

Use of Real-Time CGM Is Associated with Fewer Hospitalizations Compared With SMBG In The Insulin-Treated Medicare Population.

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Disclosures

Dr. Marrero has received consulting/speaker/research funding from Dexcom, Inc.

Background

- > In July 2017, Centers for Medicare & Medicaid (CMS) initiated coverage for use of real-time continuous glucose monitoring (CGM) among insulin-treated diabetes beneficiaries who met eligibility criteria:
 - > Treated with intensive insulin therapy (≥ 3 insulin injections per day or insulin pump use)
 - > History of frequent blood glucose testing (≥ 4 tests per day)
- > However, these requirements are not supported in the literature.
 - > Large randomized controlled trials have shown no correlation between previous blood glucose testing frequency and glycemic outcomes among CGM users.^{1,2}

1. Beck RW et al. Ann Intern Med 2017;167:365-374;

2. Ruedy KJ et al. J Diabetes Sci Technol 2017;11(6):1138-1146

Study Overview

> Study Design:

- > This 12-month, retrospective analysis used CMS data to assess the impact of CGM use in insulin-treated beneficiaries with a record of acquiring a CGM device during the first six months of CMS coverage.
- > Differences in CGM use by race
- > Differences in comorbidity risk of CGM and SMBG users
- > Comparison of Hospitalizations/ED service use: CGM users vs. SMBG users

> Outcomes:

- > Within- and between-group differences in the number/percentage of beneficiaries hospitalized receiving ED services and per-patient average for inpatient hospitalizations during July-December 2017 vs. January-June 2017.

Results

- > 219,566 beneficiaries were included in the analysis.
- > Statistically significant differences were observed in all variables.
- > The most notable differences were:
 - > Lower percentage of Black CGM users vs. Black SMBG users (2.9% vs. 9.4%)
 - > Higher percentage of SMBG users with comorbidity risk vs. CGM users (44.2% vs. 33.7%)

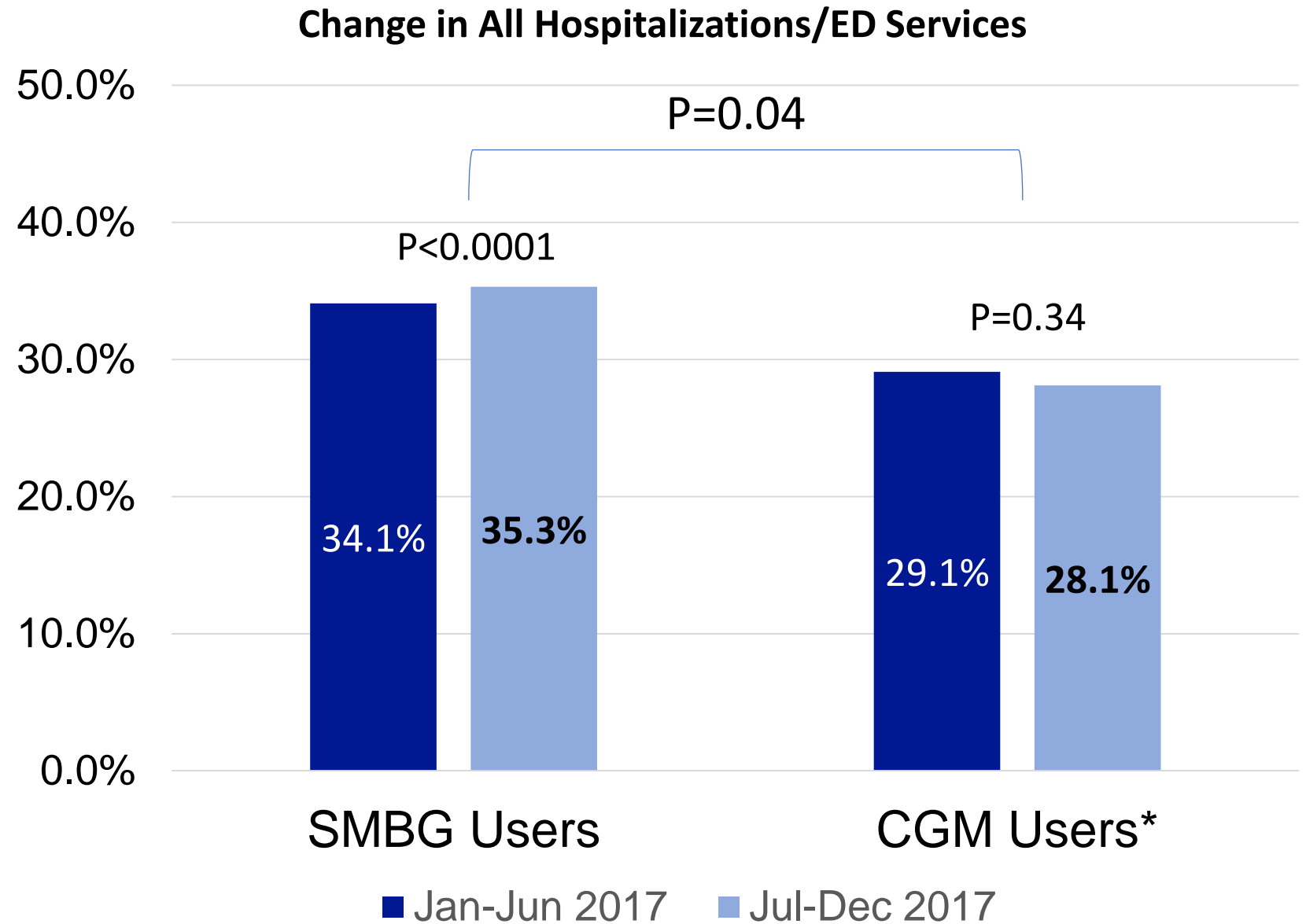
Baseline Demographic Characteristics

Variable	Full CGM Acquisition (n = 3,022)	Full SMBG Acquisition (n = 216,544)	P-Value
Age, y	72.7 ±5.1	75.2 ±6.6	<0.0001
Sex, n (%)			
Male	1583 (52.4)	97,322 (44.9)	<0.0001
Female	1439 (47.6)	119,222 (55.1)	
Race/ethnicity, n (%)			
White	2,751 (91.0)	178,613 (82.5)	<0.0001
Black	88 (2.9)	20,262 (9.4)	
Hispanic	14 (0.5)	6,224 (2.9)	
Other	92 (3.0)	8,774 (4.1)	
Unknown	77 (2.5)	2,671 (1.2)	
Comorbidities*			
0	2,003 (66.3)	120,727 (55.8)	<0.0001
1	531 (17.6)	50,920 (23.5)	
≥2	488 (16.1)	44,897 (20.7)	

* Charlson Comorbidity Index (CCI)

Results

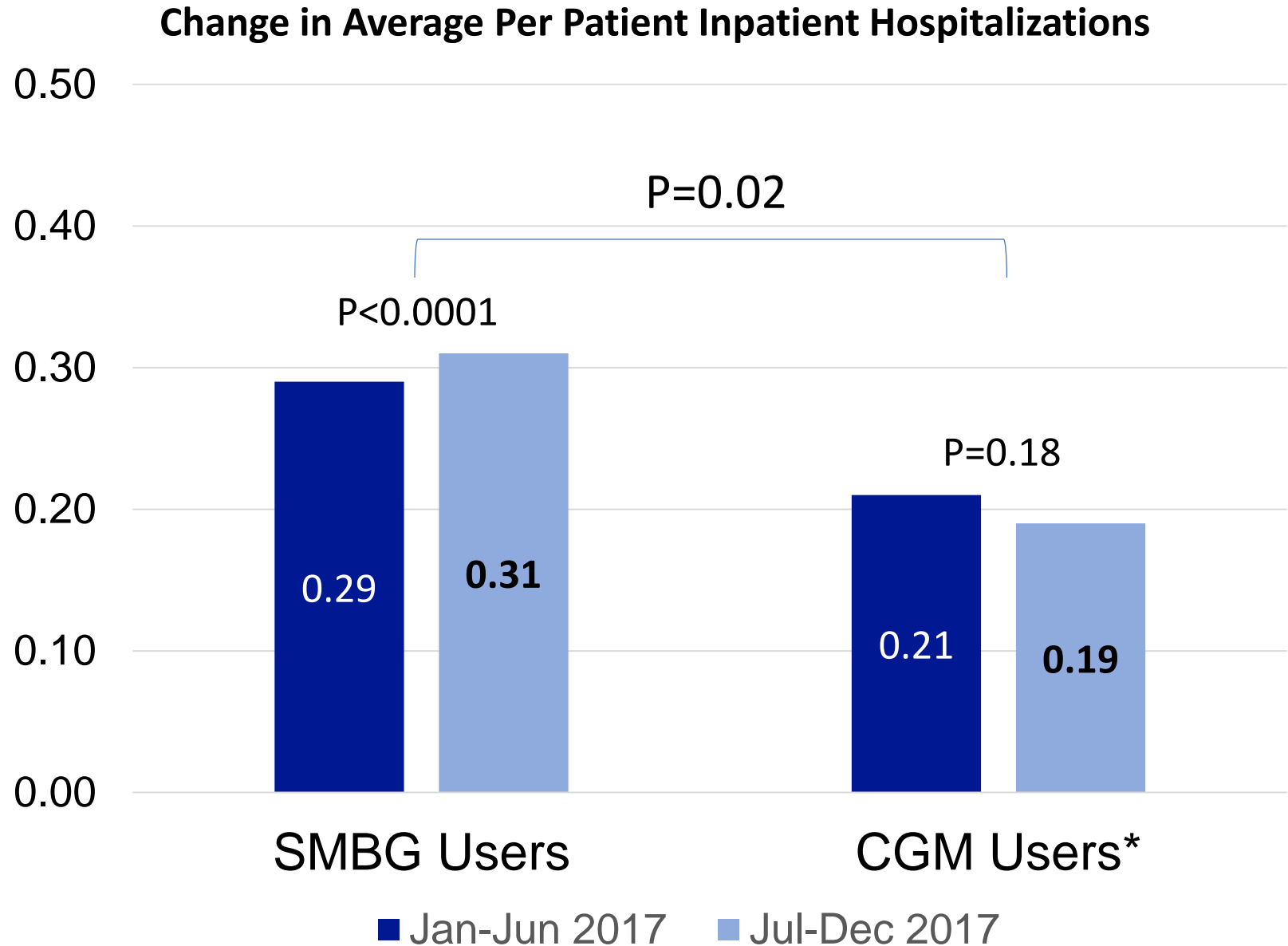
- > Average per patient rates of Inpatient Hospitalizations increased in the SMBG group with a slight decrease among rtCGM users.



* Used SMBG during Jan-Jun observation period

Results

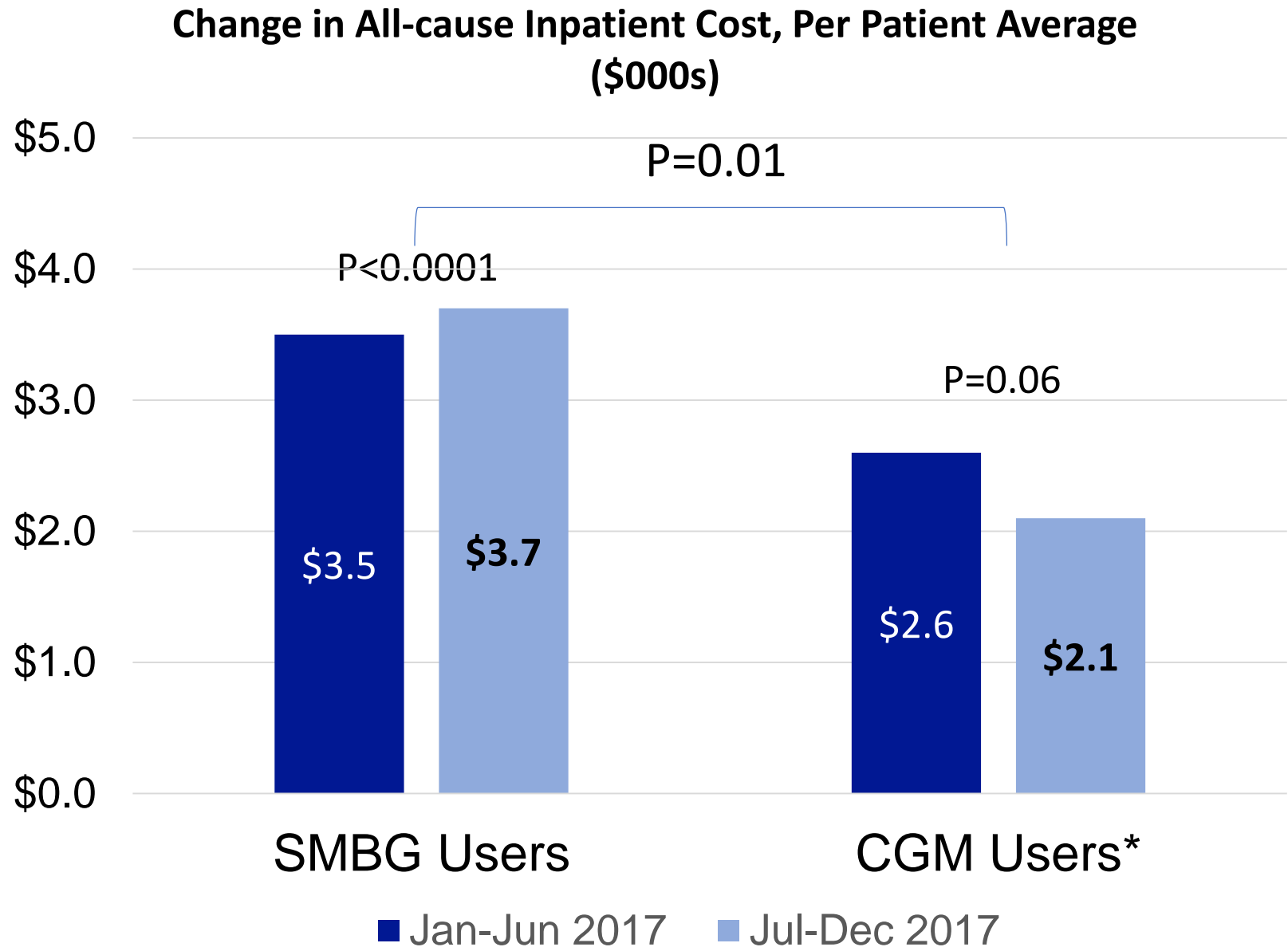
- > Average per patient rates of Inpatient Hospitalizations increased in the SMBG group with a slight decrease among rtCGM users.



* Used SMBG during Jan-Jun observation period

Results

- > Average per patient cost for All-cause Inpatient Hospitalizations increased in the SMBG group with a slight decrease among rtCGM users.



* Used SMBG during Jan-Jun observation period

Summary/Conclusions

- > Racial disparities in CGM use (White vs. Black) warrant additional investigation and appropriate remedies.
- > Disparities in baseline comorbidities, higher rates of adverse events and associated costs suggest that greater emphasis should be placed on encouraging CGM use in higher-risk populations.
- > Use of CGM significantly reduces hospitalizations/ED service utilization and associated costs compared with SMBG.
- > Current CMS restrictions deny use of CGM by many beneficiaries who would benefit from this technology.
- > Limiting access to CGM achieves neither cost-efficiencies nor clinical efficacies – CMS eligibility criteria should be revised.