blood over an extended period of time.

	LMHP 2011	LMHP 2012	LMHP 2013	National ⁽¹⁾
LMHP diabetes patients with HbA1c less than or equal to 7%	57%	58%	59%	38%
LMHP diabetes patients with HbA1c less than or equal to 8%	79%	78%	79%	59%

- 3** People with diabetes are at high risk for heart disease. An elevated LDL ("bad") cholesterol test reveals if an individual has unhealthy fat levels, which increase the risk for heart disease, a very serious complication of diabetes.

	LMHP 2011	LMHP 2012	LMHP 2013	National ⁽¹⁾
LMHP diabetes patients with LDL less than or equal to 100 mg/dL	64%	65%	67%	48%

- 4** The Community Case Management (CCM) program at Licking Memorial Hospital (LMH) provides services to people in the community with diabetes. The American Diabetes Association recommends that a person with diabetes should have an HbA1c blood test at least every six months to monitor glucose levels. LMH staff members work closely with patients and their doctors to ensure that this test is performed as recommended in order to manage each patient's condition better.

	LMH 2011	LMH 2012	LMH 2013	Goal
CCM diabetes patients who obtained an HbA1c test	100%	99%	100%	Greater than 80%

- 5** Licking Memorial Hospital offers special classes and services for people with diabetes. Certified diabetes educators, registered nurses, dietitians and pharmacists provide one-on-one education to patients and work closely with them to set their own meaningful personal goals for improving their health and well-being.

	LMH July 1, 2010 thru June 30, 2011	LMH July 1, 2011 thru June 30, 2012	LMH July 1, 2012 thru June 30, 2013	Goal
Goals met by diabetes education graduates – within six months	93%	92%	90%	Greater than or equal to 80%

Data footnotes: (1) Average of reported Commercial Medicare and Medicaid/HEDIS measures. (2) National Committee for Quality Assurance – NCQA Diabetic Recognition Program.

Patient Story – Joan Davis

Joan Davis of Newark began tending to other people's needs at an early age. As a young girl, she learned to cook and clean so that her mother could work on the family's dairy farm. In her teenage years, she provided home care and babysat for a friend who had been severely injured in an automobile accident.

During her sophomore year at Lakewood High School, Joan began dating Terry, a classmate who rode the school bus with her, and sometimes worked on her family's farm. They were married after high school, and through the years, raised three children. After the children were grown, Joan worked as a housekeeper in Zanesville. Following retirement, she baby-sat for one of her five grandchildren on a daily basis. With her long-standing history of serving others, Joan found it difficult to have the roles reversed, relying on her physicians for help when she learned that she had diabetes in her mid-50s.

"The way that I found out that I had diabetes was strange," Joan said. "I had been having bad headaches, and stayed in bed a lot. I thought I was suffering from migraines. Then one day, I bought new eyeglasses. Within a week or two, I could not see very well, so I went back to the store and told them that I thought they had given me the wrong prescription. They double checked and told me that my eyes had changed since my examination, and recommended that I see my physician. I visited Dr. (Talya) Greathouse, and she ordered tests at Licking Memorial Hospital to check for diabetes."

After reviewing the results of Joan's glucose tolerance test, Dr. Greathouse diagnosed Joan with type 2 diabetes, commonly called "adult-onset diabetes." Joan was already familiar with the condition because her father had received the same diagnosis at the age of 71.

Dr. Greathouse prescribed oral medications for Joan and explained the role that a healthy diet and exercise have in managing her blood sugar levels. Dr. Greathouse also provided education on other diabetes management measures, such as proper foot care and the importance of regular eye exams.

"The dietary changes took a little getting used to at first," Joan remembered, "but now I am used to them. I have cut way back on fried foods, and I do not eat a lot of bread. I used to make a lot of cakes, but we do not have a lot of desserts, anymore. If I do have cake – at a birthday party, for example – I take only one piece and scrape off the icing. My taste has changed, and the icing tastes way too sweet for me now. I have been eating more healthy foods since 1999, and now I do not miss the old foods that I used to eat."

Joan found that providing day care for her grandson kept her active. "He is 2½ years old," she said, "and he has never walked. He ran from the first day that he stood up. He is a typical boy – plays in the dirt and mud puddles. He definitely keeps me running."



Joan Davis likes to take walks at The Dawes Arboretum.

When Joan is not running after grandchildren or taking care of other chores, she and Terry enjoy taking fresh-air walks for exercise. Their list of favorite walking routes includes some of the state's most scenic locales: The Dawes Arboretum, Black Hand Gorge, Columbus Zoo, Old Man's Cave, and the boardwalk at Buckeye Lake.

Despite Joan's efforts to manage her diabetes, her blood sugar levels were not well controlled, and her periodic A1c blood tests fluctuated. The A1c hemoglobin blood test measures the

average blood glucose level from the previous three months. Diabetes patients who have good blood sugar control with A1c levels below 7 percent have a lower risk of developing many diabetes-related complications, such as macular degeneration of the eyes and problems with the cardiovascular system, nervous system, liver, and renal system. Joan's A1c levels were usually around 7 percent, but at the end of 2012, they spiked up to 8.5 percent.

Dr. Greathouse referred Joan to see Jaime T. Goodman, M.D., of Licking Memorial Endocrinology, for more intensified diabetes care. Dr. Goodman ordered blood tests and reviewed Joan's recordings of her home blood glucose checks. On her third visit, Joan's A1c level had spiked again, and Dr. Goodman recommended a high-tech continuous glucose monitoring (CGM) test to discover any anomalies that were occurring without being detected by Joan's home glucose monitor.

Licking Memorial Endocrinology uses the Medtronic iPro™2 Professional Continuous Glucose Monitoring System for an accurate and detailed around-the-clock account of a patient's blood sugar levels. The CGM test is useful for patients who have not been able to achieve good blood glucose control. With the CGM, a tiny electrode called a glucose sensor is inserted under the skin of the patient's abdomen to measure the glucose level of the skin's fluid. A small plastic-covered monitor is worn outside the body to receive and record the readings via radio frequency.

Joan was nervous about having the CGM inserted, but soon found that her fears were unnecessary. "It did not hurt going in," she said. "It was very comfortable to wear. They put special bandages on the monitor so that water would not get under it, and I could shower. I was careful to pull my clothing out and over the monitor because I was a little worried that I might knock it loose. Otherwise, I forgot about it most of the time."

Joan had the CGM inserted on a Wednesday and returned to Dr. Goodman's office on the following Monday to have the sensor removed and the collected readings uploaded to a software program. The analysis revealed that Joan's blood sugar levels were mostly stable throughout the day, but elevated after breakfast and slightly decreased overnight. Dr. Goodman adjusted Joan's medications to address the blood sugar variations.

Patient Story – Joan Davis (continued from previous page)

“Dr. Goodman instructed me to increase my metformin dosage to one and one-half tablets in the morning, with one more at night. She continued my glipizide dosage at one tablet in the morning and another one at bedtime. I am on a total of four medications for diabetes, and Dr. Goodman evaluates them at each visit to ensure that they are well balanced. I also carry a complete list of all my medications in my billfold in case of emergency.”

Joan had an A1c test approximately three months after her CGM test results were analyzed and Dr. Goodman had adjusted her medication. The A1c results showed that Joan’s average blood sugar levels had successfully lowered to 6.5 percent.

Joan said, “I continue to see Dr. Goodman several times a year. As an endocrinologist, she keeps on top of new treatments and really watches for any possible complications. She focuses on more than just the blood sugar levels – she regularly orders

blood work to check my kidneys and liver, and checks my feet for sores.”

Joan may not be accustomed to having others take care of her needs, but she is willing to put herself in Dr. Goodman’s expert hands to help avoid a wide range of potential diabetes complications. Family activities are important to Joan and Terry, and she wants to maintain the energy required to attend as many of their grandchildren’s events as possible. “We enjoy their sports, school plays and school activities. We even attend as many events as we can for the grandchildren who live in Missouri. We love to travel.”

Dr. Goodman and I-Tsyr Shaw, M.D., are accepting new patients at Licking Memorial Endocrinology for treatment of diabetes, thyroid problems, or other glandular conditions. Appointments can be made by calling Dr. Goodman’s office at (740) 348-7950, or Dr. Shaw’s office at (740) 348-1740.

Two Drugs Offer New Approaches to Treatment of Diabetes

Two new types of drugs have been approved by the Federal Drug Administration (FDA) to treat patients with type 2 diabetes. Both drugs are used to complement the action of primary diabetes treatments. I-Tsyr Shaw, M.D., of Licking Memorial Endocrinology, explained that the two drugs, Bydureon® and Invokana®, have both been shown to lower patients’ blood sugar levels significantly.

“Bydureon is a type of synthetic hormone, called exenatide, that is injected just once a week,” Dr. Shaw said. “It stimulates the beta cells in the pancreas to increase their insulin output in response to elevated blood sugar levels.”

Bydureon begins working immediately after injection and continues to work throughout a seven-day period due to its timed-release structure. It improves blood glucose control in patients with type 2 diabetes in several ways:

- It induces the pancreas to secrete more insulin when needed.
- It prevents the liver from producing excess sugar.
- It slows the stomach-emptying process, which reduces blood sugar spikes after meals.
- It has an appetite-suppressing quality.
- It reduces the amount of fat in the liver.

Another form of exenatide, Byetta®, has been in use since receiving FDA approval in 2005 as a twice-a-day injection. Bydureon first received FDA approval in 2012, and in March 2014, the FDA approved an injectable-pen version of the seven-day drug.

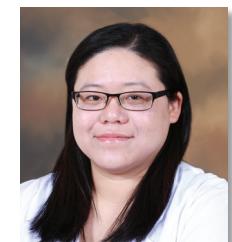
The newest diabetes drug to receive FDA approval is Invokana, which stimulates the kidneys to excrete excess sugar from the body. It received FDA approval in 2013 as an oral medication for the treatment of patients with type 2 diabetes.



“Invokana marks the emergence of a new class of drugs,” Dr. Shaw said. “It works by blocking the kidneys’ re-absorption of glucose that was pulled from the bloodstream. The kidneys then flush the excess glucose out of the body during urination.”

The FDA warns that Invokana should not be used for patients who have type 1 diabetes, elevated ketone levels in their blood, or severe renal disorders. The FDA also cautions that Bydureon should not be used by patients with type 1 diabetes, a personal or family history of medullary thyroid cancer, or multiple endocrine neoplasia syndrome type 2.

Dr. Shaw said, “Both medications have been effective in lowering blood sugar levels for patients who could not achieve good blood sugar control before. With better overall blood sugar control, patients are greatly decreasing their risk of developing complications that are often associated with diabetes.”



I-Tsyr Shaw, M.D.

Bydureon and Invokana were designed to be used in conjunction with a healthy diet and exercise. Many patients have reported steady weight loss while taking Bydureon or Invokana, which further facilitates their blood glucose management.

For more information about diabetes management, call Licking Memorial Endocrinology at (740) 348-1740 (Dr. Shaw), or (740) 348-7950 (Jaime T. Goodman, M.D.) for an appointment. Their practice is located at 1272 West Main Street, Building 2, in Newark.



Licking Memorial Health Systems

1320 West Main Street
Newark, Ohio 43055

Please take a few minutes to read
this month's report on **Diabetes Care**.

You'll soon discover why
Licking Memorial Health Systems is
measurably different ... for your health!

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Health Tips - Dining with Diabetes Classes Offer Mealtime Education

Effective diabetes management can be overwhelming to patients (and family members) who must make healthy changes to their diets. Licking Memorial Health Systems (LMHS) and The Ohio State University Extension Office have partnered to offer a three-part cooking school to teach healthy alternatives for food preparation.

The classes, instructed by Registered Dietician Annmarie Thacker, R.D., L.D., C.D.E., and Shari Gallup, M.S., feature cooking demonstrations, food tasting and discussions about the role that carbohydrates, fats and vitamins play in daily nutrition. A three-course meal is served during each class session. The classes take place in the First Floor Conference Rooms at Licking Memorial Hospital, 1320 West Main Street in Newark.

Advance registration is required for Dining with Diabetes classes. The cost for senior citizens (age 60 and older) is \$10 each, and \$20 each for all other participants. The fee, which is due at the time of registration, covers the cost of the food supplies. Class size is limited. Please call (740) 670-5315 to register and for the dates of upcoming classes.