

Quality Report Card



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DIABETES CARE

Understanding A1C

Diabetes is a group of diseases that result from excess sugar in the blood also known as high blood glucose. Serious complications can arise from the condition, such as nerve, kidney or eye damage and cardiovascular disease. To determine if someone has the disease, physicians can order an A1C test. This simple blood test measures the average blood sugar level over two to three months prior to the test. The test also is beneficial for tracking how well the blood sugar level is being managed.

A1C refers to a minor component of hemoglobin – the oxygen-carrying protein that gives blood its red color. About 90 percent of hemoglobin is hemoglobin A – or adult type. It then is further classified into type 1 or type 2. Type 1 is the most common type of hemoglobin and has subtypes A1A, A1B and A1C. A1C is the most common minor component. Sugar attaches or binds with hemoglobin A1C which is then referred to as glycated hemoglobin. This combined molecule differs in size from the other components in the blood, so it can easily be separated through a laboratory procedure called high pressure liquid chromatography. Once separated, the glucose can be measured and a percentage determined.

More glucose circulating in the blood leads to more hemoglobin being glycated. Once hemoglobin is glycated, it remains in that state until the red blood cell dies. Red blood cells live an average of three to four months. Therefore, the A1C level indicates the average glucose in the blood over a two to three month timespan. A1C is not affected by short-term fluctuations

in blood sugar concentrations due to meals, so the blood test can be administered any time of the day, without requiring the patient to fast. The results of the A1C test are expressed as the percentage of all hemoglobin that is glycated.

An A1C level below 5.7 percent is considered normal. When the reading falls between 5.7 and 6.4 percent, it is classified as prediabetes – a condition where the blood sugar level is higher than normal, but not high enough to be type 2 diabetes. Someone who has a level of 6.5 percent or higher likely will be diagnosed with diabetes. Test results can be skewed by recent blood loss, anemia, kidney disease or a recent blood transfusion.

Those experiencing symptoms of diabetes or are at high risk for diabetes are encouraged to talk to a physician about having an A1C test or other glucose level test. The symptoms may be subtle or very mild. People often experience hunger, excessive thirst and increased urination, fatigue, blurred vision, or tingling in the hands and feet. Risk factors for diabetes include family history, high blood pressure and obesity. When the condition is detected early, nerve damage and other complications can be avoided.

For those with prediabetes, the progression to type 2 diabetes can be prevented by making lifestyle changes such as eating healthy, losing weight and being more physically active. (See the Health Tips for ways to lower and maintain A1C.)



Patient Story – Steve*

Steve* has been living with Type 2 diabetes for 15 years. However, several years ago his A1C increased. He had been diagnosed with liver cancer and was undergoing treatment, making it difficult to manage his diabetes. “I was so focused on my other health issues, I let myself lapse concerning my diabetes,” Steve explained. “My A1C had risen to 9.6, so a little over a year ago, my primary care physician referred me to the Licking Memorial Hospital (LMH) Medication Therapy Clinic.”

Steve was using basal insulin, sliding scale insulin with meals and metformin when he was referred to the Clinic. After evaluating his case, the staff started him on a set meal insulin dose with mealtime insulin and encouraged him to check his blood sugar prior to meals and bedtime. “Steve was very motivated and wanted to get better control of his diabetes, despite all of his other medical diagnoses,” explained Danette Warner, Pharm D, BCPS, C.D.E. Steve followed up in the Clinic regularly and also met with Aundrea Parker, R.D., L.D. Together, they reviewed carbohydrate counting and Steve was given a carb-counting workbook. He diligently completed his workbook and staff was able to determine an insulin to carbohydrate ratio for meals. Aundrea also introduced Steve to CalorieKing, a food search mobile device application that provides nutritional information about a wide variety of foods, including many chain restaurants as well as home meal items. By tapping on a food, users can quickly access nutritional facts, such as protein, fiber, saturated fat, trans fat, cholesterol, sodium, and alcohol counts. “Aundrea has really gotten me straightened out. She has helped me watch my carbs better and curb my sweet tooth. I never realized that sports drinks contained so much sugar. Now I drink the sugar-free alternatives,” he shared. “I have learned so much about foods and how they affect my body.”

The staff also helped Steve download the Glooko app on his smartphone and taught him how to use it. Glooko helps patients understand how certain foods, activities, times of the day, and medication doses affect blood glucose, allowing for easier diabetes management. The app also shows patients what time of the day they are registering high or low levels, which days of the week are the best days, and how blood glucose levels compare to previous time periods. The app works by syncing all of the data from a glucometer, insulin pump and/or continuous glucose monitor, then tracking the medication, carbohydrates, and lifestyle data, and finally creating easy-to-read graphs and charts for the user. “I can enter insulin doses, use the food database, and upload my meter readings,” explained Steve. “Tina (Roberts) always does an outstanding job evaluating my readings.” By sending his meter readings to the Medication Therapy Clinic every two weeks for review, staff is able to make appropriate insulin dose adjustments as necessary between appointments.

Steve has always been active and was an avid runner for years, prior to his hip replacement in 2005. He still frequents the Licking County Family YMCA regularly where he participates in the Silver Sneakers program. His workouts include light weight lifting and walking. When he is not at the Y, he often walks at home in nice weather.

In three months, Steve’s A1C improved from 8.9 to 7.7 and then further improved to 6.6 in 6 months. His nighttime medicine has decreased by 50 percent and he has seen a 20-pound weight loss. Steve continues to follow up in the Clinic monthly and uploads his meter from home every two weeks for review. “My goal is to keep my numbers consistently low. I will follow up with my primary care physician, Nina Hourmouzis, M.D., at Licking Memorial Internal Medicine, this fall,” Steve stated.

“The Clinic staff has been so patient and supportive. They have helped me tremendously. I do not know where I would be without them. I hope that patients continue to be referred to the Clinic and utilize their services,” he concluded.

The Medication Therapy Clinic moved from the Hospital to 88 McMillen Drive in May 2017. The Clinic has been working with patients since 2003 to assist with education and management of the use of medications. The staff includes pharmacists, technicians, dietitians and nurses focused on teaching correct dosing, the importance of monitoring patient condition and even lifestyle changes needed to sustain good health. Currently, more than 1,300 patients utilize the services on a monthly basis.

Licking Memorial Endocrinology provides care for patients with glandular disorders, such as diabetes, metabolic disorders, thyroid disease, pituitary and adrenal abnormalities and osteoporosis. The practice is accepting new patients with a physician’s referral. To make an appointment, please call (220) 564-1740.

*This is not the patient’s real name.

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 to benchmark measures. Then, we publish the data so you can draw your own conclusions regarding your healthcare choices.

1. Much of the care that 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 2015	LMHP 2016	LMHP 2017	National
LMHP diabetes patients receiving eye exam	63%	59%	59%	58% ⁽¹⁾
LMHP diabetes patients having HbA1C test	96%	95%	94%	88% ⁽¹⁾
				LMHP Goal
LMHP diabetes patients having lipid profile	93%	91%	89%	83%
LMHP diabetes patients having microalbuminuria test	88%	86%	82%	84%
				National
LMHP diabetes patients having foot exam	89%	85%	84%	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 2015	LMHP 2016	LMHP 2017	National ⁽¹⁾
LMHP diabetes patients with HbA1C less than or equal to 7%	57%	56%	51%	38%
LMHP diabetes patients with HbA1C less than or equal to 8%	77%	76%	72%	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 2015	LMHP 2016	LMHP 2017	LMHP Goal
LMHP diabetes patients with LDL less than or equal to 100 mg/dL	67%	65%	65%	50%

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 physicians to ensure that this test is performed as recommended in order to manage each patient's condition better.

	LMH 2015	LMH 2016	LMH 2017	LMH Goal
CCM diabetes patients who obtained an HbA1C test	100%	100%	100%	Greater than 85%

5. Per the American Diabetes Association (ADA), decreasing body weight by 7 to 10 percent can delay or prevent Type 2 diabetes and lower blood glucose levels. Intentional weight loss of 10 percent of body weight can result in a reduction in A1C for people with Type 2 diabetes.

	LMH 2015	LMH 2016	LMH 2017	LMH Goal
Diabetes Self-Management Education & Support participants' average weight reduction (percentage denotes amount of participants who decreased body weight by 7 to 10 percent)	9.05 lbs. 93%	8.59 lbs. 93%	10.59 lbs. 82%	7 to 10 lbs. > 80%

Diabetes Care – How do we compare? (continued on back)



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6. A1C is the standard for measuring blood sugar management in people with diabetes. Studies show higher A1C levels to be associated with the risk of certain diabetes complications (eye, kidney and nerve disease). For every one percent decrease in A1C, there is significant protection against those complications.

	LMH 2015	LMH 2016	LMH 2017	LMH Goal
Diabetes Self-Management Education & Support participants with a decrease HbA1C or within normal limits	96%	92%	98%	greater than 80%

Data Footnotes:

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

Health Tips – Lowering A1C Levels Good Blood Sugar Control

Many studies have shown that lowering A1C levels can help reduce the risk of complications from diabetes. For those with prediabetes, the progression to Type 2 diabetes can be prevented by working to lower A1C levels. The following suggestions can be helpful in reducing A1C:

- Get a minimum of 150 minutes of moderate physical exercise a week – 30 minutes at least 5 days per week.
- Eat a healthy diet.
- Reduce starch and sugar intake.
- Reduce stress.
- Stick to treatment or medication plans.
- Set and achieve weight loss goals.

For a person with diabetes, many physicians recommend maintaining the A1C level at 7 percent or below.



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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