



Connected for Life

Health Equity and Diabetes Technology: A Study of Access to Continuous Glucose Monitors by Payer, Geography and Race Executive Summary

Background

More than [133 million](#) Americans live with diabetes or prediabetes. [Thirty-one percent](#) of individuals with diagnosed diabetes—or more than 10 million Americans—are treated with insulin and stand to benefit from a continuous glucose monitor (CGM). We know that access to CGMs in this population means [better glycemic control](#). And poor glycemic control can lead to [dangerous health outcomes](#)—including heart failure, myocardial infarction, and death—not to mention increased costs as a result of hospitalizations for and treatment of these cardiovascular complications.

For millions of people living with diabetes, CGMs provide significant, potentially life-changing benefits for diabetes management and in turn for avoidance or delay of serious co-morbidities, hospitalizations and even death. A CGM provides much greater detail to patients and their health care providers than traditional blood glucose meters do regarding an individual's blood glucose levels, offering opportunities to analyze patient data more granularly than was previously possible and providing additional information to aid in achieving glycemic targets. CGMs also provide biofeedback in real time, allowing individuals with diabetes to modify their diet and insulin dose as needed in consultation with their health care provider. As a result, individuals with Type 1 and Type 2 diabetes who get a CGM are shown to have less [hypoglycemia](#), and they experience a reduction in their [average blood glucose \(A1C\)](#).

According to the American Diabetes Association's (ADA) [Standards of Care](#):

CGM is essential for creating the ambulatory glucose profile (AGP) and providing data on time in range, percentage of time spent above and below range, and variability. Access to CGM devices should be considered from the outset of the diagnosis of diabetes that requires insulin management. This allows for close tracking of glucose levels with adjustments of insulin dosing and lifestyle modifications and removes the burden of frequent [self-monitoring of blood glucose]. Interruption of access to CGM is associated with a worsening of outcomes; therefore, it is important for individuals on CGM to have consistent access to the devices.



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The COVID-19 pandemic was a case study in deadly ramifications of poorly managed diabetes. As many as [40 percent](#) of Americans who died of COVID-19 had diabetes. The effect of the pandemic on Americans with diabetes was even more pronounced among medically underserved communities, low-income communities, and people of color, who were [twice as likely](#) to die of COVID-19 than white Americans were. [Diabetes prevalence is inversely related](#) to household income level, with the poorest communities seeing the highest rates of the condition. For example, [according to the NIH](#), those who earn less than \$30,000 per year are three times as likely to have diabetes than those who make more than \$80,000 per year. Today, [38 million](#) Americans live in poverty, and [76 percent of Americans](#) living in poverty are people of color.

Access to CGM technology is extremely important given its clear benefits, especially for those communities experiencing an outsized impact of diabetes. Prior studies have shown that access to health insurance is the [strongest single predictor](#) of whether adults with diabetes are likely to receive high quality diabetes care. Compared with insured adults with diabetes, the uninsured have [60 percent fewer office visits](#) with a physician, are prescribed 52 percent fewer medications, and have 168 percent more emergency department visits. Not surprisingly, as the data show, access to health insurance is also a strong predictor of whether people with diabetes can get a CGM as well.

Given what we know about the benefits of CGM access and the deadly impact of poorly managed diabetes in communities with limited access to health insurance coverage and the health care system, the American Diabetes Association (ADA) commissioned a study on the relationship between insurance coverage, age, geography and race to identify where the greatest barriers to CGM access are. The data show that the people who are least likely to get a CGM are people of color, low-income individuals who rely on Medicaid, and people who live in states with some of the highest rates of diabetes.

Study Questions

The research is robust when it comes to the relationship between health insurance coverage and high-quality diabetes care. The same is true about the interaction among income, race and incidence of diabetes. In 2021, the ADA commissioned new medical benefit data from Health Management Associates to determine whether access to CGMs is a health disparity issue by asking two questions:



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1. Which types of health insurance coverage make a person with diabetes more or less likely to access a CGM?
2. Is a person with diabetes more or less likely to be prescribed a CGM based on their age, race or where they live?

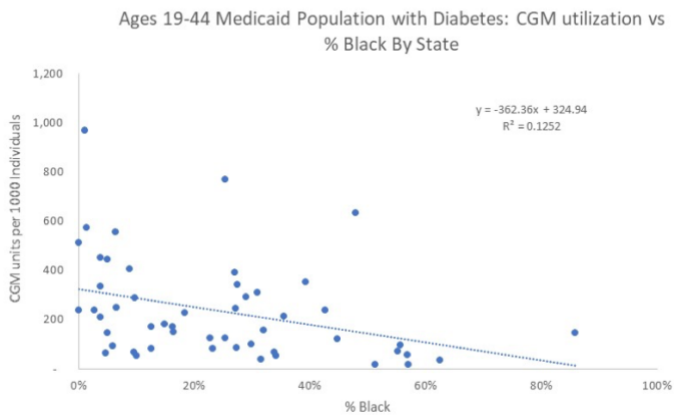
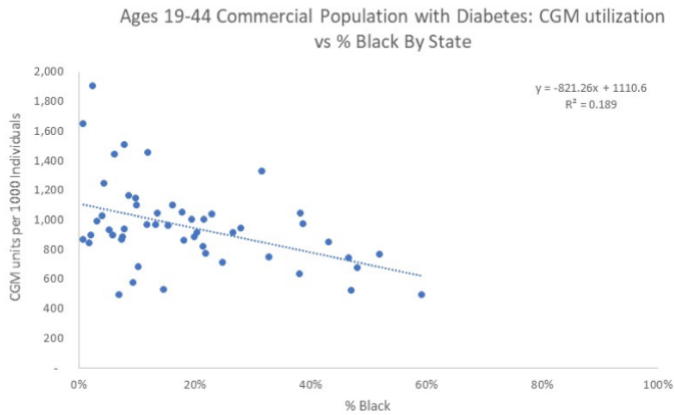
This updated study includes both pharmacy benefit data and medical benefit data, significantly increasing the number of CGM claims considered to determine variations in coverage among payers and populations.

Major Findings

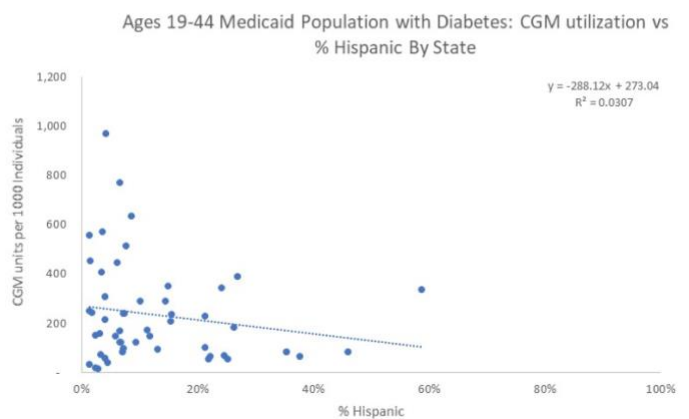
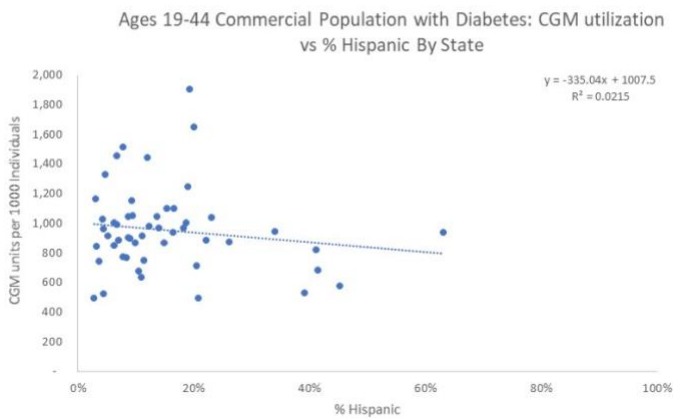
In this study, we find that poorer, older, black and brown Americans are the least likely group to get CGMs. In particular, three troubling trends emerge from the new data:

Individuals covered by Medicaid are the least likely to get a CGM, especially if they are people of color. Income is the first hurdle to getting a CGM. The greatest access barrier shows up when we combine income with race. Individuals enrolled in Medicaid who take insulin are two to five times less likely to get a CGM than those who have a commercial health insurance plan. And the CGM access gap between Medicaid and commercial insurance plans is bigger for people of color than it is for white Americans. States with higher rates of white Americans enrolled in Medicaid have better CGM access than states with higher rates of black Americans, where Medicaid coverage of CGMs is abysmally low. Hispanic individuals are also less likely to get a CGM if they are covered by Medicaid than a commercial health insurance plan.

Age 19-44 Black Population with Diabetes

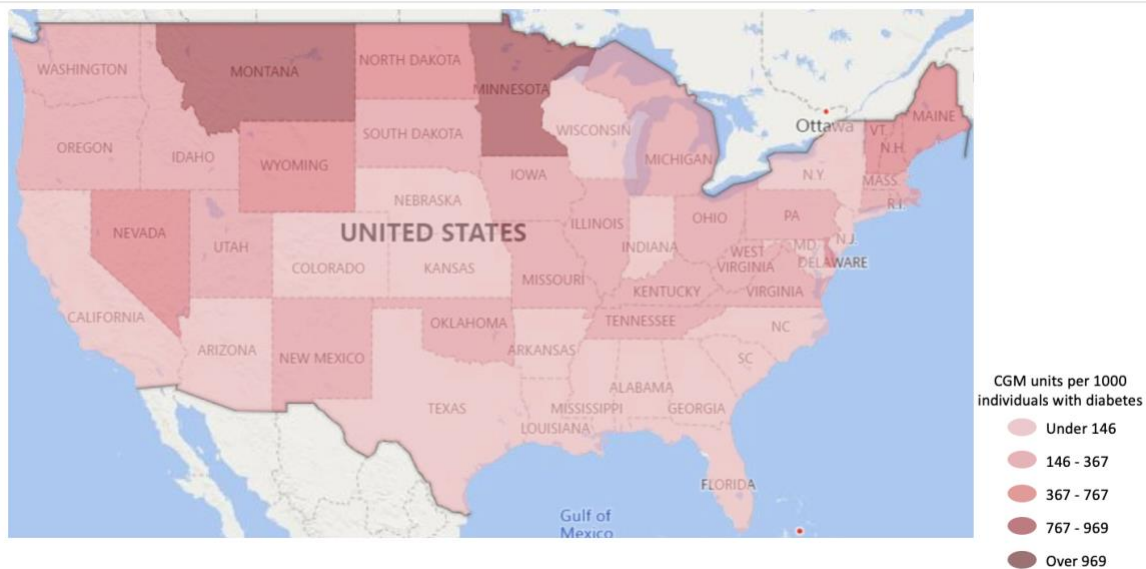


Age 19-44 Hispanic Population with Diabetes



Where people with diabetes live is a major factor in how likely they are to get a CGM. While there is also some state-level variation across payers, in some regions CGM access is consistently higher or lower regardless of how an individual with diabetes is insured. For example, data show that Medicaid utilization of CGMs is consistently highest in states such as North Dakota, Minnesota, Illinois, Delaware, Vermont, New Hampshire and Connecticut. Utilization of CGMs across all payers is the highest in Minnesota and North Dakota. Coincidentally, [diabetes prevalence](#) is the lowest in the Midwest and the Northeast. Similarly, data show that people with diabetes covered by Medicaid living in poorer states are less likely to get a CGM. Medicaid utilization of CGMs is consistently lowest in the Southeast.

CGM Utilization by Medicaid Enrollees, Age 19-44





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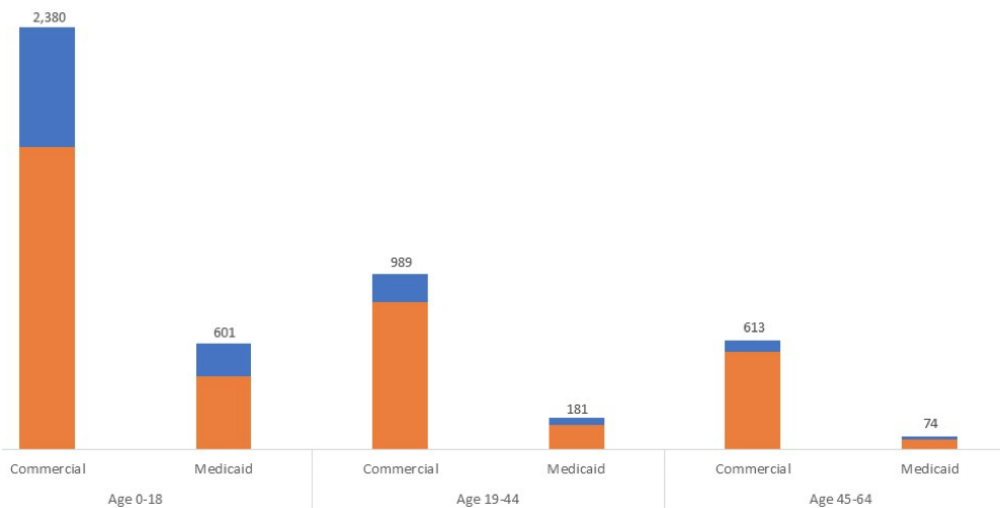
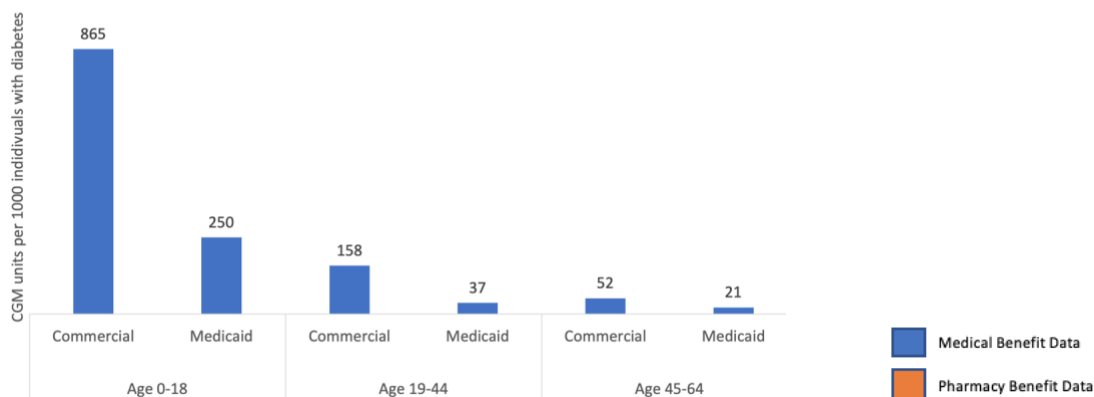
It is not a coincidence that the Southeast has some of the lowest rates of CGM coverage through Medicaid in the country; Texas, Arkansas, Louisiana, Mississippi, Alabama and South Carolina all have state [poverty rates](#) higher than the national average of 11.4 percent; and all states in this region have a [diabetes mortality rate](#) greater than 20 percent. Arkansas and Louisiana have a diabetes mortality rate greater than 30 percent, and in Mississippi more than 40 percent of deaths in 2020 were attributable to diabetes.

While this study is limited to insurance claims data, we know based on other ADA studies and surveys that several factors may contribute to state's failures to provide CGMs to Medicaid beneficiaries, including but not limited to:

- Coverage policies that exclude or limit eligibility;
- Prior authorization barriers that limit access and are burdensome for patients and providers to fulfill;
- Lack of awareness about CGMs among patients;
- Lack of accountability among Medicaid programs for health outcomes;
- Financial constraints of states and focus on short-term costs; and
- The transient nature of the Medicaid population's coverage consistency.

Young people are more likely to get CGMs than older Americans with diabetes are. Insulin-dependent children younger than 18 who have diabetes are significantly more likely to get a CGM than people with diabetes between the ages of 45 and 64 with diabetes are. For example, people with diabetes aged 18 or younger are 3.5 times more likely to get a CGM if they have commercial insurance than if they are covered by Medicaid. Individuals with commercial insurance between the ages of 19 and 44 are 4.3 times more likely to get a CGM, and individuals between the ages of 45 and 64 are 2.5 more likely to get a CGM. With the addition of pharmacy benefit data in this study, the discrepancy between CGM utilization in Medicaid and commercial insurance populations is even greater than when medical benefit data is considered alone (first figure), highlighting the barriers to coverage for those enrolled in Medicaid.

Overall CGM Utilization by Age and Payer





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Study Methodology

This study pulled data from a wide variety of sources, ensuring as comprehensive a picture as possible of CGM access across types of health insurance, benefit design, age, and geography. These sources include:

1. 2020 medical benefit data including total units of CGM along with patient age, type of coverage (Medicare fee-for-service, Medicare Advantage, Commercial, Medicaid) and 3-digit zip code.
2. 2020 pharmacy benefit data including total units of CGM by National Drug Code along with patient age, and type of coverage (Medicare fee-for-service, Medicare Advantage, Commercial, Medicaid).
3. Insurance claims for CGM units for the under-65 total population from the 2020 American Community Survey, including data on state of residence, age, race, and type of coverage (Commercial or Medicaid).
4. Insurance claims for CGM units for the Medicare population from the 2020 Medicare Beneficiary Summary File, including data on state of residence, age, race, and type of coverage (Commercial or Medicaid).
5. Diabetes diagnosed prevalence from the 2019 and 2020 National Health Interview Surveys, broken down by age, race, and type of coverage (Commercial, Medicaid, Medicare).

Using this data, this study developed an estimated number of individuals with diabetes, calculated the age, coverage, and state of CGM utilization per 1000 individuals with diabetes, and compared state-level coverage rates by race with state-level CGM utilization to determine whether access to CGM technology is limited in communities of color relative to areas with a higher population of white Americans.

Conclusion

CGMs have transformed the diabetes management landscape, giving individuals with diabetes a vital tool to manage their blood glucose, quickly adjust behavior and avoid preventable complications. According to the [National Institutes of Health](#), “CGM (including flash glucose monitoring) systems are safe and effective in both type 1 and type 2 diabetes and can improve quality of glycemic control, reduce risk of hypoglycemia, and permit selection of lower target levels for mean glucose and HbA1c.” However, for many who stand to benefit most from these breakthroughs, access remains out of reach.



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For low-income people with diabetes who rely on Medicaid, the diabetes management technology they need may not be covered adequately, or at all. Because Medicaid coverage is often determined on a state-by-state basis, there are wide discrepancies in diabetes technology access from one state to another. The coverage discrepancy between Medicaid and commercial insurance is even more obvious with the inclusion of pharmacy benefit data. Given both the short- and long-term health benefits of using a CGM for those with poor glycemic control, federal and state government officials can and should take steps to drive improved and more uniform coverage policies for diabetes technology and supplies within Medicaid as a vital health equity measure. Given the significant variation in Medicaid coverage of CGMs between states—and the correlation between states with low CGM utilization and high diabetes prevalence—the onus is really on states to do more to make sure their Medicaid programs are allowing enrollees to access diabetes management technology. For example, states can promote CGM access by making them available through as many channels as possible, including both mail-order and local pharmacies, to increase access for the diverse populations that can benefit from CGMs.

As with prescription drugs, device manufacturers typically pay rebates to middlemen like PBMs to carry their products, and the rebates similarly have a market-distorting impact that inherently reduces access to lower-priced, more cost-effective devices. We note that individuals who access CGMs across insurance coverage types often pay more for their devices as a result of rebates negotiated by pharmacy benefit managers. Opportunities to expand PBM rebate reform in the diabetes technology and supplies categories are meaningful, in much the same way they offer the promise of less burdensome costs in the prescription drug market. Diabetes device focused PBM rebate reform can bring needed pricing transparency, reduce costs at the counter and improve patient access to this vital technology.

There are a number of factors at play here that we make some assumptions about with regard to the relationship between health care access and health outcomes for people with diabetes. For example, the data does not show information about health care provider access and whether lack of access is correlated with lower CGM utilization, but we know that health outcomes for people with diabetes are poorer in medically underserved communities. Additionally, the data does not differentiate between Affordable Care Act marketplace plans and employer-sponsored plans in the commercial insurance claims. A more detailed breakdown of the commercial insurance landscape could reveal more barriers to access for individuals who need CGMs—including plans' prohibitive cost-sharing for diabetes technology.