

Impact Of Continuous Glucose Monitoring On Healthcare Resource Utilization Among Medicaid Beneficiaries With Type 2 Diabetes Treated With Basal Insulin

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Disclosures

Irl Hirsch disclosures:

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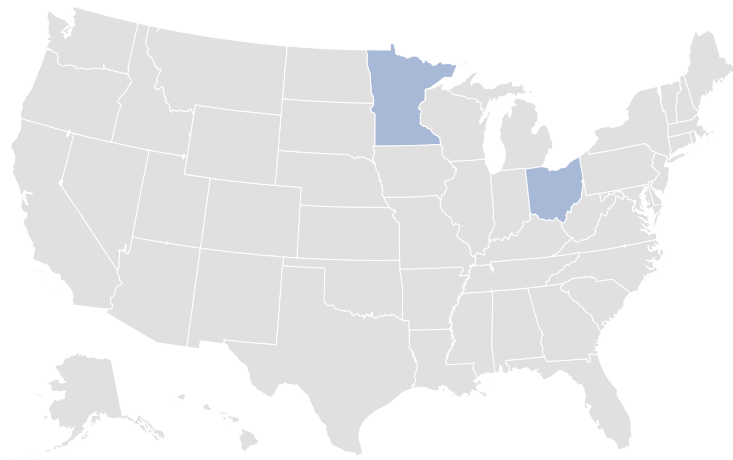
Introduction

- Medicaid is a US safety net program providing insurance for low income adults and children
- People with type 2 diabetes (T2D) covered by Medicaid have higher rates of emergency department (ED) visits and hospitalizations than those who are privately insured¹
- We studied the association of continuous glucose monitoring (CGM) on all-cause healthcare resource utilization (HCRU) among Medicaid beneficiaries with T2D treated with basal insulin therapy
 - HCRU defined as hospitalizations, ED visits, and outpatient visits

Background

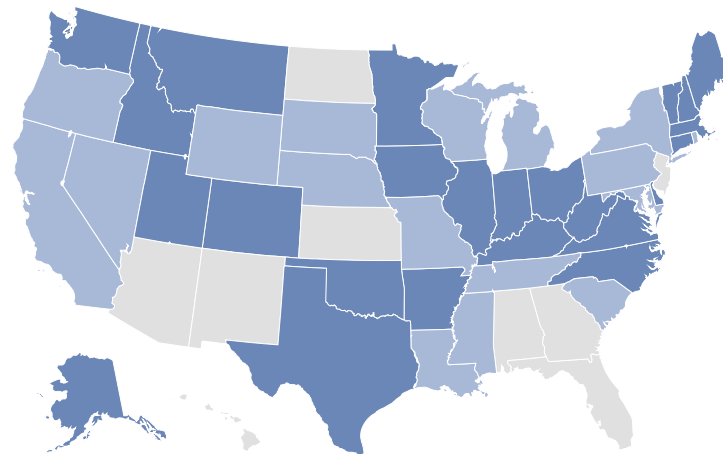
Medicaid coverage for CGM has expanded in the last few years, however it is still lagging behind in some states and for some populations

2017



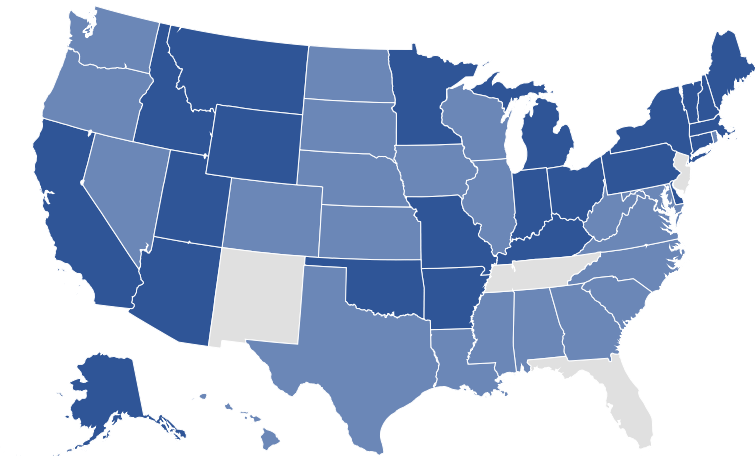
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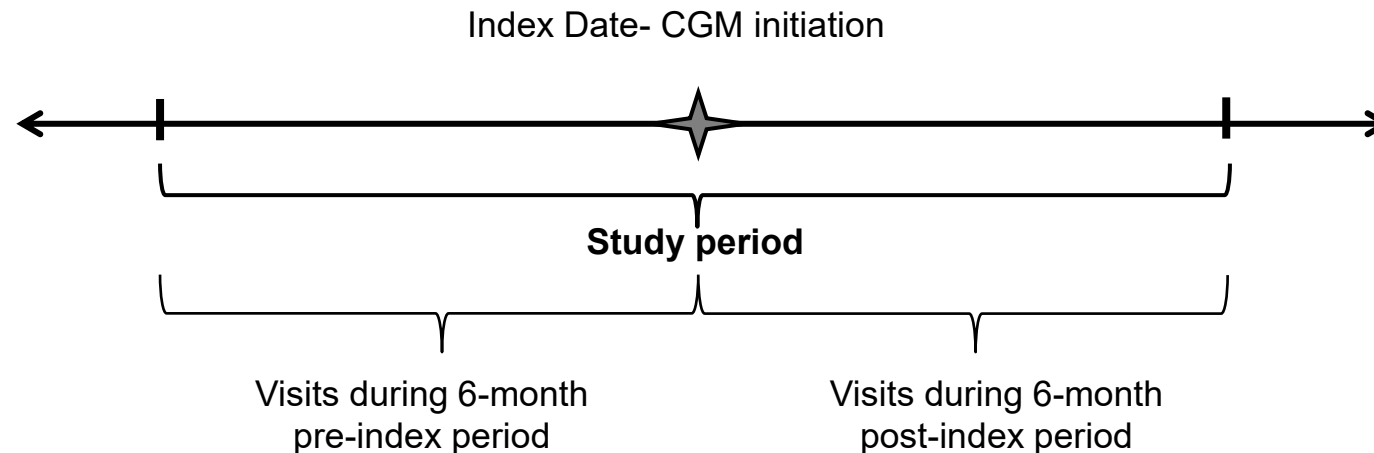


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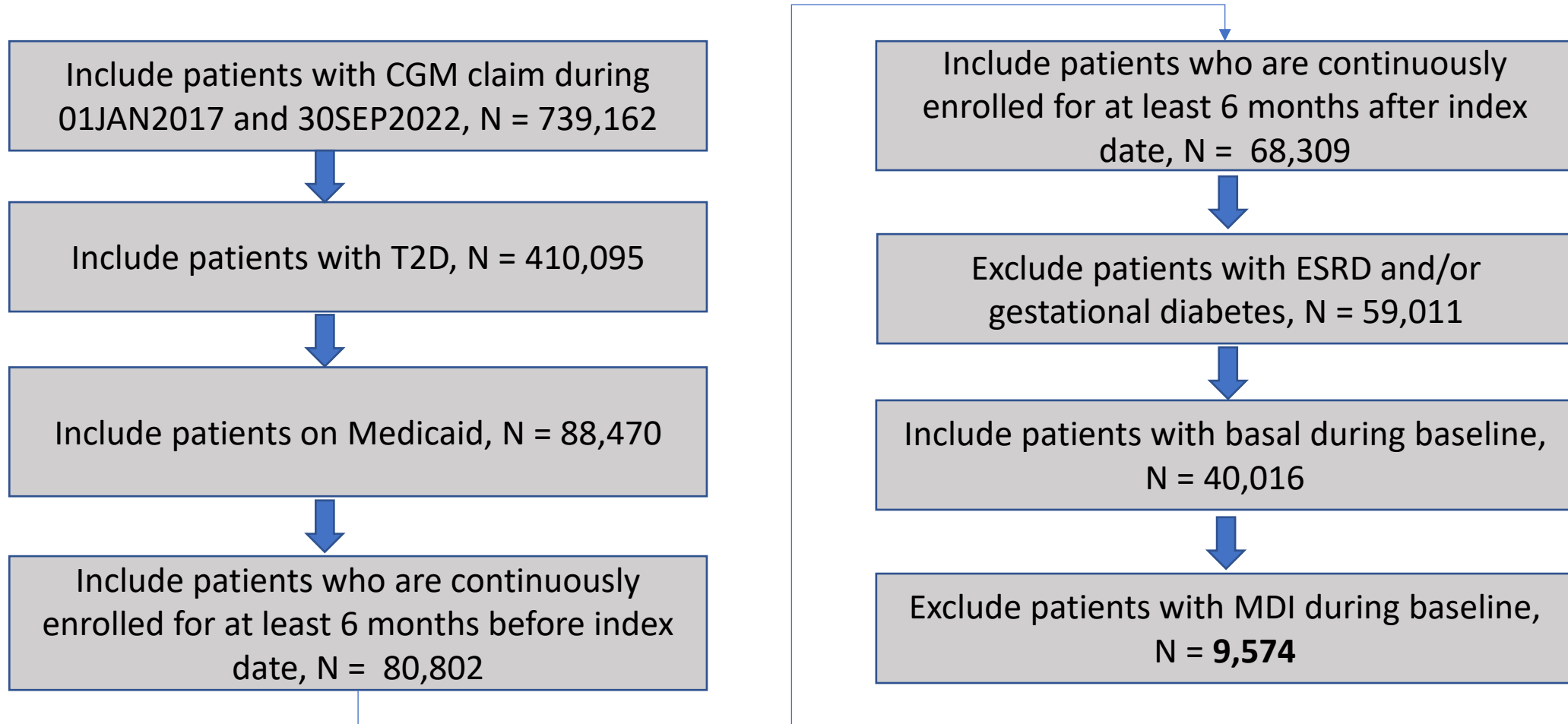
-  - No CGM coverage
-  - Coverage for T1D only
-  - Coverage for T1D and T2 MDI
-  - Coverage for all insulin users

Study Methods

- Medicaid population was analyzed from within the Inovalon Insights administrative claims database
- **Inclusion criteria:** Managed Medicaid payer, <65 years old, at least 1 claim for CGM sensor between Jan 2017-Sept 2022, diagnosis code for T2D, continuous enrollment in the health plan for 6 months before and after index, Rx claims for basal medication, excluding MDI
- **Analyses** Patients as their own control
- **Primary outcomes:** change in hospitalizations, ED visits, and outpatient visits 6-months pre/post CGM acquisition
 - **Subgroup analyses:** Stratified by baseline primary outcomes into low (1-2 visits) and high (≥ 3 visits) groups during the pre-CGM 6 months



Cohort development



Results – Demographics and Comorbidities

Demographics, N = 9,574		
Age (mean, SD)	Years	50 (11.29)
Gender (N, %)	Female	5,634 (59%)
	Male	3,940 (41%)
Race (N, %)	White	3,754 (39%)
	Black or African American	1,764 (19%)
	Hispanic or Latino	1,711 (18%)
	Unknown	1,630 (17%)
	Some Other Race	398 (4%)
	Asian or Pacific Islander	317 (3%)

Comorbidities (N, %)	
Myocardial Infarction	622 (7%)
Congestive Heart Failure	974 (10%)
Peripheral Vascular Disease	1,119 (12%)
Cerebrovascular Disease	841 (9%)
Chronic Pulmonary Disease	2,664 (28%)
Moderate to Severe Liver Disease	129 (1%)
Severe Renal Disease	75 (1%)
Hypertension	7,447 (78%)

Results - HCRU

- There were significant reductions in HCRU.

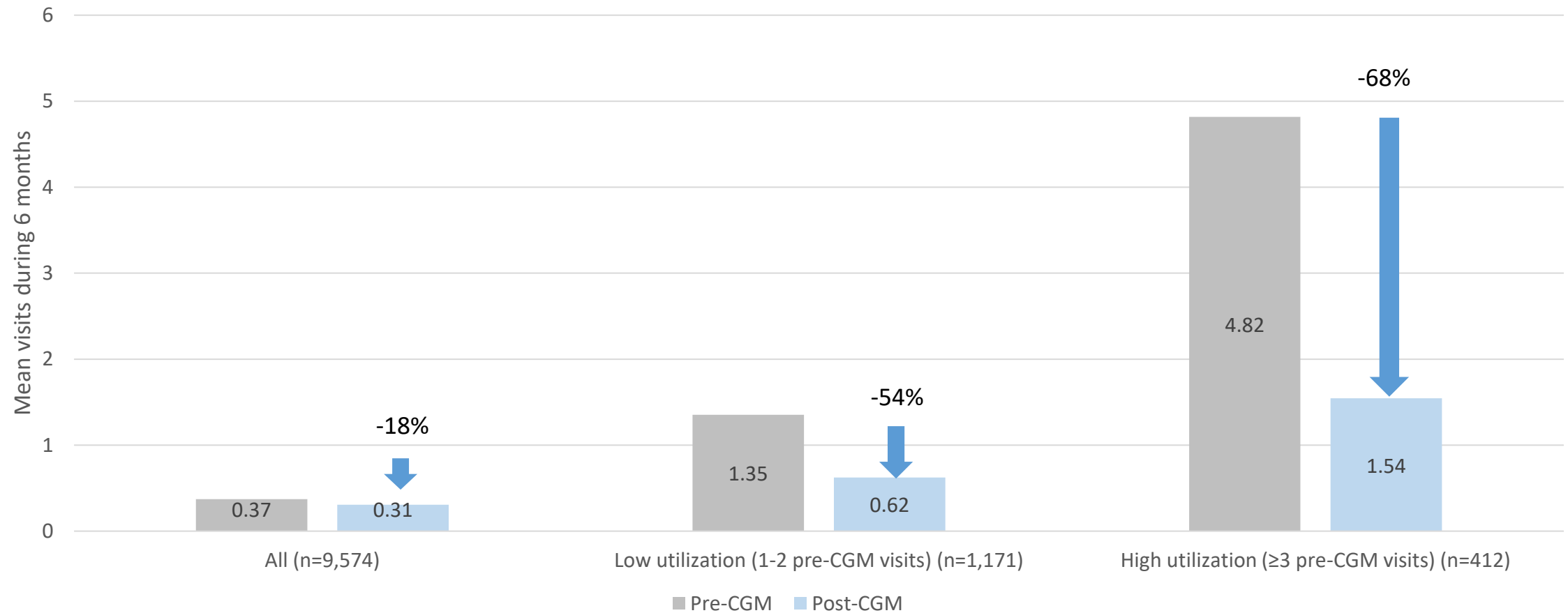
Number of events during 6-month pre- and post-CGM period (N=9,574)

HCRU metric	Pre-CGM events	Post-CGM events	Change in events
Inpatient hospitalizations	3,568	2,940	-18%
Emergency department visits	9,099	8,012	-12%
Outpatient visits	87,253	82,319	-6%

- Consistent trends were observed across all utilization subgroups for ED visits and hospitalizations.
- Similar trends were observed in outpatient visits among high (≥ 3 visits pre-CGM) utilization group. However, among low (1-2 visits pre-CGM) utilization group, increased outpatient visits were observed.

Results – Change in Inpatient Hospitalizations

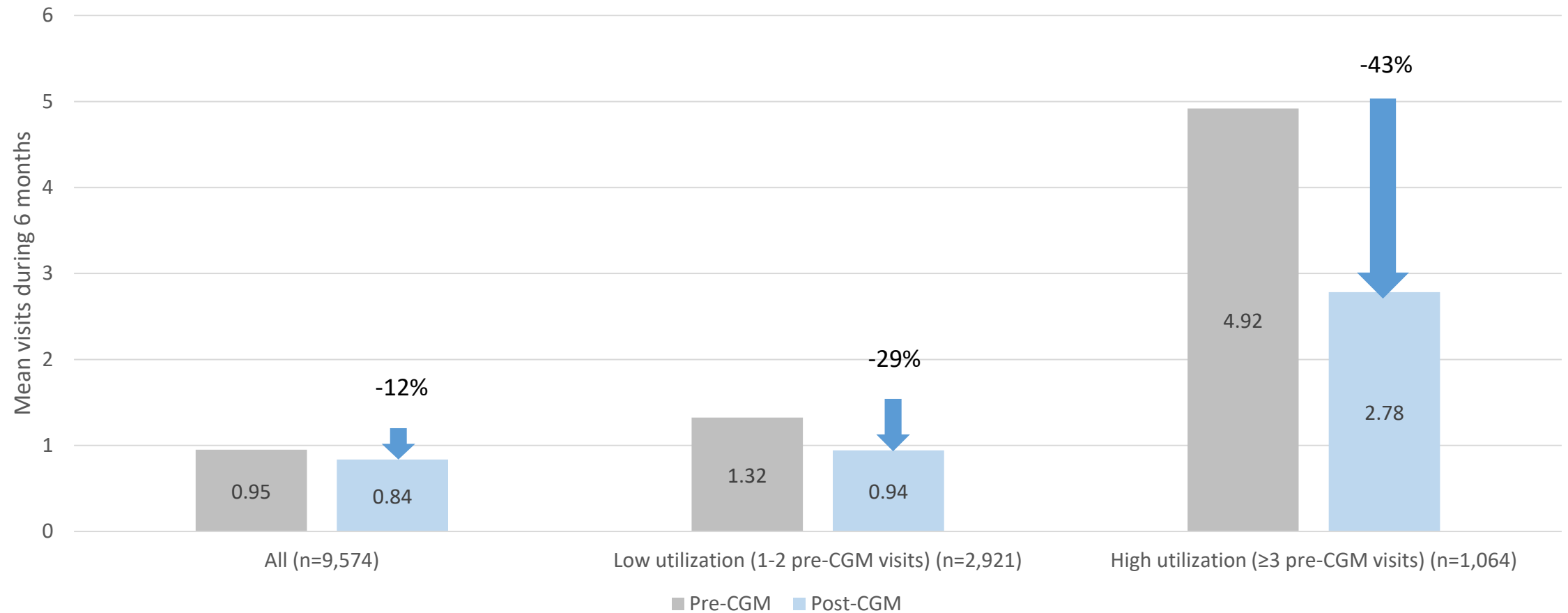
Reductions in hospitalizations seen in all baseline utilization subgroups



All significant at $p < 0.001$

Results – Change in Emergency Department Visits

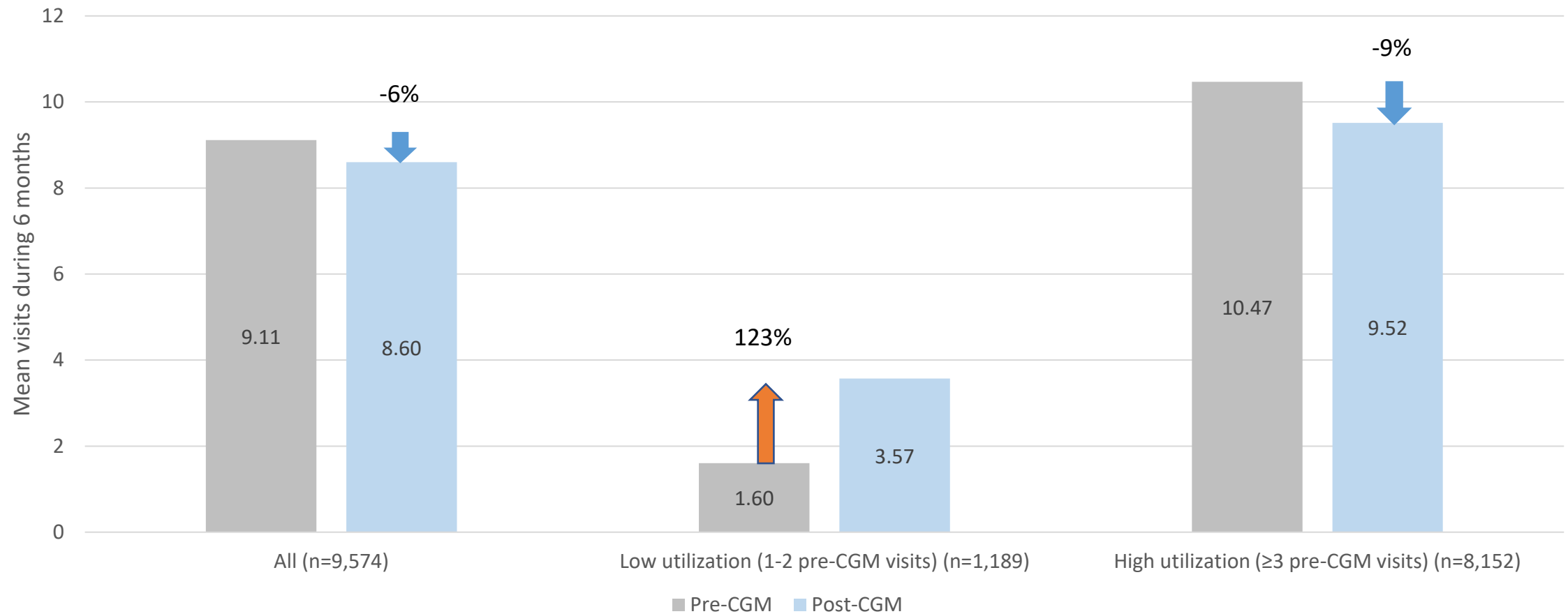
Reductions in ED visits seen in all baseline utilization subgroups



All significant at $p < 0.001$

Results – Change in Outpatient Visits

Outpatient visits decreased for those with high baseline utilization, but increased for the low utilization group.



All significant at $p < 0.001$

Discussion and Conclusions

- We observed significant reductions in HCRU overall for T2D Medicaid patients on basal insulin therapy who acquired CGM.
 - Suggests CGM may lead to more efficient use of health care resources
 - The reduction in hospitalizations and ED visits may translate to overall cost savings
- The reduced need for healthcare services could be attributed to the ability with CGM to monitor glucose levels in real-time which can aid in facilitating timely adjustments to treatment plans.
- Further research can assess cost implications, as well as explore if there is a genuine shift towards proactive outpatient care.
- Access to CGM should remain open for people with basal insulin-treated T2D as this analysis showed that people using CGM had improved outcomes and potentially reduced healthcare costs.