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CGM provides cost savings, health benefits for people with diabetes

Continuous glucose monitoring not only leads to better glycemic management for people with diabetes, but could also lead to cost savings, according to a speaker at Heart in Diabetes.



George Grunberger

“CGM is now considered by most experts a standard of care for managing patients with type 1 diabetes,” **George Grunberger, MD, FACP, MACE**, chairman of the Grunberger Diabetes Institute, clinical professor of internal medicine and molecular medicine and genetics at Wayne State University School of Medicine, and professor of internal medicine at the Oakland University William Beaumont School of Medicine, said during the presentation. “Of course, in the U.S., many patients who are using insulin with type 2 diabetes also routinely use CGM, and it is covered by pretty much every payer, including Medicare. But what has not had enough attention is the impact on both the economic and downstream medical outcomes.”

According to Grunberger, the [cost of diabetic ketoacidosis](#) in the United States in 2014 was \$5.02 billion, equivalent to \$5.73 billion in 2019 according to Tom’s Medical Inflation Calculator. Several recent studies have shown [various CGM devices](#) can cut down on DKA rates and subsequently lead to significant cost savings.

One study analyzing the use of the Freestyle Libre (Abbott) by 900 people in the United Kingdom showed DKA episodes were cut by 80% within 6 months of initiating the device’s. Grunberger noted that if DKA episodes were reduced by 80% in the United States, resulting savings would be about \$4.5 billion annually.

A study from Belgium analyzed data from 1,913 people with type 1 diabetes using the Freestyle Libre. The researchers not only found reductions in hospital visits due to hypoglycemia and DKA episodes (63 visits at baseline vs. 37 visits at 12 months, $P = .031$), but also observed a reduction in work absenteeism (111 days absent at baseline vs. 49 days at 12 months, $P < .0001$)

“People are now focusing on the impact of the economy,” Grunberger said. “What’s most costly to the employers is obviously if patients don’t show up at work because of hypoglycemia or hyperglycemia. In this study in Belgium, there was more than a 50% reduction in work absenteeism. Think of the impact of that obviously on the person and their families, but also their employers.”

Earlier in 2020, Grunberger and colleagues analyzed the cost savings of using real-time CGM over self-monitoring blood glucose based on the COMISAIR 3-year follow-up study. People who used CGM with multiple daily insulin injections had a severe hypoglycemia rate of 4.55% at 3 years and no reported DKA episodes, whereas non-CGM users had a 14.29% severe hypoglycemia rate and a 4.76% DKA rate.

CGM users with continuous subcutaneous insulin infusion had a severe hypoglycemia rate of 3.85% at 3 years vs. 8% for non-CGM users and a 3.85% DKA rate at 3 years vs. 4% for non-CGM users.

“In this study, we showed that it didn’t make any difference how you deliver insulin,” Grunberger said. “This difference is in how you monitor glucose.”

The lower rates led to cost savings for CGM users in the study. Multiple daily injection CGM users saved between \$5,777 and \$8,549 over non-CGM users during the study period, while CGM users with continuous subcutaneous insulin infusion saw savings of between \$2,732 and \$4,753 per person.

“Now we have enough data to show it’s cost-effective in terms of long-term glycemic improvement, and also for the acute emergencies resulting in emergency department or in-patient admissions,” Grunberger said.

References

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- Tyndall V, et al. *Diabetologia*. 2019;doi:10.1007/s00125-019-4894-1.

Editors note: This article was updated on Sept. 1, 2020, to note that the Freestyle Libre is owned by Abbott. The editors regret the error.

continuous glucose monitor cost diabetes