

HEALTH CARE

Research Review

Insights for Employers

Type 2 Diabetes: Does Daily Self-Monitoring of Blood Glucose Improve A1c Levels and Quality of Life?

[View full report.](#)



INSIGHTS FOR EMPLOYERS

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On the Horizon

Highlights of PCORI-Funded Research

“Chronic Pain & Opioid Use”

“Evaluation of a Health Plan Initiative to Mitigate Chronic Opioid Therapy Risks”

“Do Video House Calls with a Specialist Help Get Care to People with Parkinson's”

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The Patient-centered Outcomes Research Institute (PCORI) began funding research in 2012 and a growing number of the studies are now producing important published results that employers may find applicable to their healthcare planning and strategy.

This edition's *featured research project* focuses on the **value of self-monitoring of blood glucose (SMBG) for patients with non-insulin-treated type 2 diabetes.**

What's the issue?

Many people with type 2 diabetes who are not on insulin use diet, exercise, and oral medicine to manage their blood sugar levels. Their care providers also may recommend daily finger sticks to measure their blood sugar levels. But such daily monitoring can be inconvenient and painful, supplies can be costly, and the health benefits have been unclear.¹

This study aimed to determine if daily self-monitoring was effective for people with non-insulin-treated type 2 diabetes in helping them maintain their blood sugar levels and improve their quality of life.¹

Why is this important to employers?

According to the Centers for Disease Control and Prevention, more than 29 million Americans have diabetes, and 86 million more have prediabetes. Now considered an epidemic, these two groups comprise about 45 percent of the U.S. workforce.²

The resulting impact on business is significant. The Health Care Cost Institute found that, for adults covered by employer-sponsored insurance, the spending difference between people with and without diabetes averages more than \$10,000 per capita, with indirect costs reaching \$69 billion annually due to reduced productivity.²

Recognizing these devastating effects, determining best practices in treatment for persons with diabetes is of obvious importance.

“Given the time and resource intensive nature of glucose self-monitoring, to test or not to test, is a critically important question facing the millions of patients living with non-insulin treated type 2 diabetes.”
PCORI-funded Lead Researcher, Katrina Donahue, MD, MPH

INSIGHTS FOR EMPLOYERS

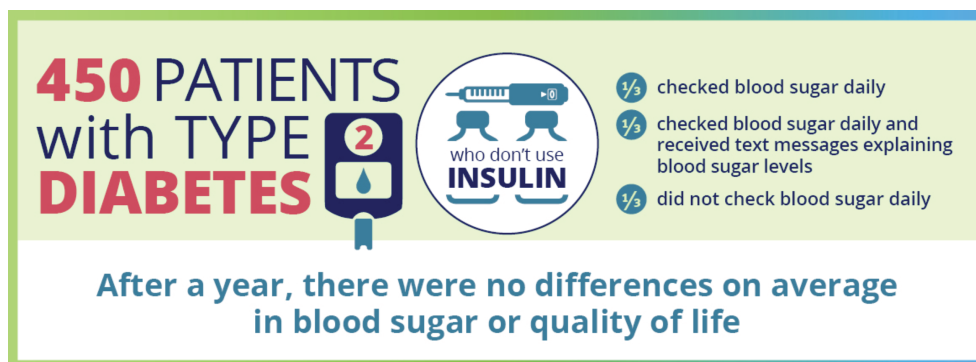
PCORI RESEARCH OVERVIEW

Project background

According to the CDC, 26% of people with DM use insulin, while the remainder use oral medications only (58%) or no medications (16%). While control of A1c is equally important for persons with diabetes who are non-insulin treated, the value of SMBG testing for these patients is debatable. Proponents postulate that testing promotes better awareness of glucose levels, leading to improvements in lifestyle. Competing arguments however, point to the costs of SMBG, both in terms of supplies (test strips and meters) and time, as well as discomfort and potentially quality of life.¹

What did the researchers do?

The study included 450 people **with A1c levels at an average of 7.5% and 3 or less co-morbidities** between 31 to 92 years old. These patients didn't take insulin, but most of them took other medicine to treat their diabetes. The participants were divided into 3 groups comparing those who did not check their glucose levels at any time to those



Research results

The study found **no significant differences** after one year in hemoglobin A1c levels between patients who did and did not test their blood sugar daily.¹

AAFP REPORTS ON SMBG

"SMBG testing has no benefit in patients with type 2 diabetes who are not on insulin or medications associated with hypoglycemia, and small, but significant, patient harms are associated with daily glucose testing. SMBG should be reserved for patients during the titration of their medication doses or during periods of changes in patients' routines".

[View full reference on Choosing Wisely website³](#)

Choosing Wisely
An initiative of the ABIM Foundation

AAFP

POTENTIAL IMPACT

Benefits over 5 years⁴

➤ 7 million people spared the inconvenience and pain

➤ \$1,630 saved/ patient in testing

➤ 10 billion finger sticks avoided

➤ \$12 billion saved in costs

➤ NO negative impact on health

KEY TAKE-AWAYS

1 Re-examine Current Approach to Diabetes Management

Although unclear medical guidelines have led to a lack of consensus regarding the benefits of SMBG, employers should consider taking an informed approach to these findings by proactively reviewing their current type 2 diabetes health management approach. Examine the prevalence and cost of SMBG and as appropriate discuss current and alternative options for coverage, incentives and policies

2 Support Shared Decision-making

Although healthcare providers are typically divided on SMBG, one conclusion proposed by Dr. Donahue and her team is to move towards a more patient-centered approach where patients and providers discuss the pros and cons of SMBG based on their clinical situation and then jointly determine next steps.⁵ Employers can play a significant role in this process through workplace programs that educate employees and guide them in how to seek support from their provider.

Because the study population included patients with type 2 diabetes not using insulin, these results cannot be generalized to insulin users.



Non-drug Therapies Reduce Opioid Risks and Healthcare Costs

[View full study](#)



Can a Health Plan Initiative Mitigate Long-term Risks of Opioid Therapy?

[View full study](#)



Telehealth Video Calls are Helping Patients with Parkinsons

[View full study](#)

ABOUT THIS RESEARCH

This study had this hypothesis: Disadvantaged patients with chronic pain benefit from simplified non-drug therapies - addressing not only disparities in pain care but the effectiveness on non-drug based treatments.

The primary focus of the study was on cognitive behavioral treatment (CBT) and non-drug pain management education. Benefits include lower overall treatment costs, avoidance of risks associated with opioid consumption and an indication that a larger population base can be addressed because this treatment is largely provided in a group session.⁶

INSIGHTS

For employers, these are significant benefits that relate to healthcare plans, pharmaceutical consumption, workforce education about pain and opioids and overall opportunity to improve the health and wellness of their workforce.

ABOUT THIS RESEARCH

Researchers evaluated a health-care system initiative to reduce risks of long-term opioid use. The initiative dramatically reduced use of high opioid doses and markedly increased monitoring of patients using opioids long-term.

The opioid risk reduction initiative was implemented by some clinics of a large health plan, but not by others. This study compares patients from both clinic-types to learn how the initiative affected patient health outcomes.

The Research team is committed to creating a state-of-the-art toolkit and implementation guide as an deliverable of this research that reflects the findings.⁷

INSIGHTS

Employers could benefit from having access to this toolkit to guide them when strategizing how to support providers that offer elevated services related to Opioids similar to those provided in the Initiative.

ABOUT THIS RESEARCH

The research team wanted to learn if video house calls with specialists were convenient and improved quality of life for people with Parkinson's disease. The team also wanted to learn if video house calls improved quality of care, reduced travel time, and reduced burden on caregivers due to the demands of care.

The research team found that video house calls were a convenient way for people with Parkinson's disease to get care.

After 12 months, the team didn't find any differences between patients who received video house calls and those who didn't in quality of life, quality of care, or amount of caregiver burden.

Patients who used video house calls spent less time traveling to doctor visits and also spent more time talking with specialists during visits.⁸

INSIGHTS

Telehealth has been a growing trend in healthcare and in health plan offerings. This is a study that supports its effectiveness as a viable option.



OPIOID INITIATIVE

Over the last year, the National Alliance has brought a number of coalitions and healthcare stakeholders together to discuss the issues and challenges employers are facing regarding the national opioid epidemic that has hit this country. [View additional materials.](#)

END NOTES

1. <https://www.pcori.org/research-results/2013/does-daily-self-monitoring-blood-sugar-levels-improve-blood-sugar-control-and>
2. <https://www.hrdive.com/news/what-employers-can-do-to-manage-type-2-diabetes-in-the-workplace/505578/>
3. <http://www.choosingwisely.org/clinician-lists/aafp-daily-home-glucose-monitoring-for-patients-with-type-2-diabetes/>
4. <https://www.pcori.org/impact/addressing-type-2-diabetes>
5. <https://www.pcori.org/sites/default/files/Donahue018-Final-Research-Report.pdf>
6. <https://www.pcori.org/research-results/2012/treating-chronic-pain-using-approaches-adapted-patients-limited-reading-skills>
7. <https://www.pcori.org/research-results/2013/evaluation-health-plan-initiative-mitigate-chronic-opioid-therapy-risks>
8. <https://www.pcori.org/research-results/2013/do-video-house-calls-specialist-help-get-care-people-parkinsons-disease>

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ABOUT PCORI *Patient-Centered Outcomes Research Institute*

Mission

PCORI helps people make informed healthcare decisions, and improves healthcare delivery and outcomes, by producing and promoting high-integrity, evidence-based information that comes from research guided by patients, caregivers, and the broader healthcare community.



of our research funding* compares the effectiveness of two or more approaches to health care.

*Out of \$2.63 billion in CER, Methods, and Infrastructure projects, as of August 2018

MOST STUDIED CONDITIONS

	Mental and Behavioral Health	115
	Cancer	84
	Neurological Disorders	74
	Cardiovascular Diseases	69

A project may address more than one condition.

As of August 2018