



CGM for People with T2DM Not on Insulin—Budget Impact Analysis from a Medicare Perspective

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Introduction

- Effective glucose monitoring is an important part of diabetes management and can reduce the incidence of short-term acute diabetes events (ADEs) and long-term complications, both of which are major drivers of healthcare costs¹⁻⁴
- For people with T2DM not on insulin, continuous glucose monitoring (CGM) systems are currently reimbursed by Medicare only for those who have a history of problematic hypoglycemia⁵
- Reductions in glycated hemoglobin (HbA1c) and in hospitalization due to ADEs and have been observed following initiation of CGM by people with T2DM on non-insulin therapies⁶⁻⁸
- Because the use of CGM could reduce the incidence of costly ADEs and complications, there is uncertainty as to the impact on the Medicare budget of expanding reimbursement to beneficiaries with T2DM who are not on insulin

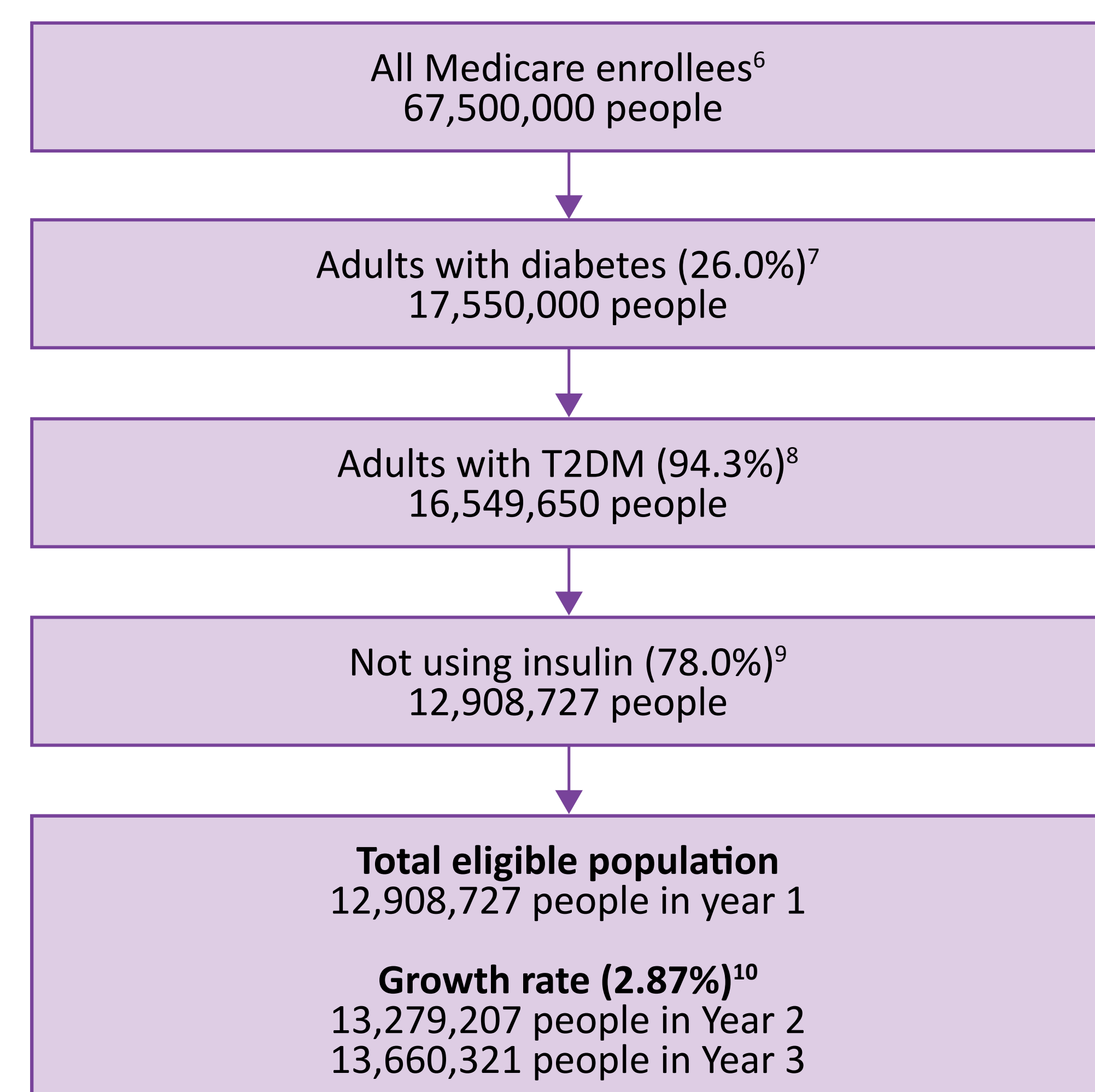
Objective

- To develop a budget impact model to estimate the impact of expanding CGM access to US Medicare beneficiaries living with T2DM who are not on insulin

Methods

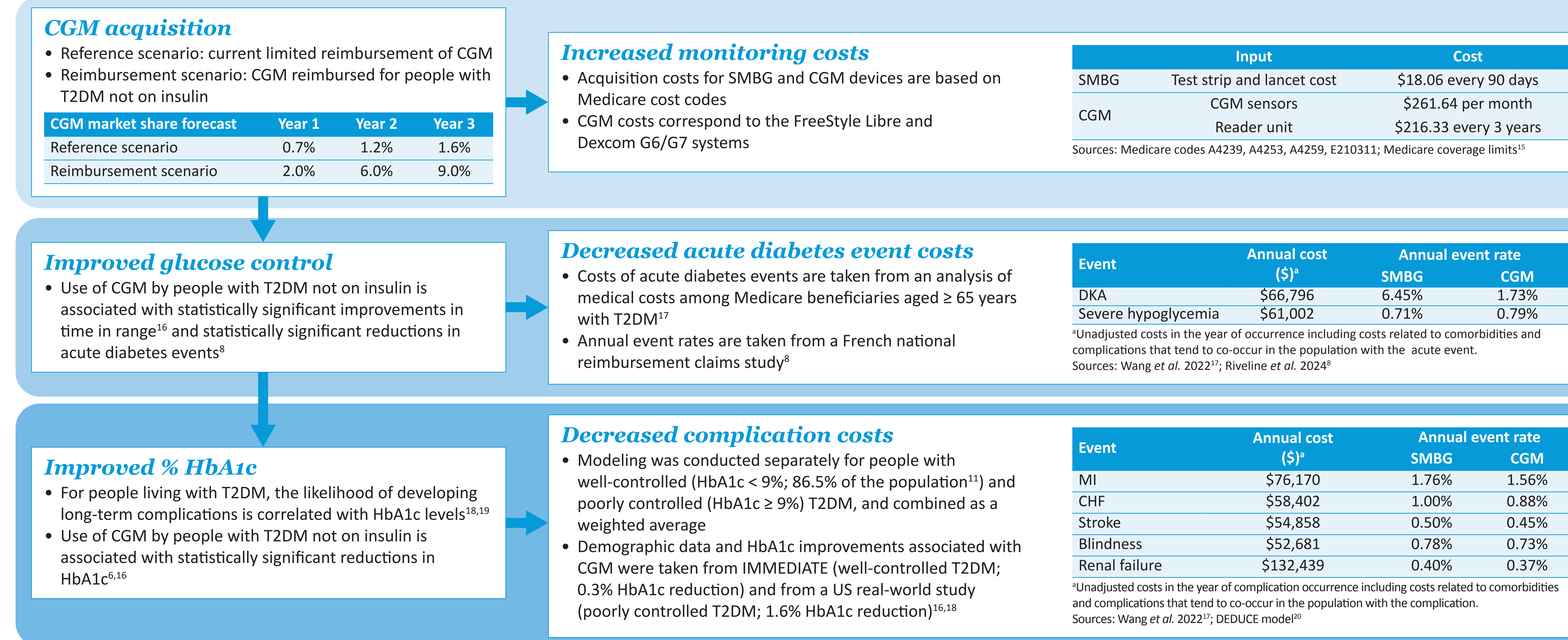
- The population of interest was Medicare enrollees with T2DM who are not on insulin (Figure 1)⁹⁻¹³
- The modeling approach is shown in Figure 2^{6,8,11,14-20}
 - The analysis compared the current limited reimbursement of CGM with a scenario in which CGM is reimbursed for people with T2DM who are not on insulin
 - Costs, in 2025 US \$, were modeled for 3 years
- The effect of CGM was modeled as a reduced incidence of:
 - ADEs – severe hypoglycemia, diabetic ketoacidosis, and hyperglycemia-related events – based on a real-world study⁸
 - Long-term complications, based on real-world reductions in HbA1c converted to complication reduction using the validated DETERMINATION of Diabetes Utilities, Costs, and Effects (DEDUCE) framework^{6,16,20}
- One-way sensitivity analysis was applied to costs and relevant population parameters

Figure 1. Estimation of size of eligible population



T2DM, type 2 diabetes mellitus.

Figure 2. Modeling approach



CGM, continuous glucose monitoring; CHF, congestive heart failure; DEDUCE, DETERMINATION of Diabetes Utilities, Costs, and Effects; DKA, diabetic ketoacidosis; FSL, FreeStyle Libre Systems; HbA1c, glycated hemoglobin; IMMEDIATE, IMpact of flash glucose Monitoring in pEople with type 2 Diabetes Inadequately controlled with non-insulin Antihyperglycaemic TherapY; MI, myocardial infarction; SMBG, self-monitoring of blood glucose; T2DM, type 2 diabetes mellitus.

Results

Eligible population and projected CGM uptake

- In the reimbursement scenario, an estimated 12.9 million people living with T2DM who are not on insulin would be eligible for CGM in year 1 (Figure 1)
- Projected CGM uptake is 0.26, 0.80, and 1.23 million people in years 1, 2, and 3, respectively.

Cost per person with T2DM not on insulin

- CGM is associated with an overall saving of \$331 per person per year, compared with self-monitoring of blood glucose (SMBG) (Table 1)
- The acquisition costs of CGM are \$3,138 higher per person per year than those of SMBG

Table 1. Budget impact model results, per person with T2DM not on insulin

Cost, \$	SMBG	CGM	Incremental
Glucose monitoring			
Acquisition costs of SMBG/CGM	\$76	\$3,214	\$3,138
Treatment costs			
Acute diabetes events			
DKA	\$4,308	\$1,156	-\$3,153
Severe hypoglycemia	\$433	\$482	\$49
Complications			
MI	\$1,344	\$1,191	-\$153
CHF	\$582	\$516	-\$66
Stroke	\$277	\$245	-\$32
Blindness	\$413	\$384	-\$29
Renal Failure	\$529	\$492	-\$37
Total	\$7,530	\$7,199	-\$331

CGM, continuous glucose monitoring; CHF, congestive heart failure; DKA, diabetic ketoacidosis; MI, myocardial infarction; SMBG, self-monitoring of blood glucose.

- Healthcare resource utilization is \$3,469 lower per person per year with CGM than with SMBG, mainly due to reduced costs of treating ADEs (\$3,104 lower)

Impact on Medicare budget

- The budget impact of CGM reimbursement is shown in Figure 3
- Overall, costs would be reduced by \$48 million in year 1, with the additional \$529 million cost of glucose monitoring offset by a \$577 million reduction in healthcare resource utilization
 - In years 2 and 3 the corresponding cost savings would be \$179 million and \$285 million, respectively

Sensitivity analysis

- Sensitivity analysis results demonstrated that almost all scenarios are cost saving (Figure 4)

Discussion

- This analysis shows that the reductions in healthcare resource utilization associated with CGM use would lead to overall cost savings to Medicare
- Sensitivity analysis results showed that these results are robust, with the highest sensitivity being to the costs of CGM and of treating ADEs
- A strength of this analysis is the use of real-world data for people with T2DM who were not using insulin^{6,8,16} and of cost data sourced specifically from the population of interest¹⁷
- Limitations include the use of multiple datasets for ADE and HbA1c reductions
- It was also necessary to assume that the ADE reductions seen with CGM among people using oral insulin-secretagogues would be similar across the population of people with T2DM not on insulin
- In addition, complications were modeled only for 1 year
 - Because reduction in the risk of complications due to lowering HbA1c is typically a long-term effect^{18,19} this approach is likely to underestimate the savings associated with using CGM in subsequent years
 - Therefore, savings due to reduced healthcare resource utilization are likely to increase over time

Figure 3. Medicare budget impact

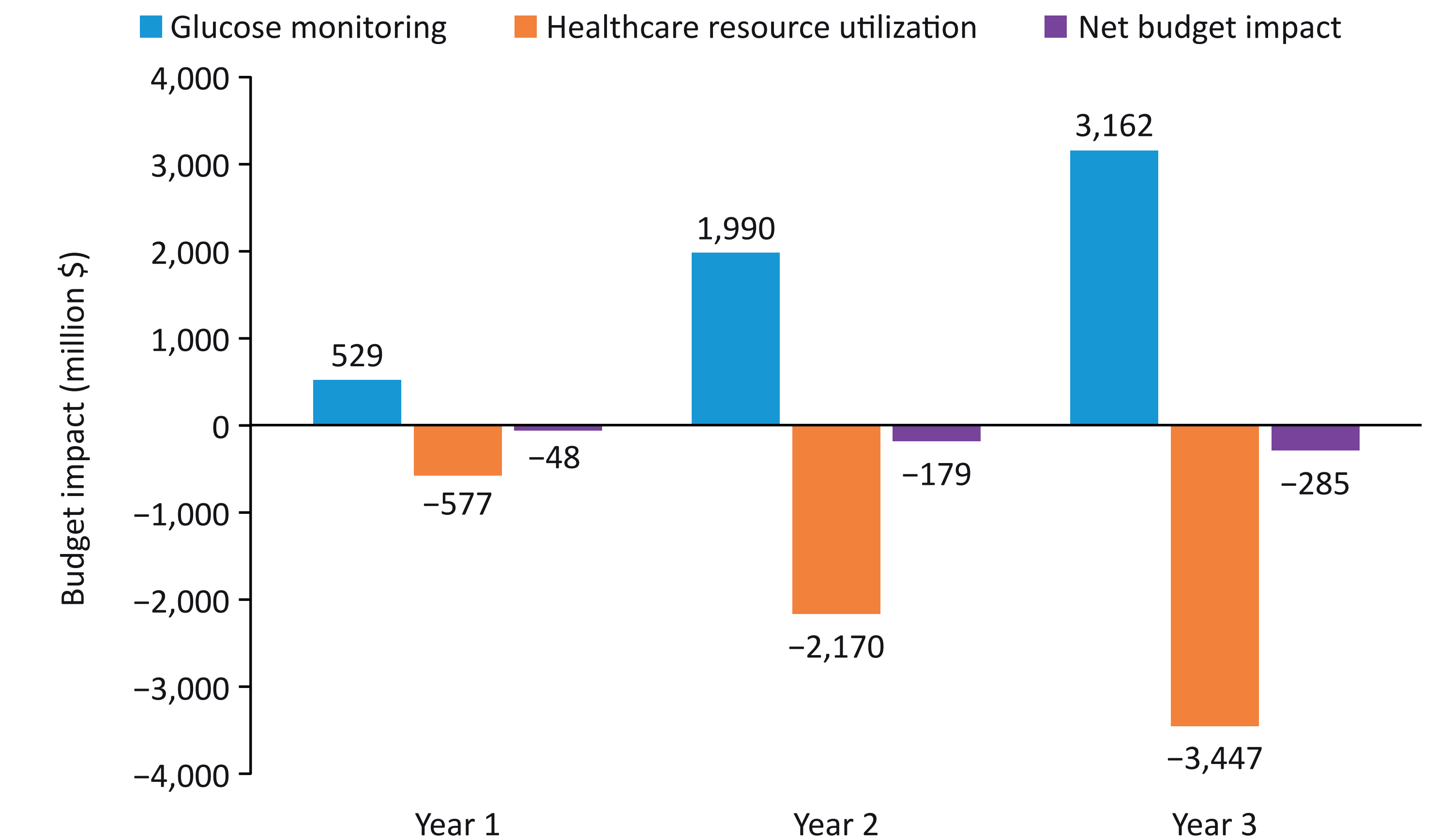
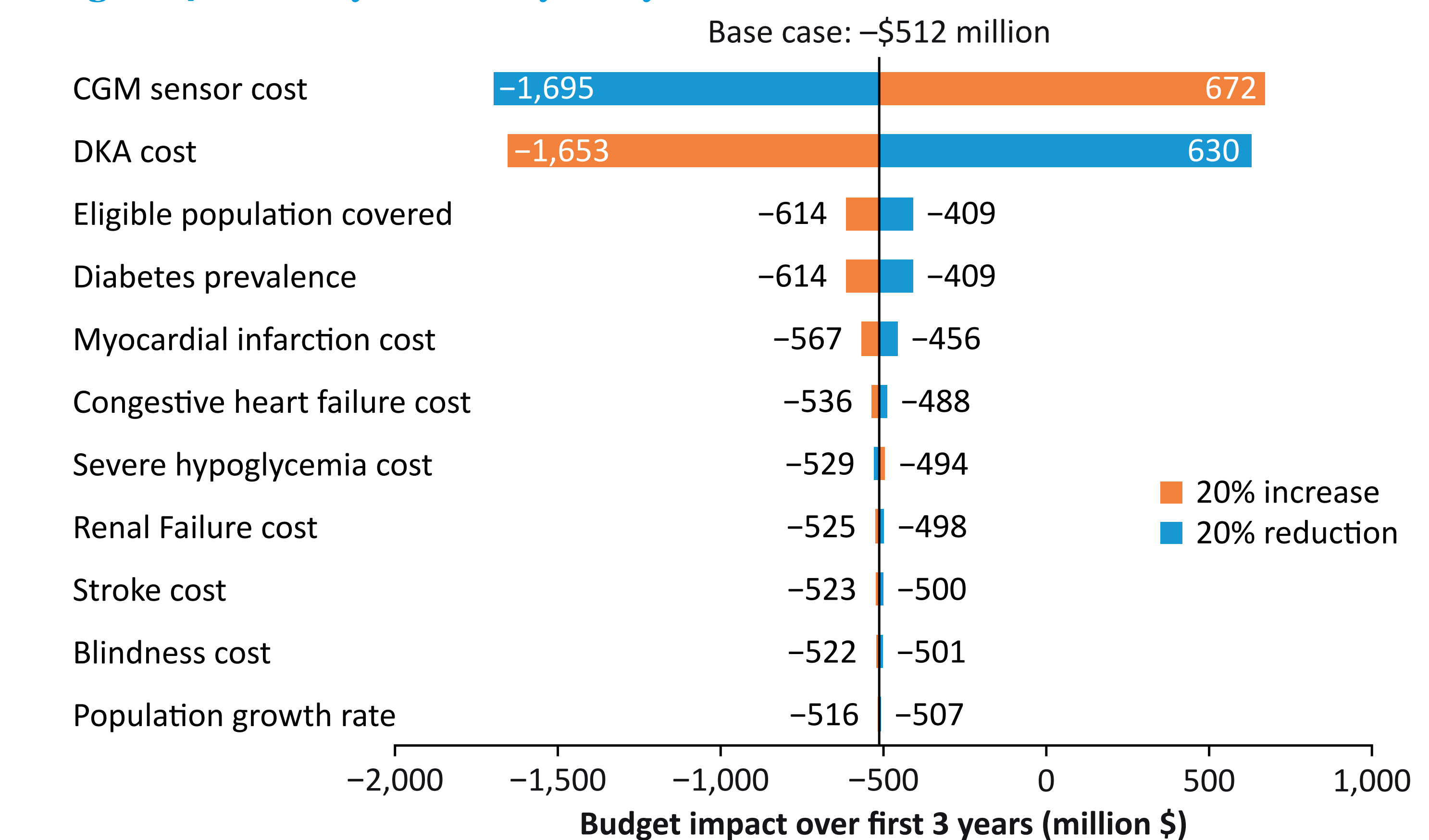


Figure 4. One-way sensitivity analysis



Conclusions

- These findings suggest that use of CGM by Medicare enrollees with T2DM who are not on insulin could result in substantial savings, supporting the expansion of access to this patient group

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Conflict of interest statement

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References

- Cannon A et al. J Manag Care Spec Pharm 2018;24:55-513.
- Fitch K et al. J Manag Care Pharm 2013;19:609-20, 620a-620d.
- Zhuo X et al. Am J Prev Med 2013;45:253-61.
- American Diabetes Association Professional Practice Committee. Diabetes Care 2024;48:S146-S166.
- Oser SM, Oser TK. Fam Pract Manag 2024;31:17-18.
- Wright EE, Jr, et al. Diabetes Spectr 2021;34:184-189.
- Ratzki-Leeving A et al. Diabetes Obes Metab 2025;27:2637-2646.
- Riveline JP et al. Diabetes Technol Ther 2024;10:1089/dia.2024.0171.9.
- Centers for Medicare and Medicaid Services (CMS). https://data.cms.gov/summary-statistics-on-beneficiary-enrollment/medicare-and-medicaid-reports/medicare-monthly-enrollment.
- Centers for Medicare and Medicaid Services (CMS). https://www.cms.gov/About-CMS/Agency-Information/OMH/Downloads/Data-Snapshots-Diabetes.pdf.
- Centers for Disease Control and Prevention. https://www.cdc.gov/diabetes/php/data-research/index.html.
- Frank JR et al. Diabetes Technol Ther 2021;23:S36-S44.
- MedPAC. https://www.medpac.gov/wp-content/uploads/import_data/scrape_files/docs/default-source/reports/chapter-2-the-next-generation-of-medicare-beneficiaries-june-2015-report.pdf.
- Centers for Medicare and Medicaid Services (CMS). https://www.cms.gov/files/rip/dme24-d.zip.
- Department of Health and Human Services. https://www.medicare.gov/publications/11022-1e-medicare-coverage-of-diabetes-supplies-services-and-prevention-programs.pdf.
- Aranson R et al. Diabetes Obes Metab 2023;25:1024-1031.
- Wang Y et al. Diabetes Care 2022;45:2570-2576.
- Boye KS et al. Adv Ther 2022;39:2208-2221.
- Lind M et al. Diabetes Care 2021;44:2231-7.
- Szafranski K et al. Value Health 2024;27:500-507.