Retrospective analysis of continuous glucose monitoring device utilization pre and post pharmacy benefit coverage expansion

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Background

- Continuous glucose monitors (CGMs) can provide information about blood glucose levels throughout the day and can be more convenient and informative than traditional glucometers in patients that have a clinical need to check glucose levels more frequently.[1]
- According to a 2021 study, for those with diabetes using insulin, CGMs were associated with decreased A1c levels and less anxiety about hypoglycemic events.[2]
- A 2023 study of patients 18–28 years of age with type 1 diabetes showed lower CGM utilization in non-white patients. Only 28% of Black patients and 37% of Hispanic patients used CGMs compared to 71% of white patients.[3]
- Diabetes disproportionally affects minority populations in the United States with 14.7% of American Indian/Alaska Native people having diabetes, 12.5% of Hispanic people, 11.7% of Black people, and 9.2% of Asian people compared to 7.5% of white people. This disparity highlights the importance of ensuring all patients, but especially minority groups have access to effective monitoring through CGMs.[4]
- Starting in 2022, CGMs could be acquired through the pharmacy benefit, when previously they were only available through the medical benefit.

Objectives

- The following was assessed for CGM utilizers before and after the pharmacy benefit coverage expansion:
  - Sociodemographic profiles
  - A1c control

Methods

- Members were included in the analysis if they were adults with ≥1 CGM claim between 1/1/2021-12/31/2022.
- Utilizers were grouped as:
  - *Medical*: Members with only medical claims.
  - *Pharmacy*: Members with only pharmacy claims.
  - *Both*: Members with medical and pharmacy claims.
- Utilizers were also categorized as having: ≥1 claim for an insulin pump, ≥1 claim for basal and bolus insulin, or those who did not have qualifying claims.
- Socioeconomic data included census tract data for poverty, unemployment, income, and no high school diploma as a composite socioeconomic measure. Members were grouped into four quartiles based on the density of vulnerable households within the census tract, with 75-100 representing the highest densities. Race data was self-reported.
- Distribution of benefit utilization for all utilizers in 2021 and 2022 was compared. Sociodemographic differences between these benefit groups and insulin groups were also compared.
- To be included in the A1c analysis, members had to be new utilizers with no previous CGM usage in the last 6 months, had an A1c ≤90 days before their first CGM claim, and had an A1c between 90 and 180 days after their first CGM claim. A1c data was compared between those with utilization on the medical benefit and pharmacy benefit. The percentage of members with <7% and <8% A1c before and after CGM utilization were compared.[5]

Results

Figure 1. Number of New Utilizers in 2021 and 2022

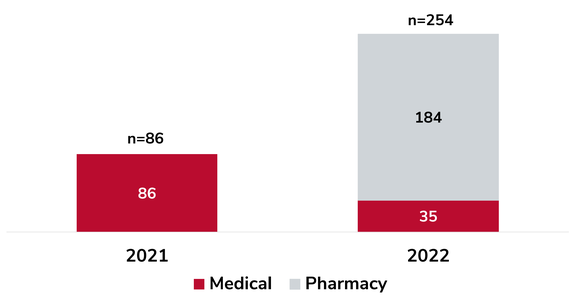


Figure 2. Percentage of Utilizers with an A1c at Goal

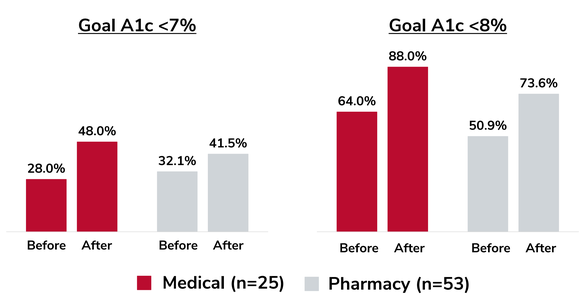


Figure 3. Benefit Utilization by Socioeconomic Quartiles

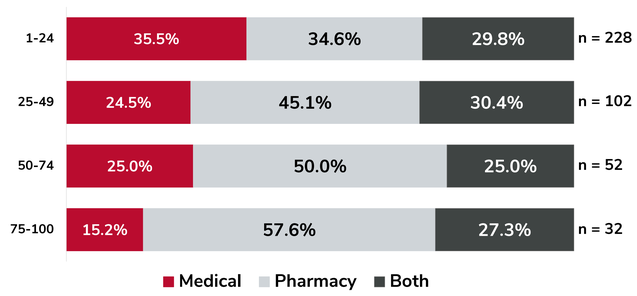


Figure 4. Pump or Insulin Utilization by Socioeconomic Quartiles

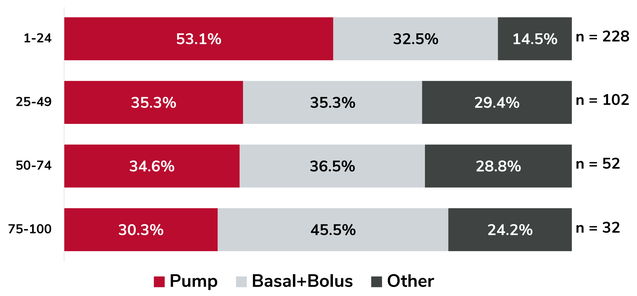


Figure 5. Benefit Utilization by Race

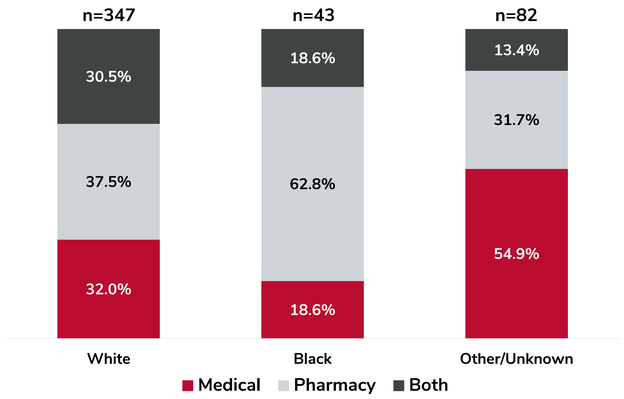
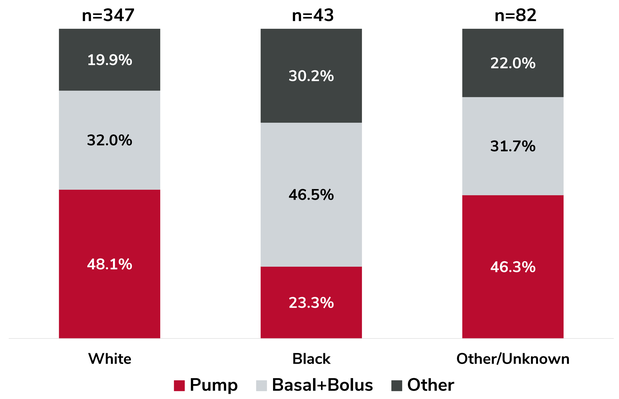


Figure 6. Pump or Insulin Utilization by Race



Discussion

- Expanding coverage on the pharmacy benefit led to an increase in the total number of new utilizers in 2022 compared to 2021. In 2021, there were 86 new medical utilizers, compared to 35 new medical utilizers and 184 new pharmacy utilizers in 2022. (Note: Figure 1 displays index prescription category only). This is consistent with a 2023 study which showed an increase in CGM utilization after pharmacy benefit expansion.[6]
- A higher percentage of utilizers in the medical group compared to the pharmacy group improved their A1c to <7%. While a higher percentage of pharmacy utilizers compared to medical utilizers improved to <8%, overall medical utilizers had a higher percentage (88%) reaching <8% with CGM usage. Further research is required to ascertain if there is an association between benefit use and A1c.
- Higher utilization of the pharmacy benefit for CGMs was observed among members living in areas with increasing density of socially vulnerable households. These results are consistent with a 2023 study that showed increased access through subsidies disproportionally benefited lower socioeconomic groups.[7]
- A higher percentage of Black utilizers used the pharmacy benefit versus the medical benefit compared to white patients. Further studies are necessary to explain this finding.
- In the quartile with the highest density of social vulnerability in which pharmacy utilization percentage was highest, there was also a higher utilization of insulin regimens over pumps. A 2023 study showed a greater percentage of users with new CGM access were on insulin regimens over pumps.[7]
- Out of CGM utilizers, white patients were most likely to use pumps while Black patients were more likely to use basal and bolus insulin. More research is needed to determine if this difference is a result of variances in clinical condition or disparities in access to therapies.

Limitations

- Utilization of census tracts for socioeconomic data may not accurately represent an individual's characteristics.
- The health plan only had access to medication or supply claims that were processed through insurance.
- Because of the retrospective nature of this study, there was not A1c data for all CGM utilizers. The group of utilizers with A1c data may not accurately represent the entire CGM utilizer population.

Conclusions

- There were more new utilizers when both the pharmacy and medical benefit were available in 2022 compared to 2021 when only medical was available.
- A higher percentage of patients from areas with the highest densities of social vulnerability utilized the pharmacy benefit.
- More research is necessary to evaluate this study's A1c findings.

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