Wednesday, January 14th at 1:00 PM EST

Diabetes Monitoring: Easy as A-1-C
An educational webinar sponsored by Siemens Healthcare Diagnostics

Dr. Nancy Haley
Senior Clinical Consultant
Agenda

- Introductions
- Review of learning objectives
- Diabetes curriculum
- Q&A
- Closing comments

NOTE:
The program has been designated for 1.0 PACE continuing education credit.*

*There is a charge of $10.00 plus local tax for each half or full hour of CE credit. Purchase of CE credit is optional. Non-accredited participation in Siemens’ educational offerings and programs remains complimentary.
Dr. Haley was vice president and laboratory director at MetLife with responsibility for all laboratory testing and information. She joined Siemens in 2006. Currently, she is a member of the Scientific Marketing team in Siemens Healthcare Diagnostics and provides seminars on emerging technologies and cardiovascular, oncological, and infectious diseases.

Dr. Haley has published over 150 articles in peer-reviewed journals and has written over 15 chapters in educational texts. She has lectured at several international meetings on cardiology and cancer risk and has appeared on Good Morning America, the Late Show with David Letterman, and the ABC World News.
Learning Objectives

At the conclusion of the webinar, participants should be able to:

1. Identify the prevalence and estimate costs of diabetes in the U.S. in addition to the facts and figures associated with the HbA1c testing segment.

2. Review and understand the latest recommendations for diagnosis and monitoring of diabetes, including review of CLIA requirements by lab classification for the A1C testing method.

3. Understand the glycosylated hemoglobin/HbA1c test (e.g., why the test is important).

4. Review the HbA1c CAP SURVEY reports.

5. Discuss the clinical value of HbA1c testing at the point of care (POC).
What Is Diabetes Mellitus?

• A metabolic disease
• A disease in which the body’s blood glucose levels become extremely elevated
• Develops when the body stops responding to insulin or stops producing enough insulin

• **Types of diabetes:** Type 1, type 2, gestational diabetes, other (e.g., genetic defects in β-cell function, genetic defects in insulin action, diseases of the exocrine pancreas such as cystic fibrosis, drug- or chemically induced, etc.)
Diabetes in the U.S.

Prevalence:

• 29.1 million people the U.S. population have diabetes; 21.0 million people diagnosed and **8.1 million people undiagnosed** (27.8% of people with diabetes are undiagnosed). A 3.3 million increase in 3 years per 2011 report.

• Diabetes is associated with **serious complications**, such as heart disease, stroke, blindness, kidney failure, lower-limb amputation, and pregnancy complications.

Estimated Costs:

• **$245 billion** total (direct and indirect); direct medical costs = $176 billion, indirect costs = $69 billion (disability, work loss, premature death). A $71 billion increase since 2012.

• After adjusting for population age and sex differences, **average medical expenditures** among people with **diagnosed diabetes** were **2.3 times higher** than people without diabetes.

Diabetes in the U.S.

$176B direct medical costs + $69B indirect costs = $245 billion

The largest components of medical expenditures are:

1. Hospital inpatient care (43% of the total medical cost)
2. Prescription medications to treat complications of diabetes (18%)
3. Antidiabetic agents and diabetes supplies (12%)
4. Physician office visits (9%)
5. Nursing/residential facility stays (8%)
6. Other (10%)

# Diabetes Treatment and Management

The goals of diabetes treatment are to control blood glucose levels and prevent diabetes complications.

<table>
<thead>
<tr>
<th>Treating Diabetes</th>
<th>Monitoring Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Nutrition: Eat a healthy, balanced diet and stick to a diabetes meal plan</td>
<td>• Control blood pressure</td>
</tr>
<tr>
<td>• Physical activity</td>
<td>• Testing</td>
</tr>
<tr>
<td>• Medications (e.g., insulin, metformin)</td>
<td>- Blood glucose levels</td>
</tr>
<tr>
<td></td>
<td>- Urine testing (glucose, MAC)</td>
</tr>
<tr>
<td></td>
<td>- HbA1cb (glycated hemoglobin)</td>
</tr>
<tr>
<td></td>
<td>- Blood pressure (hypertension)</td>
</tr>
<tr>
<td></td>
<td>- Blood fats (lipids)</td>
</tr>
<tr>
<td></td>
<td>• Check condition of your feet</td>
</tr>
<tr>
<td></td>
<td>• Get your eyes checked</td>
</tr>
</tbody>
</table>

MAC: Microalbumin Creatinine test
Diabetes in the U.S.: HbA1c Testing

A1C Market Overview:

- In the **U.S., HbA1c monitoring** is estimated at **$710 million**.

- Worldwide, the U.S. is the largest testing market, with a 54.1% share.

- HbA1c testing growth impacts both POC and central laboratory; **POC testing is growing faster** than in the central lab.

- **In 2011**, 30% of testing at the POC vs. 70% of tests in the central lab. **In 2018**, estimates are 60% of tests in the central lab vs. **40% at the POC**.

- In POC segment, Siemens holds the #1 position, followed by #2 Alere, #3 Chek Diagnostics, and others (e.g., Bio-Rad, HemoCue).

### A1C Reimbursement:

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Reimbursement</th>
</tr>
</thead>
<tbody>
<tr>
<td>83036</td>
<td>$13.21</td>
</tr>
<tr>
<td>83036 QW (CLIA)</td>
<td>Medicare 2015 NLA</td>
</tr>
<tr>
<td>Hemoglobin; glycated</td>
<td></td>
</tr>
</tbody>
</table>

Source Centers for Medicare and Medicaid Services website at [www.cms.gov](http://www.cms.gov), and is subject to change.
History of Glucose Testing

We’ve come a long way!!!
## Changes in Diabetes Diagnosis

<table>
<thead>
<tr>
<th></th>
<th>1979</th>
<th>1997 ↓</th>
<th>2003 ↓</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National Diabetes Data Group</strong> chose diagnostic glucose values based on distributions of glucose values and their association with decompensation to “overt” or symptomatic diabetes.</td>
<td>Expert Committee on the Diagnosis and Classification of Diabetes Mellitus refocused attention on the relationship of glucose levels with long-term complications as the basis for diagnosis.</td>
<td>Follow-up report from the Expert Committee.</td>
<td></td>
</tr>
</tbody>
</table>
| **FPG** Fasting plasma glucose | • Diagnosis was made when classic symptoms were present or venous FPG >140 mg/dL (>7.8 mmol/L)  
• Impaired glucose tolerance if FPG <140 mg/dL and 2-h PG was >140 but <200 mg/dL (7.8–11.1 mmol/L). | Recommended that FPG cut point be lowered to >126 mg/dL (7.0 mmol/L). |                                                                       |
| **IFG** Impaired fasting glucose | FPG, rather than 2-h PG, is preferred test for diagnosis. Introduced term IFG—FPG >110 but <126 mg/dL (>6.1 to <7.0 mmol/L). | Recommended decreased IFG, from >110 to <126 mg/dL (>6.1 to <7.0 mmol/L) TO >100 to <126 mg/dL (>5.6 to <7.0 mmol/L). |                                                                       |
More Changes in Diabetes Diagnosis

<table>
<thead>
<tr>
<th>Prior to 2009</th>
<th>Diagnosing Diabetes / Prediabetes:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Normal fasting glucose &lt;100 mg/dL (5.6 mmol/L)</td>
</tr>
<tr>
<td></td>
<td>• Impaired fasting glucose 100–125 mg/dL (5.6–6.9 mmol/L)</td>
</tr>
<tr>
<td></td>
<td>• 2-hour post-load glucose &lt;140 mg/dL (7.8 mmol/L)</td>
</tr>
<tr>
<td></td>
<td>• Impaired glucose tolerance 2-hour post-load 140–200 mg/dL (7.8–11.1 mmol/L)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2010 Revised Criteria</th>
<th>The International Expert Committee for Diagnosis of Diabetes recommended diagnosing diabetes/pre-diabetes:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>– The use of HbA1c to diagnose diabetes, with a threshold of &gt;6.5%.</td>
</tr>
<tr>
<td></td>
<td>– The American Diabetes Association adopted this in 2010. However, POC assay methods were not recommended for diagnosis.</td>
</tr>
</tbody>
</table>
### ADA 2015 Diabetes Diagnostic Criteria

<table>
<thead>
<tr>
<th></th>
<th>Hemoglobin A1c (A1C)</th>
<th>Fasting Plasma Glucose Test (FPG)</th>
<th>2-Hour Oral Glucose Challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acceptable</strong></td>
<td>≤5.6%</td>
<td>Below 100 mg/dL</td>
<td>Below 140 mg/dL</td>
</tr>
<tr>
<td><strong>Prediabetes</strong></td>
<td>5.7–6.4%</td>
<td>100–125 mg/dL (IFG)</td>
<td>140–199 mg/dL (IGT)</td>
</tr>
<tr>
<td><strong>Diabetes</strong>*</td>
<td>≥6.5%</td>
<td>126 mg/dL or above</td>
<td>200 mg/dL or above</td>
</tr>
</tbody>
</table>

* or in a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose ≥200 mg/dL (11.1 mmol/L)

Today: Recommendations for Diabetes Diagnosis

ADA Standards of Medical Care in Diabetes—2015 state:

- International Diabetes Federation (IDF) and the European Association for the Study of Diabetes (EASD) recommended the use of the A1C test to diagnose diabetes, with a threshold of >6.5%. The ADA adopted this criterion in 2010.

- The A1C test should be performed using a method that is certified by the NGSP and standardized or traceable to the Diabetes Control and Complications Trial (DCCT) reference assay.

- Although point-of-care (POC) A1C assays may be NGSP certified, proficiency testing is not mandated for performing the test, so use of POC assays for diagnostic purposes may be problematic and is not recommended.

# Observations on HbA1c by Testing Location

<table>
<thead>
<tr>
<th>CLIA TYPE</th>
<th>Waived</th>
<th>Mod-Complex</th>
<th>Complex</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of labs performing HbA1c tests</td>
<td>POLs, POC facilities</td>
<td>Large POLs</td>
<td>Hospital labs, reference labs</td>
<td>Accreditation organizations: CLIA, CAP, JACHO, COLA, etc.</td>
</tr>
<tr>
<td>Utilized waived A1c test</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Waived labs cannot utilize moderately/complex tests.</td>
</tr>
<tr>
<td>NGSP-certified</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>The purpose of the NGSP is to standardize hemoglobin A1c test results to those of the Diabetes Control and Complications Trial (DCCT) and United Kingdom Prospective Diabetes Study (UKPDS), which established the direct relationships between HbA1c levels and outcome risks in patients with diabetes. Source: <a href="http://www.ngsp.org">www.ngsp.org</a>.</td>
</tr>
</tbody>
</table>

**Acronyms:** POL (Physician office lab); POC (point-of-care testing); CLIA (Clinical Laboratory Improvement Amendments); CAP (College of American Pathology); JAHCO (Joint Commission on Accreditation of Healthcare Organizations); CPT (Current Procedural Terminology); QW (quantitative waived test); NGSP (National Glycohemoglobin Standardization Program)
### Observations on HbA1c by Testing Location

<table>
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<th>CLIA TYPE</th>
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<th>Mod-Complex</th>
<th>Complex</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1c used to diagnose diabetes patients</td>
<td>Manufacturer instructions*</td>
<td>Manufacturer instructions*</td>
<td>Manufacturer instructions*</td>
<td>Laboratories follow ADA Standards of Medical Care on Diabetes* and manufacturers’ instructions for the specific tests they are performing.</td>
</tr>
<tr>
<td>HbA1c used to monitor diabetes patients</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Maintaining HbA1c levels at or about the upper limit of normal reduced, delayed, or prevented complications. Source: <em>New England Journal of Medicine.</em> 329:977-986. 199</td>
</tr>
<tr>
<td>Quality control</td>
<td>Manufacturer instructions</td>
<td>Yes</td>
<td>Yes</td>
<td>Quality control/assurance is important to ensure accuracy and precision of test results and in achieving good lab performance.</td>
</tr>
<tr>
<td>Proficiency testing program</td>
<td>Not required, optional</td>
<td>Yes</td>
<td>Yes</td>
<td>Per CLIA, moderately complex and complex labs are required to enroll and have successful participation in an approved proficiency testing program.</td>
</tr>
</tbody>
</table>

**Acronyms:** POL (physician office lab); POC (point-of-care testing); CLIA (Clinical Laboratory Improvement Amendments); CAP (College of American Pathology); JAHCO (Joint Commission on Accreditation of Healthcare Organizations); CPT (Current Procedural Terminology); QW (quantitative waived test); NGSP (National Glycohemoglobin Standardization Program)

*ADA Standards of Medical Care in Diabetes—2013 state:* Federation (IDF), and the European Association for the Study of Diabetes (EASD) recommended the use of the A1C test to diagnose diabetes, with a threshold of >6.5%, and the ADA adopted this criterion in 2010. The diagnostic test should be performed using a method that is certified by the NGSP and standardized or traceable to the Diabetes Control and Complications Trial (DCCT) reference assay. Although POC assays may be NGSP-certified, proficiency testing is not mandated, so use of these assays for diagnostic purposes could be problematic. Source: *Diabetes Care.* 2013 Jan;36(Supplement 1)*.
Important Question

Why is this test important?

Hemoglobin A1c
Glycosylated Hemoglobin
Why A1C testing is important:

1. “A better A1c test means better diabetes care,” per NGSP’s website.
2. Used to monitor glycemic control in type 1 and type 2 diabetes patients.
3. Provide healthcare professionals (HCPs) with actionable information during the patient visit.
4. A1C test helps HCPs adjust medication to reduce the risk of long-term diabetes complications.
5. Provides information about a person’s average levels of blood glucose over the past 3 months. Referred to as “the blood test with a memory.”
6. ADA Standards of Medical Care in Diabetes recommends the use of the A1C test to diagnose diabetes (Note: FDA clearance required for this claim).
8. HbA1c reflects average glycemia over several months and has strong predictive value for diabetes complications.
The Blood Test with a Memory


- A direct relationship exists between HbA1c and mean glucose levels, since erythrocytes are continuously glycated during their 120-day lifespan. The more glucose in the blood, the higher rates of glycation.
- In the DCCT, it was determined that a HbA1c of 6.0% corresponded to an average plasma glucose of 135 mg/dL, and a 1% rise in HbA1c means a rise in the average plasma glucose of 35 mg/dL.
- Any condition that shortens erythrocyte lifespan decreases HbA1 level, since glycation increases with the age of the red cell. Kidney and liver disease as well as recovery from blood loss will decrease HbA1c.
- On the other hand, any process that slows erythropoiesis will result in higher HbA1c due to retention of a higher amount of old red cells.

Diabetes Care. 2013 Jan;36.

- The HbA1c result gives a picture of the average amount of glucose over the past few months.
- The test does not reflect acute changes in blood glucose, but more accurately monitors long-term control and response to medications.
Diagnosis of Diabetes

ADA’s 2010 Standards of Medical Care in Diabetes position statement recommends the use of the A1C test to diagnose diabetes, with a threshold of $\geq 6.5\%$. 

- Consider testing if the person is overweight with an additional risk factor for diabetes or if the person is over 45 and has not been screened previously.
- For people with normal range HbA1c, retest every 3 years. Identify and treat all identified CVD risk factors.
- Trend analysis for HbA1c can predict progression from prediabetes to overt diabetes.
- Community screening studies have shown the effectiveness of HbA1c in diagnosing people who might not have been seen in a physician office.
- October 6, 2014: The U.S. Preventive Services Task Force says, “Screen everyone 45 and older for abnormal glucose.” Acceptable screening tests include HbA1c, fasting glucose, or oral glucose challenge.
Clinical studies show that face-to-face testing, along with direct physician-to-patient guidance, significantly **improves patient compliance**.

- Receiving results after the healthcare encounter can significantly delay changes in therapy and impact care.
- Compliance with therapy is enhanced when discussions can be verified with current hemoglobin A1c results.
- Patients with cardiovascular disease receive benefit from regular hemoglobin A1c testing along with measures of other risk factors.
- Point-of-care hemoglobin A1c analysis can impact healthcare costs by reducing patient visits and enabling improved compliance.

Importance of HbA1c in Preventing Complications


• Diabetes Control and Complications Trial (1993): Risk for development and progression of the chronic complications of diabetes is closely related to the degree of glycemic control.

• Subjects who maintained their HbA1c levels at or about the upper limit of normal reduced, delayed, or prevented complications up to:
  – 76% for retinopathy (eye disease)
  – 60% for neuropathy (nerve disease)
  – 35% for nephropathy (kidney disease)

• Well-maintained HbA1C levels also reduced risk for proteinuria as much as 65%.
Importance of HbA1c in Preventing Complications

What should the level be?
Guidelines usually based on level at which complications (notably retinopathy) start to occur:
- **American Diabetes Association**: <7%
- **International Diabetes Federation**: <8%

How often should HbA1c be measured?*
- Perform the A1C test at least two times a year in patients who are meeting treatment goals and who have stable glycemic control.
- Perform the A1C test quarterly in patients whose therapy has changed or who are not meeting glycemic goals.
- Use of POC testing for A1C provides the opportunity for more-timely treatment changes.

**Diabetes in the U.S.: HbA1c Testing**

**NGSP-certified POC Methods:**

<table>
<thead>
<tr>
<th>Trinity Biotech Trl-stat™</th>
<th>*Chek Diagnostics A1CNow+™</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Alere Afinion™ AS100</td>
<td>Infopia Clover A1c™</td>
</tr>
<tr>
<td>HemoCue® HbA1c 501 System</td>
<td>Medica Corp HbA1c on EasyRA®</td>
</tr>
<tr>
<td>*Bio-Rad in2it™ Analyzer</td>
<td>Roche cobas b® 101</td>
</tr>
</tbody>
</table>

*CLIA-waived analyzer

Source: [http://www.ngsp.org/certified.asp](http://www.ngsp.org/certified.asp), and as communicated at NGSP Clinical Advisory Committee Meeting, 6/6/14 (San Francisco, CA).
HbA1c Proficiency Testing: Dec 2014 CAP Survey

Report Observations (pg 1):

- Total of 27 analyzers HbA1c proficiency test results reviewed (25 central lab chemistry, 3 POC A1C analyzers).
- 3 known sample values analyzed by each reporting lab (6.58, 8.39, 5.65).
- The current CAP acceptance limit is ±6% (CV).
- Gray shading indicates bias >0.3% HbA1c or CV >4%.
- Bias from the NGSP target and variability (±2SD) are shown in this table for each method (also in Figure 1 charts).

College of American Pathologists (CAP) GH2 Survey Data:
(updated 12/14)

The American Diabetes Association (ADA) recommends that laboratories use only HbA1c assay methods that have been NGSP certified and report results as “%HbA1c”. The ADA also recommends that all laboratories performing HbA1c testing participate in the College of American Pathologists (CAP) fresh sample proficiency testing survey (see ADA Recommendations section on this website for more details). CAP GH2 data for the second survey of 2014 are summarized below. The NGSP target or reference values are based on replicate analyses using seven NGSP certified secondary reference methods.

<table>
<thead>
<tr>
<th>NGSP %HbA1c Reference Value (95% CI)</th>
<th>2014 GH2-B (fresh pooled samples)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GH2-04</td>
</tr>
<tr>
<td></td>
<td>Mean %HbA1c</td>
</tr>
<tr>
<td>* Abbott Architect c System</td>
<td>6.76</td>
</tr>
<tr>
<td>* Abbott Architect c System (enzymatic)</td>
<td>6.53</td>
</tr>
<tr>
<td>* Abbott Architect c System</td>
<td>7.07</td>
</tr>
<tr>
<td>* Axis-Shield Affinon</td>
<td>6.55</td>
</tr>
<tr>
<td>* Beckman AU systems</td>
<td>6.45</td>
</tr>
<tr>
<td>* Beckman UniCel DxC Synchron</td>
<td>6.57</td>
</tr>
<tr>
<td>* Bio-Rad D-10</td>
<td>6.60</td>
</tr>
<tr>
<td>* Bio-Rad Variant II</td>
<td>6.58</td>
</tr>
<tr>
<td>* Bio-Rad Variant II Turbo</td>
<td>6.70</td>
</tr>
<tr>
<td>* Bio-Rad Variant II Turbo 2.0</td>
<td>6.64</td>
</tr>
<tr>
<td>* Roche Cobas c511</td>
<td>6.68</td>
</tr>
<tr>
<td>* Roche Cobas 550 series</td>
<td>3.50</td>
</tr>
<tr>
<td>* Roche Cobas Integra 400</td>
<td>6.65</td>
</tr>
<tr>
<td>* Roche Cobas Integra 800</td>
<td>1.38</td>
</tr>
<tr>
<td>* Siemens Advia Chemistry Systems</td>
<td>6.52</td>
</tr>
<tr>
<td>* Siemens DCA 2000/2000+</td>
<td>6.51</td>
</tr>
<tr>
<td>* Siemens DCA Vantage</td>
<td>6.44</td>
</tr>
<tr>
<td>* Siemens Dimension ExL</td>
<td>6.76</td>
</tr>
<tr>
<td>* Siemens Dimension RaL</td>
<td>6.77</td>
</tr>
<tr>
<td>* Siemens Dimension Vida</td>
<td>6.81</td>
</tr>
<tr>
<td>* Siemens Dimension Xpand</td>
<td>6.76</td>
</tr>
</tbody>
</table>
HbA1c Proficiency Testing: Dec 2014 CAP Survey

Figure 1: Bias and Variability from the NGSP Target

Report Observations (LOW TARGET = 5.65% A1C):
- 27 total A1C methods reviewed (24 Chem, 3 POC)
- At this target, no analyzers had mean within \( \pm 2 \) SD

Note: Highlights/arrows added by Siemens for educational purposes.
Source: http://www.ngsp.org/CAPdata.asp
HbA1c Proficiency Testing: May 2014 CAP Survey

Figure 1: Bias and Variability from the NGSP Target

Report Observations (LOW TARGET = 6.49% A1C):
- 26 total A1C methods reviewed (23 Chem, 3 POC)
- At this target, 7 analyzers had mean within ±2 SD

Note: Highlights/arrows added by Siemens for educational purposes.
HbA1c Proficiency Testing: Dec 2013 CAP Survey

Figure 1: Bias and Variability from the NGSP Target

Report Observations (LOW TARGET = 5.30% A1C):
- 28 total A1C methods reviewed (24 Chem, 4 POC)
- At this target, 3 analyzers had mean within ±2 SD

Note: Highlights/arrows added by Siemens for educational purposes.
Recap: HbA1c Proficiency Testing (e.g. CAP Survey)

- Report comes out twice per year (May, December).
- Each challenge utilizes 3 known sample values to be analyzed by each reporting labs (~26 platforms per survey).
- Participating labs utilizes both chemistry and POC A1C analyzers across 5 methodologies. May contribute to the variations seen between platforms.
- What is standardized for A1C test: “The American Diabetes Association (ADA) recommends that laboratories use only HbA1c assay methods that have been NGSP certified and report results as “%HbA1c”.”
- Current CAP acceptance limit is CV ±6%. Additionally, Mean Bias from the NGSP target and variability (±2SD) is reported for each method (as a table & chart).
- On CAP Survey, gray shading indicates Mean Bias >0.3% HbA1c or CV >4%.
- When selecting or evaluating HbA1c assay methods, it is important that laboratories review not only the certification status of HbA1c methods but also their performance in the CAP survey over time, which shows good indication of field performance.
Triple Clinical Value at the POC: HbA1c Testing at Mass. General Hospital’s Ambulatory Practice

Near-patient testing reduces HbA1c levels faster…

Triple Clinical Value at the POC: HbA1c Testing at Mass. General Hospital’s Ambulatory Practice

...while patient satisfaction goes up...

3.96/4.00

“Wonderful to have the results and directions for medications.”

“Thorough, sensitive, I feel well cared for.”

“Nice to have results before end of visit.”

“I felt totally comfortable. My blood pressure even went down.”

“100/100 satisfied about everything. Well-done job, I will definitely keep coming to get well.”

Triple Clinical Value at the POC: HbA1c Testing at Mass. General Hospital’s Ambulatory Practice

...and operational efficiency improves

Key Takeaways

Diabetes is a growing domestic and worldwide epidemic.

The clinical and financial impact of uncontrolled diabetes is significant.

Engage in the dialog and stay current with diabetes treatment guidelines.

The HbA1c test is an important tool in diabetes management.

NGSP.org is a good resource for A1C information (e.g., access to CAP Survey).