### JAMA | Original Investigation

### Association of Race and Ethnicity With Prescription of SGLT2 Inhibitors and GLP1 Receptor Agonists Among Patients With Type 2 Diabetes in the Veterans Health Administration System

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**IMPORTANCE** Novel therapies for type 2 diabetes can reduce the risk of cardiovascular disease and chronic kidney disease progression. The equitability of these agents' prescription across racial and ethnic groups has not been well-evaluated.

**OBJECTIVE** To investigate differences in the prescription of sodium-glucose cotransporter-2 inhibitors (SGLT2i) and glucagon-like peptide-1 receptor agonists (GLP-1 RA) among adult patients with type 2 diabetes by racial and ethnic groups.

**DESIGN, SETTING, AND PARTICIPANTS** Cross-sectional analysis of data from the US Veterans Health Administration's Corporate Data Warehouse. The sample included adult patients with type 2 diabetes and at least 2 primary care clinic visits from January 1, 2019, to December 31, 2020.

**EXPOSURES** Self-identified race and self-identified ethnicity.

MAIN OUTCOMES AND MEASURES The primary outcomes were prevalent SGLT2i or GLP-1 RA prescription, defined as any active prescription during the study period.

RESULTS Among 1197 914 patients (mean age, 68 years; 96% men; 1% American Indian or Alaska Native, 2% Asian, Native Hawaiian, or Other Pacific Islander, 20% Black or African American, 71% White, and 7% of Hispanic or Latino ethnicity), 10.7% and 7.7% were prescribed an SGLT2i or a GLP-1 RA, respectively. Prescription rates for SGLT2i and GLP-1 RA, respectively, were 11% and 8.4% among American Indian or Alaska Native patients; 11.8% and 8% among Asian, Native Hawaiian, or Other Pacific Islander patients; 8.8% and 6.1% among Black or African American patients; and 11.3% and 8.2% among White patients, respectively. Prescription rates for SGLT2i and GLP-1 RA, respectively, were 11% and 7.1% among Hispanic or Latino patients and 10.7% and 7.8% among non-Hispanic or Latino patients. After accounting for patient- and system-level factors, all racial groups had significantly lower odds of SGLT2i and GLP-1 RA prescription compared with White patients. Black patients had the lowest odds of prescription compared with White patients (adjusted odds ratio, 0.72 [95% CI, 0.71-0.74] for SGLT2i and 0.64 [95% CI, 0.63-0.66] for GLP-1 RA). Patients of Hispanic or Latino ethnicity had significantly lower odds of prescription (0.90 [95% CI, 0.88-0.93] for SGLT2i and 0.88 [95% CI, 0.85-0.91] for GLP-1 RA) compared with non-Hispanic or Latino patients.

**CONCLUSIONS AND RELEVANCE** Among patients with type 2 diabetes in the Veterans Health Administration system during 2019 and 2020, prescription rates of SGLT2i and GLP-1 RA medications were low, and individuals of several different racial groups and those of Hispanic ethnicity had statistically significantly lower odds of receiving prescriptions for these medications compared with individuals of White race and non-Hispanic ethnicity. Further research is needed to understand the mechanisms underlying these differences in rates of prescribing and the potential relationship with differences in clinical outcomes.

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 Supplemental content

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Corresponding Author: Julio A. Lamprea-Montealegre, MD, MPH, PhD, University of California, San Francisco, 4150 Clement St, Building 2, Room 145, San Francisco, CA 94121 (julio.lampreamontealegre @ucsf.edu). chieving pharmacoequity is central to overcoming health care disparities that persist across race and ethnic groups.<sup>1</sup> Racial and ethnic minority individuals have been less likely than White persons to be prescribed novel guideline-recommended therapies with proven effectiveness.<sup>1,2</sup> These disparities may be particularly salient among patients with type 2 diabetes because Asian, Black, and Hispanic or Latino persons have a higher prevalence of diabetes and its complications than White patients.<sup>3-5</sup> Therefore, evaluating whether health care disparities exist in the prescription of guideline-recommended therapies that could reduce the cardiovascular and kidney complications of diabetes is of public health importance.

The advent of sodium-glucose cotransporter-2 inhibitors (SGLT2i) and glucagon-like peptide-1 receptor agonists (GLP-1 RA) has changed the approach to the management of type 2 diabetes because both classes have cardiovascular and kidney protective effects. Rather than relying on a glucose-centric approach to diabetes management and control, current guidelines recommend inclusion of these therapies to lower the risks of cardiovascular disease and chronic kidney disease (CKD) progression.<sup>6,7</sup> Recent research has shown that Black patients are less likely than White patients to be prescribed these therapies.<sup>8,9</sup> However, prescription was strongly associated with income, which may have influenced the results given the high cost-sharing incurred by patients for these medications.<sup>10</sup>

The primary objective of this study was to evaluate prescription patterns of SGLT2i and GLP-1 RA across racial and ethnic groups in the Veterans Health Administration (VHA) system from January 1, 2019, to December 31, 2020. The VHA is the largest integrated health system in the US and provides uniform pharmacy access that offers discounted or free medications to patients, thereby minimizing the influence of medication costs.

### Methods

This study was deemed minimal risk and was approved by the University of California, San Francisco institutional review board (19-29496). Participant informed consent was waived by the institutional review board.

### Study Design, Setting, and Participants

We conducted a cross-sectional study to establish the prevalence of SGLT2i and GLP-1 RA prescription from January 1, 2019, to December 31, 2020, among patients with type 2 diabetes using the VHA Corporate Data Warehouse. It contains individual-level information on sociodemographic characteristics, outpatient and inpatient clinical encounters, medication prescriptions and fills, medical conditions, procedures, and laboratory results. It also organizes the 171 VHA medical centers and 1283 outpatient facilities into 130 distinct health care networks known as VHA stations. Patients were assigned to one of these stations based on where they received most of their health care within the VHA.

Type 2 diabetes was ascertained by adapting the Electronic Medical Records and Genomics Network algorithm for Question Among patients with type 2 diabetes in an integrated health care system with minimal medication cost-sharing, does prescription of sodium-glucose cotransporter-2 inhibitors (SGLT2i) and glucagon-like peptide-1 receptor agonists (GLP-1 RA) differ by race and ethnicity?

**Findings** In this cross-sectional study that included 1197 914 patients in the Veterans Health Administration system, the proportion of patients with an active prescription was 10.7% for SGLT2i and 7.7% for GLP-1 RA. Individuals of several different racial groups and those of Hispanic ethnicity had statistically significantly lower odds of receiving prescriptions for these medications compared with individuals of White race and non-Hispanic ethnicity.

Meaning Among patients with type 2 diabetes in the Veterans Health Administration system, prescription of SGLT2i and GLP-1 RA was low overall, and there were differences in prescribing by race and ethnicity.

ascertainment of diabetes in electronic health records.<sup>11,12</sup> It combines *International Classification of Diseases (ICD)* codes, hemoglobin  $A_{IC}$  values, and diabetes medication use (eFigure 1 in the Supplement). We included all VHA patients with type 2 diabetes who had at least 2 primary care encounters during the study period (eFigure 2 in the Supplement).

### **Exposures**

Race and ethnicity at the VHA are ascertained through a 2-question self-identified method included in the VHA Form 10-10EZ at the time of application for health benefits or at the time of inpatient or outpatient visits to a VHA facility.<sup>13,14</sup> The first question asks patients to classify their ethnicity: Hispanic or Latino (yes or no; hereafter referred to as Hispanic) (eTable 1 in the Supplement). The second question asks patients to classify their race (>1 classification may be selected): American Indian or Alaska Native; Asian; Black or African American (hereafter referred to as Black); Native Hawaiian or Other Pacific Islander; White; and unknown race by patient or declined to answer. If self-identification of race and ethnicity is impossible, these categories may be assigned by a proxy or by a VHA enrollment coordinator/clerk. In this sample, more than 99% of the race and ethnicity categories were selfidentified. Because relatively few patients self-identified as Native Hawaiian or Other Pacific Islander, we combined those individuals with the Asian group. We included those with unknown or declined to answer in an "unknown" race category. We also created a multiracial category for patients who marked more than 1 race category. Race and ethnicity groups were analyzed separately.

### Covariates

Covariates were ascertained at baseline prior to January 1, 2019 (first day of the study period), with a look-back to October 1, 2015, when migration from *ICD-9* to *ICD-10* codes occurred. Exceptions were variables that denoted clinical care such as primary care, endocrinology, cardiology, or nephrology visits; patient residence; COVID-19 diagnoses; and all diabetes

	No. (%) American Indian or Alaska Native	Asian, Native Hawaiian, or Other Pacific Islander	Black or African American	White	Multiracial	Unknown race
Characteristic	(n = 10127)	(n = 24663)	(n = 234932)	(n = 850648)	(n = 9795)	(n = 67 749) <sup>a</sup>
Sociodemographic						
Age, mean (SD), y	65 (11)	64 (12)	63(10)	69 (10)	65(12)	68 (11)
Sex						
Female	557 (6)	1242 (5)	18187(8)	25 269 (3)	617(6)	2543 (4)
Male	9570 (94)	23 421 (95)	216745(92)	825 379 (97)	9178 (94)	65 206 (96)
Hispanic or Latino ethnicity	1349 (13)	2040 (8)	3584 (2)	64 278 (8)	939(10)	12 844 (19)
Service-connected disability >50% <sup>b</sup>	5374 (53)	15 563 (63)	124927 (53)	358 836 (42)	5239 (53)	30 904 (46)
Diabetes service connection <sup>b</sup>	2662 (26)	7318 (30)	48 219 (21)	224 174 (26)	2333 (24)	16360 (24)
Lowest zip code median income quartile (income <\$44.818)	3264 (32)	2885 (12)	85538(36)	186 233 (22)	2328 (24)	16 220 (24)
Highest Social Deprivation Index quartile (score >73)	3391 (33)	6102 (25)	106340 (45)	150 468 (18)	2614 (27)	18 832 (28)
Rural or highly rural zip code	5057 (50)	3977 (16)	44644(19)	367 240 (43)	3120 (32)	23 505 (35)
Lifestyle						
Unhealthy alcohol use <sup>c</sup>	843 (8)	1683 (7)	18746(8)	68 620 (8)	688(7)	5724 (8)
Current smoking	1985 (20)	3406 (14)	43 868 (19)	143 093 (17)	1865 (19)	10 269 (15)
Diabetes management and control, HbA $_{ m 1c},$ %						
≤7	4700 (46)	12 019 (49)	126258(54)	438 173 (52)	5072 (52)	33 371 (49)
>7-8	2134 (21)	5403 (22)	44 953 (19)	200 231 (24)	2100 (21)	14 695 (22)
>8-9	1213 (12)	2594 (11)	22611 (10)	90 275 (11)	1062 (11)	7008 (10)
6<	1406 (14)	2739 (11)	28917 (12)	73 232 (9)	1067 (11)	6760 (10)
Unknown	674 (7)	1908 (8)	12193 (5)	48 737 (6)	494(5)	5915 (9)
Lifetime maximum HbA <sub>1c</sub> level, %						
Mean (SD)	9.1 (2)	8.7 (2)	9.0(3)	8.6 (2)	8.9 (2)	8.7 (2)
Median (IQR)	8.7 (7.2-10.6)	8.2 (7.0-10.0)	8.3 (6.9-10.6)	8.2 (7.1-9.8)	8.4 (7.1-10.3)	8.2 (7.1-10.0)
Clinical characteristics						
Hypertension	8856 (87)	21433(87)	215486(92)	766 377 (90)	8891 (91)	58 127 (78)
BMI ≥30	5926 (59)	11013(45)	133 893 (57)	480 217 (56)	5578 (57)	36748 (54)
CKD	2583 (26)	6411 (26)	49 524 (21)	251 752 (30)	2571 (26)	18 190 (27)
Unknown CKD	2311 (23)	6820 (28)	67 993 (29)	201 885 (24)	2314 (24)	18373 (27)
ASCVD	2324 (23)	4589 (19)	39 209 (17)	243 897 (29)	2276 (23)	15 181 (22)
Heart failure	577 (6)	1092 (4)	14963(6)	58 994 (7)	676(7)	3689 (5)
VHA station parent facility complexity level <sup>d</sup>						
la (Highest)	3383 (33)	12 405 (50)	113 848 (48)	347 922 (41)	4083 (42)	33 345 (49)
1b (High)	2164 (21)	3805 (15)	56435(24)	121 167 (14)	1807 (18)	10311(15)
1c (Mid-high)	1235 (12)	1823 (7)	35792(15)	139 034 (16)	1327 (14)	7933 (12)
2 (Medium)	1708 (17)	1276 (5)	18 501 (8)	125 404 (15)	1326 (14)	8358 (12)
3 (Low)	1601 (16)	4076 (17)	9703 (4)	114 057 (13)	1209 (12)	7631 (11)

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	No. (%)						
Characteristic	American Indian or Alaska Native (n = 10 127)	Asian, Native Hawaiian (n = 24 663)	Asian, Native Hawaiian, or Other Pacific Islander (n = 24 663)	Black or African American (n = 234 932)	White (n = 850648)	Multiracial (n = 9795)	Unknown race (n = 67 749) <sup>a</sup>
Census region of VHA station							
South	3945 (39)	6559 (27)		156987 (67)	360 166 (42)	4583 (47)	27 662 (41)
West	3826 (38)	13719 (53)		22 645 (10)	154 481 (18)	2383 (24)	21275(31)
Midwest	1800 (18)	1911 (8)		33787 (14)	209 175 (25)	1551 (16)	12 919 (19)
Northeast	514(5)	1049 (6)		19792 (8)	112 807 (13)	1155 (12)	4893 (7)
Abbreviations: ASCVD, atherosclerotic cardiovascular disease; BMI, body mass index (calculated as weight in kilograms divided by height in meters squared); CKD, chronic kidney disease; GLP-1 RA, glucagon-like peptide-1 receptor agonist; HbA <sub>1c</sub> , hemoglobin A <sub>1c</sub> ; SGLT2i, sodium-glucose cotransporter 2 inhibitor; VHA, Veterans Health Administration. <sup>a</sup> The VHA collects race and ethnicity information based on a 2-question self-identified method. The first question asks patients to classify their race (>1 classify their ethnicity: Hispanic or Latino (yes or no). The second question asks patients to classify their race (>1 classification may be selected): American Indian or Alaska Native; Asian: Black or African American; Native Hawaiian or Other Pacific Islander; White, and unknown race by patient or declined to answer.	rr disease: BMI, body mass index (calculate t, chronic kidney disease; GLP-I RA, glucag dium-glucose cotransporter 2 inhibitor; VH sed on a 2-question self-identified methoc Latino (yes or no). The second question as 1. American Indian or Alaska Native; Asian; r; White; and unknown race by patient or or	ealth ealth stion wer.	<sup>b</sup> The VHA assigns a given dis condition. Patients with a d condition do not have co-ps condition du not have co-ps alcohol Use Disorder Identi <sup>d</sup> VHA complexity rating is as station encompassing facility teaching/research capacity.	<sup>b</sup> The VHA assigns a given disability (eg. diabetes) a rating to indicate the severity of their service-connected condition. Patients with a disability rating greater than 50% and those for whom diabetes is a service-connected condition do not have co-payments for their medications. <sup>c</sup> Alcohol Use Disorder Identification Test score of 3 or greater for women and 4 or greater for men. <sup>d</sup> VHA complexity rating is assigned to each VHA station based on the classification of the parent facility within the station encompassing facility volume, intensive care availability, number of subspecialists per patient, and teaching/research capacity.	o indicate the seve % and those for w ter for women and sed on the classific ability, number of s	rity of their servic hom diabetes is a 4 or greater for m ation of the parer ubspecialists per	e-connected service-connected en. t facility within the batient, and

medication prescriptions, for which ascertainment was extended to December 31, 2020. Because the VHA does not collect individual-level information on socioeconomic characteristics, we used the median per capita income of residential zip code and the zip code-level Social Deprivation Index as proxies for socioeconomic status using data derived from the American Community Survey.<sup>15,16</sup> We assessed rurality using Rural-Urban Commuting Area codes, which consider population density and closeness of a community's socioeconomic linkage to large urban centers.<sup>17</sup> We used the VHA serviceconnection disability information as proxies for medication cost-sharing.<sup>18</sup> Patients do not have co-payments for their medications if they have more than 50% health coverage for service-connected conditions and those for whom diabetes is a service-connected condition.

For system-level characteristics, we used the VHA 4-tier facility complexity rating, which encompasses facility volume, intensive care availability, number of subspecialists per patient, and teaching/research capacity (eTable 2 in the Supplement). This rating is assigned to each station based on the classification of the parent facility within the station. To assess the geographic location of each VHA station, we used the Census Bureau classification of US Regions and Divisions. eTable 3 in the Supplement summarizes covariate descriptions.

### Outcomes

Across each race and ethnicity category, we assessed the prevalence of SGLT2i and GLP-1 RA prescription, defined as any active prescription, including VHA formulary and non-formulary medications, from January 1, 2019, through December 31, 2020. For SGLT2i, ertugliflozin, canagliflozin, dapagliflozin, and empagliflozin were evaluated. For GLP-1 RA, semaglutide, liraglutide, albiglutide, and dulaglutide were evaluated because they have demonstrated protective cardiovascular effects. Only empagliflozin and semaglutide are included in the VHA national formulary; however, clinicians can prescribe nonformulary medications with prior authorization.

### **Statistical Analysis**

The association of race and ethnicity categories with SGLT2i and GLP-1 RA prescription was examined using multilevel, multivariable mixed-effect models with VHA stationspecific random intercepts. Adjusted odds ratios (ORs) were calculated from models that specified a binomial distribution with a logit link function and included station-specific random effects following previously published methods.<sup>19</sup> The models were 2 level, with individual patients clustered within VHA stations. To estimate prescription prevalence, we fitted 4 sequential multilevel models separately for SGLT2i and GLP-1 RA prescription: (1) a model with only the VHA station random intercept; (2) a model that added patient-level demographic characteristics; (3) a model adding patient-level clinical characteristics; and (4) a final model adding VHA station-level characteristics: facility complexity rating and Census division.

Age-adjusted rates of SGLT2i and GLP-1 RA prescription across race and ethnicity groups were calculated using

predicted probabilities from multilevel logistic models that included a random intercept with race and ethnicity categories as predictors.<sup>20</sup> Absolute risk differences were calculated from the sequential multilevel logistic regression models with conditional predicted probabilities for each race and ethnicity group, age set to the mean value, and balanced levels for categorical covariates so that all levels within a given covariate were equal. The differences from those predicted probabilities (absolute risk differences) were calculated, comparing all other race groups with White patients and Hispanic patients with non-Hispanic patients. Overall model discrimination was assessed with C-statistic calculations for models that included random intercepts and patient-level characteristics and for models that added system-level characteristics.

Analyses comparing SGLT2i and GLP-1 RA prescription within each race category vs White race and among Hispanic vs non-Hispanic ethnicity were conducted, stratifying by patient- and system-level characteristics. For all models, adjusted ORs were obtained using multivariable logistic regression. Because of the potential for type I error from multiple comparisons, findings for these analyses should be interpreted as exploratory. Additional analyses calculated incident prescription rates (eAppendix in the Supplement) using regression models that adjusted for age, sex, race, ethnicity, and CKD status and specified a Poisson distribution with a log link function.

To assess the relative contribution of the VHA stationlevel characteristics to overall prescription, we calculated the median ORs and the intraclass correlation coefficient (ICC). The median OR allows for quantifying heterogeneity between clusters.<sup>19,21,22</sup> It compares the prescription prevalences between individuals from VHA stations with different prescription prevalences but same patient-level covariate values. The ICC is the relative proportion of cluster variance to total variance (ie, higher ICC signifies larger variability attributable to VHA station differences). ICCs were first calculated for the null models to estimate the proportion of SGLT2i and GLP-1 RA prescription variation attributable to the VHA stations. Subsequently, we calculated ICCs for VHA stations in models that adjusted for patient-level characteristics.

When missing data were present, an indicator variable denoted as "unknown" was entered in the regression models. All primary and secondary analyses of the study outcomes used 2-sided testing and an  $\alpha$  = .05. All statistical analyses were conducted using SAS software version 9.4.6 of the SAS system for Unix (SAS Institute Inc). Sensitivity analyses are described in the eAppendix in the Supplement. Tolerances for assessment of multicollinearity were greater than 0.1 and all variance inflation factors less than 2.2. The ratio of the Pearson  $\chi^2$  was less than 1, indicating properly modeled variability.

### Results

The study sample comprised 1197 914 patients with type 2 diabetes, of whom 10.7% and 7.7% were prescribed an SGLT2i or a GLP-1 RA, respectively (eFigure 2 in the Supplement). The mean (SD) age of the sample was 68 (10) years, and 96% were

male. Race and ethnicity categories were distributed as follows: 1% American Indian or Alaska Native; 2% Asian, Native Hawaiian, or Other Pacific Islander; 20% Black; 71% White; and 7% of Hispanic ethnicity (**Table**). The frequency of missing data was low (<5%) across most covariates, and missing data did not significantly differ between racial or ethnic categories.

# Race and Ethnicity Differences in the Prescription of SGLT2i and GLP-1 RA

The crude proportions with prescription for SGLT2i and GLP-1 RA, respectively, were 11% and 8.4% among American Indian or Alaska Native patients; 11.8% and 8.0% among Asian, Native Hawaiian, or Other Pacific Islander patients; 8.8% and 6.1% among Black patients; 11.3% and 8.2% among White patients; 11.5% and 8.7% among multiracial patients; and 10% and 7% among patients with unknown race. Prescription rates for SGLT2i and GLP-1 RA, respectively, were 11% and 7.1% among Hispanic patients and 10.7% and 7.8% among non-Hispanic patients. In age-adjusted models, absolute prescription rates for SGLT2i and GLP-1 RA, respectively, were 8.3% (95% CI, 7.4%-9.2%) and 8.5% (95% CI, 7.4%-9.6%) among American Indian or Alaska Native patients; 8.6% (95% CI, 7.8%-9.5%) and 6.9% (95% CI, 6.1%-7.8%) among Asian, Native Hawaiian, or Other Pacific Islander patients; 6.8% (95% CI, 6.2%-7.5%) and 6.3% (95% CI, 5.6%-7.0%) among Black patients; 9.6% (95% CI, 8.7%-10.5%) and 9.5% (95% CI, 8.5%-10.5%) among White patients; 8.4% (95% CI, 7.5%-9.4%) and 8.7% (95% CI, 7.6%-9.8%) among multiracial patients; and 8.5% (95% CI, 7.7%-9.3%) and 7.9% (95% CI, 7.0%-8.8%) among patients of unknown race. In age-adjusted models, absolute prescription rates for SGLT2i and GLP-1 RA were 8.3% (95% CI, 7.5%-9.1%) and 7.7% (95% CI, 6.8%-8.5%) among Hispanic patients and 8.6% (95% CI, 7.8%-9.4%) and 8.1% (95% CI, 7.2%-8.9%) among non-Hispanic patients, respectively.

All racial groups had statistically significant lower odds and absolute risk differences of SGLT2i and GLP-1 RA prescription compared with White individuals after adjusting for patient- and system-level characteristics (Figure 1 and Figure 2; eFigures 3 and 4 in the Supplement). Compared with White patients, the odds of prescription for SGLT2i and GLP-1 RA, respectively, were 0.85 (95% CI, 0.80-0.92) and 0.89 (95% CI, 0.82-0.97) for American Indian or Alaska Native patients; 0.95 (95% CI, 0.91-1.0) and 0.80 (95% CI, 0.76-0.85) for Asian, Native Hawaiian, or Other Pacific Islander patients; 0.72 (95% CI, 0.71-0.74) and 0.64 (95% CI, 0.63-0.66) for Black patients; 0.88 (95% CI, 0.82-0.94) and 0.90 (95% CI, 0.83-0.97) for multiracial patients; and 0.92 (95% CI, 0.90-0.95) and 0.87 (95% CI, 0.84-0.91) for patients of unknown race. The absolute risk differences for SGLT2i and GLP-1 RA prescription, respectively, were -1.8% (95% CI, -2.5% to -1.0%) and -1.0% (95% CI, -1.7% to -0.3%) for American Indian or Alaska Native patients; -0.5% (95% CI, -1.1% to 0%) and -1.9% (95% CI, -2.4% to -1.3%) for Asian, Native Hawaiian, or Other Pacific Islander patients; -3.4% (95% CI, -3.9% to -2.9%) and -3.4% (95% CI, -4.1% to -2.8%) for Black patients; -1.5% (95% CI, -2.3% to -0.7%) and -0.9% (95% CI, -1.6% to -0.2%) for multiracial patients; and -0.9% (95% CI, -1.3% to -0.5%) and -1.2% (95% CI, -1.6% to -0.8%)

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Figure 1. Association Between Race and Ethnicity Groups and Sodium-Glucose Cotransporter-2 Inhibitor (SGLT2i) Prescription With Sequential Adjustment for Patient- and System-Level Characteristics

Patients prescribed Adjusted odds ethnic group SGLT2i, No./total (%) ratio (95% CI)	Prescription Prescription less likely more likely
	-
can Indian or Alaska Native 1117/10127 (11.0)	-
nographic factors only 0.85 (0.80-0.9)	
itional patient-level characteristics 0.85 (0.80-0.92	<u></u>
itional system-level characteristics 0.85 (0.80-0.92	
Native Hawaiian, or Other Pacific Islander 2921/24663 (11.8)	<u>-</u>
nographic factors only 0.89 (0.85-0.93	;) <b>⊢∎</b> ⊢
itional patient-level characteristics 0.96 (0.91-1.00	
itional system-level characteristics 0.95 (0.91-1.00	<u> </u>
or African American 20618/234932 (8.8)	-
nographic factors only 0.69 (0.68-0.70	) 📕
itional patient-level characteristics 0.73 (0.71-0.74	)
itional system-level characteristics 0.72 (0.71-0.74	)
95959/850648 (11.3) 1 [Reference]	- -
acial 1122/9795 (11.5)	-
nographic factors only 0.87 (0.81-0.92	- ) ⊢∎⊣
itional patient-level characteristics 0.88 (0.82-0.94	) ⊢∎⊣
itional system-level characteristics 0.88 (0.82-0.94	)
wn race 6786/67749 (10.0)	-
nographic factors only 0.87 (0.84-0.90	) 📕
itional patient-level characteristics 0.92 (0.89-0.95	) 🛏
itional system-level characteristics 0.92 (0.90-0.95	) 🖃
,	
nic or Latino 9317/85 034 (11.0)	
nographic factors only 0.96 (0.94-0.99	) 📕
itional patient-level characteristics 0.90 (0.88-0.93	) 📕
itional system-level characteristics 0.90 (0.88-0.93	) 🛏
ispanic or Latino 115 189/1072 958 (10.7) 1 [Reference]	•
wn ethnicity 4017/39922 (10.1)	-
nographic factors only 0.95 (0.92-0.99	) +=+
itional patient-level characteristics 0.98 (0.94-1.02	) ⊨
itional system-level characteristics 0.98 (0.94-1.02	) ⊦∎⊦

The demographic factors only model includes age, sex, and self-identified race and ethnicity. The additional patient-level characteristics model includes demographic factors and zip code median income; zip code Social Deprivation Index; Veterans Health Administration (VHA) diabetes and service connection; rurality; smoking status; unhealthy alcohol use; hemoglobin A<sub>1C</sub> level; other antidiabetic agents; hypertension; body mass index; mental health diagnosis; atherosclerotic cardiovascular disease; heart failure; no chronic kidney disease; chronic kidney disease: estimated glomerular filtration rate and albuminuria categories; number of primary care, cardiology, endocrinology, and nephrology visits; VHA frailty index; and COVID-19 diagnosis. The additional system-level characteristics model includes VHA station parent facility-complexity level and US Census division.

for patients of unknown race. Compared with non-Hispanic ethnicity, the odds of prescription among Hispanic patients were 0.90 (95% CI, 0.88-0.93) for SGLT2i and 0.88 (95% CI, 0.85-0.91) for GLP-1 RA. Absolute risk differences were -1.1% (95% CI, -1.4% to -0.8%) for SGLT2i and -1.0% (95% CI, -1.3 to -0.7%) for GLP-1 RA.

# VHA System-Level Characteristics and SGLT2i and GLP-1 RA Prescription

Across VHA stations, the prescription prevalence ranged from 1.8% to 28.9% for SGLT2i and 1.1% to 20% for GLP-1 RA (eFigures 5 and 6 and eTable 4 in the Supplement for system-level characteristics). For a patient within a VHA station of higher vs lower likelihood for prescription of these medications, the adjusted median ORs were 1.72 (95% CI, 1.61-1.84) for SGLT2i

and 1.95 (95% CI, 1.79-2.14) for GLP-1 RA. The between VHA variance in prescription was low (adjusted ICC, 8.9% [95% CI, 7.0%-1.0%] for SGLT2i and 12.9% [95% CI, 10.2%-16.3%] for GLP-1 RA).

Figure 3 and Figure 4 show stratified analyses by patientand system-level characteristics for the comparison of prescriptions between Black vs White patients and between Hispanic vs non-Hispanic patients, respectively. Except among patients with concurrent diagnosis of heart failure, the results across these strata were qualitatively consistent with the overall findings; however, not all estimates reached statistical significance in the comparisons by ethnicity. eFigures 7, 8, 9, and 10 in the Supplement display the remaining comparisons.

Results of sensitivity analyses were consistent with the main findings, including those stratified by patients' site of

Figure 2. Association Between Race and Ethnicity Groups and Glucagon-like Peptide-1 Receptor Agonist (GLP-1 RA) Prescription With Sequential Adjustment for Patient- and System-Level Characteristics

Racial or ethnic group	Patients prescribed GLP-1 RA, No./total (%)	Adjusted odds ratio (95% CI)	Prescription less likely	Prescription more likely
Race				
American Indian or Alaska Native	852/10127 (8.4)			
Demographic factors only		0.89 (0.82-0.95)	⊢∎⊣	
Additional patient-level characteristics		0.89 (0.82-0.96)	⊢∎⊣	
Additional system-level characteristics		0.89 (0.82-0.97)	⊢∎⊣	
Asian, Native Hawaiian, or other Pacific Islander	1975/24663 (8.0)			
Demographic factors only		0.71 (0.67-0.75)	<b>⊢∎</b> -I	
Additional patient-level characteristics		0.80 (0.76-0.85)	⊨∎⊣	
Additional system-level characteristics		0.80 (0.76-0.85)	⊨∎⊣	
Black or African American	14371/234932 (6.1)			
Demographic factors only		0.64 (0.63-0.66)	•	
Additional patient-level characteristics		0.64 (0.63-0.66)	<b>H</b>	
Additional system-level characteristics		0.64 (0.63-0.66)	H	
White	69734/850648 (8.2)	1 [Reference]		
Multiracial	854/9795 (8.7)			
Demographic factors only		0.91 (0.84-0.98)	-∎-	
Additional patient-level characteristics		0.90 (0.83-0.97)	<b>⊢</b> ∎	
Additional system-level characteristics		0.90 (0.83-0.97)	<b>⊢</b> ∎	
Unknown race	4711/67749 (7.0)			
Demographic factors only		0.82 (0.79-0.85)	H=H	
Additional patient-level characteristics		0.87 (0.84-0.91)	H■H	
Additional system-level characteristics		0.87 (0.84-0.91)	H <b>a</b> -1	
thnicity				
Hispanic or Latino	6043/85034(7.1)			
Demographic factors only		0.95 (0.92-0.98)	H	
Additional patient-level characteristics		0.88 (0.85-0.91)	<del>≡</del>	
Additional system-level characteristics		0.88 (0.85-0.91)	H≡H	
Not Hispanic or Latino	83635/1072958(7.8)	1 [Reference]		
Unknown ethnicity	2819/39922 (7.1)			
Demographic factors only		0.99 (0.95-1.04)	H.	1
Additional patient-level characteristics		1.03 (0.98-1.08)	H	H
Additional system-level characteristics		1.03 (0.98-1.08)	H	н
		Q	.6 1	

The demographic factors only model includes age, sex, and self-identified race and ethnicity. The additional patient-level characteristics model includes demographic factors and zip code median income; zip code Social Deprivation Index; Veterans Health Administration (VHA) diabetes and service connection; rurality; smoking status; unhealthy alcohol use; hemoglobin A<sub>1C</sub> level; other antidiabetic agents; hypertension; body mass index; mental health diagnosis; atherosclerotic cardiovascular disease; heart failure; no chronic kidney disease; chronic kidney disease: estimated glomerular filtration rate and albuminuria categories; number of primary care, cardiology, endocrinology, and nephrology visits; VHA frailty index; and COVID-19 diagnosis. The additional system-level characteristics model includes VHA station parent facility-complexity level, US Census division.

primary care and distance to a VHA facility, those that defined the outcome as 2 prescriptions per year, and those that only assessed incident prescriptions (eTables 5, 6, 7, 8, and 9 and eFigures 11, 12, 13, and 14 in the Supplement). The results from these analyses are summarized in the eAppendix in the Supplement.

### Discussion

In this cross-sectional analysis of SGLT2i and GLP-1 RA prescription among more than 1 million patients with type 2 diabetes, prescription rates were low across all racial and ethnic groups. Compared with White patients, those of all other racial groups had significantly lower odds of prescription of these medications. Patients of Hispanic ethnicity had significantly lower odds of these prescriptions compared with non-Hispanic patients, even after accounting for individual- and system-level factors.

These results are consistent with recent research that found low prescription rates of SGLT2i and GLP-1 RA among racial and ethnic minority groups in commercial and Medicare Advantage health plans.<sup>8,9</sup> Given the high cost-sharing for these medications,<sup>10</sup> this study extends these findings to the VHA where the financial constraints impeding medication access are minimized. Consistent with these analyses and other recent research,<sup>23,24</sup> the absolute rates of prescription in this study were low even for patients with concomitant atherosclerotic cardiovascular disease (ASCVD), heart failure, or CKD, the 3 conditions for which guidelines recommend SGLT2i

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### Figure 3. Prescription of Sodium-Glucose Cotransporter-2 Inhibitor (SGLT2i) and Glucagon-like Peptide-1 Receptor Agonist (GLP-1 RA) Comparing Black vs White Patients Across Patient- and System-Level Characteristics

9. y	A SGLT2i prescription			Less More	B GLP-1 RA pr		Less
-75       920560 (23.3)       0.75 0(7-0.77)       #       920550 (8.8)       0.67 0(66-06)       #         Street       1144499 (10.8)       0.72 (10.77)       #       920550 (8.8)       0.67 0(66-06)       #         Street       1144499 (10.8)       0.72 (10.77)       #       94157(11.0)       0.81 (0.72-0.83)       #         Street       657071 (6.8)       0.61 (0.59-0.63)       #       94157(11.0)       0.81 (0.59-0.63)       #         Street       920550 (8.8)       0.67 (0.71 (6.8)       0.61 (0.59-0.63)       #       #         Street       920550 (8.8)       0.67 (0.50 (0.51-0.67)       #       950421 (20.1)       0.51 (0.59-0.63)       #         Street       920550 (8.8)       0.67 (0.50 (0.51-0.67)       #       950421 (20.1)       0.55 (0.61-0.66)       #         Street       920550 (8.8)       0.61 (0.59-0.67)       #       920550 (8.8)       0.61 (0.51-0.67)       #         Street       920550 (8.8)       0.61 (0.51-0.67)       #       920550 (8.8)       0.61 (0.51-0.67)       #       #       920550 (8.8)       0.61 (0.51-0.67)       #       #       #       #       #       #       #       #       #       #       #       #       #       #	ubgroup	No. (% SGLT2i)	aOR (95% CI)	likely likely	No. (% GLP-1 RA	A) aOR (95% CI)	likely
275       27254 (5.3)       0.72 (0.76-0.77)       Image: Connection of the Conn					/>	/	
X         The set of th				<b>—</b>			
Male       1149499 (10.8)       0.72 (07.9-73)       H       Itel 4415 (0.8)       Itel 4415 (0.8)       H         rore concents       500 (10.2)       0.84 (0.7-0.20)       500 (10.2)       0.84 (0.7-0.20)       10.20 (10.2)       <		277354 (5.5)	0.72 (0.67-0.77)	├╼┤	277354(4.2)	0.66 (0.61-0.71)	-■
Finale         4415 (12, 08)         0.74 (07.0.92)         Image: Control of the second sec							
sindle       5:30 - 10 (s)       0.70 (0.48 - 0.72)       Im         side       5:70 (1.6.8)       0.61 (0.59 - 0.63)       Im         side       0.72 (0.48 - 0.72)       Im       5:40 - 0.63 (0.61 - 0.69)       Im         side       0.73 (0.71 - 0.72)       Im       5:40 - 0.63 (0.61 - 0.69)       Im         No       0.88 - 0.88 (0.10)       0.73 (0.71 - 0.72)       Im       5:40 - 0.63 (0.61 - 0.69)       Im         Number malky       7:45 - 0.73 (0.71 - 0.72)       Im       5:40 - 0.65 (0.61 - 0.66)       Im         Quartile 1 - 5:45 - 0.43 (0.72 - 0.72)       Im       2974 (2.61 - 0.65 (0.61 - 0.67)       Im         Quartile 1 - 5:45 - 0.40 (0.727 - 0.72)       Im       2974 (2.61 - 0.65 (0.62 - 0.68)       Im         Quartile 1 - 5:45 - 0.40 (0.727 - 0.72)       Im       2974 (2.61 - 0.65 (0.62 - 0.68)       Im         Quartile 2 - 5:45 - 0.72 (0.10 - 0.72)       Im       2974 (2.61 - 0.65 (0.62 - 0.68)       Im         Quartile 2 - 2:45 - 0.72 (0.72 - 0.72)       Im       2974 (2.61 - 0.65 (0.62 - 0.68)       Im         Quartile 2 - 2:45 - 0.72 (0.72 - 0.72)       Im       2974 (2.7 - 0.65 (0.62 - 0.68)       Im         Quartile 2 - 2:45 - 0.72 (0.72 - 0.72)       Im       2974 (2.7 - 0.65 (0.62 - 0.68)       Im         Quartile 2 - 2:47 (0.7 (0.6 - 0.72)	Male	1149499 (10.8)	0.72 (0.70-0.73)	<b>H</b>	1149499 (7.6)	0.63 (0.61-0.64)	
-50       5707 (0.8)       0.70 (0.840 - 0.72)       Imi         50       50043 (1.10)       0.74 (0.72 - 0.70)       Imi         101       0.716 (2.50 - 0.70 (0.840 - 0.72)       Imi       30056 (0.50 - 0.65) (0.640 - 0.65)       Imi         101       0.916 (0.12 - 0.70 (0.640 - 0.72)       Imi       30056 (0.50 - 0.65) (0.641 - 0.65)       Imi         101       0.916 (0.12 - 0.70 (0.640 - 0.72)       Imi       30056 (0.50 - 0.65) (0.641 - 0.65)       Imi         102 contential income       592 (0.12 - 0.70)       Imi       30056 (0.50 - 0.65) (0.64 - 0.65)       Imi         102 contential income       592 (0.12 - 0.70)       Imi       292 (0.12 - 0.64 (0.61 - 0.67)       Imi         102 contential income       592 (0.12 - 0.70)       Imi       292 (0.12 - 0.64 (0.61 - 0.67)       Imi         102 contential income       102 (0.0 - 0.72)       Imi       292 (0.1 - 0.64 (0.65 - 0.65)       Imi         102 contential income       102 (0.0 - 0.72)       Imi       292 (0.1 - 0.66 (0.62 - 0.68)       Imi         102 contential income       102 (0.0 - 0.72)       Imi       292 (0.1 - 0.76)       Imi         102 contential income       102 (0.0 - 0.72)       Imi       292 (0.1 - 0.66 (0.62 - 0.68)       Imi         102 conteo income       102 (0.0 - 0.72)	Female	48415 (9.8)	0.84 (0.77-0.92)	⊢∎⊣	48415 (11.0)	0.81 (0.74-0.88)	┝╼═─┤
250       50043 (11.9)       0.74 (0.72-0.75)       M         Yee       50066 (12.8)       0.70 (0.06 (0.73)       H         Yee       50066 (12.8)       0.70 (0.06 (0.73)       H         Monal Might Yund       45 543 (10.6)       0.71 (0.71-0.75)       H         Monal Might Yund       45 543 (10.6)       0.76 (0.75-0.79)       H         Monal Might Yund       45 543 (10.6)       0.76 (0.75-0.79)       H         Prode median income, 5       Outrite 1: -44 594 540 (0.0)       0.76 (0.75-0.79)       H         Quartite 2: 44 94 548 (20.9)       0.76 (0.75-0.79)       H       2954 68 (6.6)       0.64 (0.65-0.65)       H         Quartite 2: 44 94 54 62       0.77 (0.10, 0.67 (0.72)       H       2974 78 (2.2)       0.66 (0.65-0.65)       H         Quartite 2: 328 68 (0.6)       0.76 (0.7-0.72)       H       2974 78 (2.2)       0.65 (0.65-0.65)       H         Quartite 2: 328 68 (0.0)       0.70 (0.7-0.72)       H       2974 77 (2.4)       0.66 (0.65-0.65)       H       H         Quartite 2: 328 68 (0.0)       0.72 (0.67 (0.72)       H       298107 (4.6)       0.66 (0.65-0.65)       H       H         Quartite 2: 328 68 (0.0)       0.70 (0.7-0.73)       H       298107 (1.0, 0.66 (0.65-0.65)       H       H	ervice connected, %						
prince constrain of dilaters       method in the important of the im	<50	657071(9.8)	0.70 (0.68-0.72)	H	657071 (6.8)	0.61 (0.59-0.63)	H <del>an</del> i
Vec         000 (66 (2.2)         0.70 (0.64-0.73)         Hei         301066 (6.6)         0.63 (0.61-0.65)         Hei           attent ratity	≥50	540843 (11.9)	0.74 (0.72-0.76)		540843 (8.9)	0.66 (0.64-0.69)	
No         Bit Horizontal Life         Bit Horizontal Life <tht< td=""><td>ervice connection for diabet</td><td>es</td><td></td><td></td><td></td><td></td><td></td></tht<>	ervice connection for diabet	es					
No.         895648 (100)         0.71 (0.71-0.75)         M           Burg/Hightyrund         447543 (7.8)         0.64 (0.61-0.67)         H           Burg/Hightyrund         447543 (7.8)         0.64 (0.61-0.67)         H           Doratine 1: 424 943         296488 (6.3)         0.76 (0.73-0.72)         H           Doratine 1: 424 943         296488 (6.3)         0.76 (0.73-0.72)         H           Duritie 1: 424 943         297874 (1.12)         0.71 (0.75-0.72)         H           Duritie 1: 424 943         297874 (1.12)         0.71 (0.75-0.72)         H           Duritie 1: 426 943         297974 (1.2)         0.71 (0.65-0.72)         H           Duritie 1: 426 943         297974 (1.2)         0.71 (0.65-0.72)         H           Duritie 1: 426 943         297974 (1.2)         0.71 (0.65-0.72)         H           Duritie 1: 426 943         0.84 (0.74-0.82)         H         297974 (3.4)         0.55 (0.62-0.66)           Quritie 2: 4983 (7.40         0.72 (0.65-0.72)         H         297974 (7.3)         0.66 (0.61-0.7)           No         307 467 (1.40)         0.72 (0.7-0.72)         H         29797 (7.3)         0.65 (0.62-0.60)           No         597 187 (7.13)         0.65 (0.62-0.7)         H         29999 (1.03)	Yes	301066 (12.8)	0.70 (0.68-0.73)	H∎H	301066 (9.6)	0.63 (0.61-0.66)	H∎H
Print analy         Print and a stress of the stress o				· · · · · · · · · · · · · · · · · · ·		. ,	
Hand/Haging/unit         447543 (1.5)         D.71 (0.56-0.72)         Her           prode-media income, 3         Quartile 1: 44914 (3.6)         0.71 (0.72-0.75)         Her           prode-media income, 3         Quartile 1: 44914 (3.6)         0.76 (0.72-0.75)         Her           Quartile 1: 44914 (3.6)         0.76 (0.73-0.75)         Her         29543 (5.7)         0.55 (0.53-0.67)         Her           Quartile 1: 44914 (3.6)         0.71 (0.72-0.75)         Her         29543 (5.7)         0.56 (0.50-0.67)         Her           Quartile 1: 2014 (3.6)         0.71 (0.56-0.72)         Her         29543 (5.7)         0.56 (0.50-0.66)         Her           Quartile 1: 2014 (3.6)         0.70 (0.56-0.72)         Her         29547 (7.1)         0.56 (0.50-0.66)         Her           Quartile 1: 2034 (7.1)         0.71 (0.56 (0.7-0.73)         Her         295947 (7.1)         0.56 (0.50-0.67)         Her           Quartile 2: 2054 (3.10.0)         0.72 (0.57-0.73)         Her         295947 (7.1)         0.67 (0.55-0.70)         Her           Quartile 2: 2054 (3.60-0.0)         0.72 (0.56-0.73)         Her         295947 (7.1)         0.67 (0.56-0.65)         Her           Quartile 2: 2054 (3.60-0.0)         0.72 (0.56-0.73)         Her         295947 (7.1)         0.65 (0.50-0.60)         Her		000010(10.0)	0.75 (0.72 0.75)	-	000010(/11)	0.05 (0.05 0.00)	1-1
Uthan         746651 (128)         0.73 (0.72-0.75)         M           Optimile : 443 943         296648 (6.5)         0.75 (0.73-0.76)         M           Optimile : 443 943         296648 (6.5)         0.75 (0.73-0.76)         M           Optimile : 443 943         296468 (6.5)         0.75 (0.73-0.76)         M           Optimile : 443 943         296468 (6.5)         0.75 (0.73-0.76)         M           Optimile : 443 943         296468 (6.5)         0.75 (0.75-0.70)         M           Optimile : 443 943         296478 (1.4)         0.71 (0.56-0.73)         M           Outritie : 297397 (1.8)         0.71 (0.67-0.72)         M         297397 (1.4)         0.65 (0.62-0.65)           Optimile : 297397 (1.4)         0.72 (0.67-0.72)         M         28673 (7.7)         0.61 (0.52-0.65)           Optimile : 297397 (1.4)         0.72 (0.67-0.72)         M         287747 (7.1)         0.57 (0.65-0.65)           Yes         39991 (1.47)         0.84 (0.74-0.83)         M         29991 (1.2)         0.65 (0.61-0.71)           Yes         79991 (1.47)         0.84 (0.74-0.83)         M         29991 (1.2)         0.65 (0.61-0.71)           Yes         79991 (1.47)         0.84 (0.74-0.83)         M         29991 (1.2)         0.65 (0.61-0.71)		447543 (10.6)	0 71 (0 68-0 74)	Les	117513 (7.8)	0.64 (0.61-0.67)	
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Quartile 1: 44943         296-468 (6.5)         0.76 (0.75-0.72)          =            Quartile 1: 44943         296-468 (6.5)         0.76 (0.75-0.72)          =            Quartile 1: 44943         297-47 (8.2)         0.64 (0.61-0.67)          =            Quartile 1: 45943         297-97 (8.2)         0.64 (0.61-0.67)          =            Quartile 1: 45943         297-97 (8.2)         0.64 (0.61-0.67)          =            Quartile 1: 45943         297-97 (8.2)         0.64 (0.61-0.67)          =            Quartile 1: 298-980 (1.04)         0.70 (0.67-0.73)          =          298-30 (8.4)         0.64 (0.61-0.67)           Quartile 1: 299-991 (1.47)         0.84 (0.78-0.87)          =          298-30 (8.4)         0.63 (0.65-0.64)           No         830-447 (7.2)         0.54 (0.62-0.65)          =          1117923 (1.4)         0.80 (0.77-0.33)           Strip         7.70 (1.40, 0.72 (0.69-0.75)          =          307-47 (7.4)          =            Yes         7.9991 (1.47)         0.84 (0.78-0.89)          =          31013 (1.0.80 (0.62 (0.61-0.71))           No         830-447 (7.2)         0.54 (0.62-0.65)          =          31013 (1.0.81 (0.62 (0.61-0.71))           Yes         7.9991 (1.47)         0.84 (0.78-0.89)          =          31031 (1.0.81 (		740051 (10.6)	0.75 (0.72-0.75)	-	740051(7.7)	0.05 (0.05-0.07)	
Quartile 2: 44 943-54 820 297425 (10.5)         0.70 (0.57-0.72)          =            Quartile 2: 44 943-64 002 397427 (11.8)         0.71 (0.58-0.73)          =            Quartile 1: 2983 07 (11.7)         0.68 (0.55-0.71)          =          297745 (2.2)         0.64 (0.65-0.66)          =            Quartile 1: 2983 07 (11.7)         0.68 (0.55-0.71)          =          297847 (8.2)         0.64 (0.65-0.66)          =            Quartile 2: 39247 (11.0)         0.71 (0.58-0.74.79)          =          297847 (8.4)         0.64 (0.65-0.66)          =            Quartile 2: 39247 (11.0)         0.76 (0.74.0.79)          =          297847 (8.4)         0.64 (0.65-0.66)          =            Quartile 2: 39247 (11.0)         0.76 (0.74.0.79)          =          297847 (11.0, 0.74 (0.59-0.72)          =            Quartile 2: 39247 (12.0)         0.76 (0.74.0.79)          =          297847 (11.0, 0.74 (0.59-0.72)          =            Yeis         79991 (12.0)         0.66 (0.61-0.71)          =          297947 (11.0, 0.66 (0.61-0.71)          =            Yeis         79991 (12.0)         0.66 (0.76 0.78)          =          299996 (0.51 0.020 (0.59 0.65)          =            Yeis         31031 (11.4)         0.80 (0.77 - 0.81)          =          299996 (0.51 0.020 (0.59 0.65)          =		205 450 (0.5)	0.76 (0.72, 0.70)		205 452 (5 5)	0.64 (0.62, 0.67)	
Quartile 3: 54 821-69 460 297974 (11.2)         0.73 (0.75-0.76)         Image: Second Deprivation Index           Quartile 4: 297674 (8.2)         0.64 (0.61-0.67)         Image: Second Deprivation Index           Quartile 2: 3046493 (11.1)         0.71 (0.68-0.73)         Image: Second Deprivation Index           Quartile 2: 3046493 (11.1)         0.71 (0.68-0.73)         Image: Second Deprivation Index           Quartile 2: 3046493 (11.1)         0.71 (0.68-0.73)         Image: Second Deprivation Index           Quartile 4: 287747 (12.0)         0.72 (0.69-0.72)         Image: Second Deprivation Index           Quartile 4: 287747 (12.0)         0.72 (0.76-0.73)         Image: Second Deprivation Index           Quartile 4: 287747 (12.0)         0.72 (0.76-0.74)         Image: Second Deprivation Index           Yes:         307467 (14.0)         0.72 (0.76-0.73)         Image: Second Deprivation Index           Yes:         331 (11.4)         0.80 (0.77-0.83)         Image: Second Deprivation Index           Yes:         331 (11.4)         0.80 (0.77-0.83)         Image: Second Deprivation Index           Yes:         331 (11.4)         0.80 (0.77-0.83)         Image: Second Deprivation Index           Yes:         331 (11.4)         0.80 (0.77-0.83)         Image: Second Deprivation Index           Yes:         331 (11.4)         0.80 (0.77-0.83)				H=H			
Quartile 4: >69 460         297 947 (11.8)         0.71 (0.58 0.73)         Het         297 947 (8.4)         0.65 (0.52 - 0.65)         Het           Quartile 1         298 307 (1.7)         0.68 (0.55 - 0.71)         Het         298 307 (8.4)         0.64 (0.60 - 0.65)         Het           Quartile 2         236 453 (1.0.4)         0.70 (0.57 - 0.73)         Het         286 30 (1.7)         0.61 (0.58 - 0.64)         Het           Quartile 2         237 447 (1.40)         0.77 (0.57 - 0.74)         Het         287 447 (7.1)         0.67 (0.56 - 0.67)         Het           Quartile 3         236 453 (1.40)         0.77 (0.57 - 0.75)         Het         287 447 (7.1)         0.67 (0.56 - 0.67)         Het           Yeis         79991 (1.40)         0.77 (0.57 - 0.89)         Het         297 467 (8.4)         0.66 (0.5 - 0.7)         Het           Yeis         79991 (1.0.2)         0.66 (0.5 - 0.67)         Het         297 47 (7.1)         0.67 (0.56 - 0.67)         Het           Yeis         79991 (1.0.2)         0.66 (0.5 - 0.67)         Het         297 47 (7.1)         0.67 (0.56 - 0.67)         Het           Yeis         310 31 (1.4)         0.80 (0.77 - 0.33)         Het         119 236 (4.0 (0.5 - 0.65)         Het         119 236 (4.0 (0.5 - 0.65)         Het         119 236 (4.0 (0.	Quartile 2: 44 943-54 820	297 425 (10.5)		┝═┤	297425 (7.7)		
pr cde Social Deprivation Index Quartile 1 29307 (11.7) 0.68 (0.65-0.71) Quartile 2 304649 (11.1) 0.71 (0.68-0.75) Hei Quartile 3 286830 (10.4) 0.70 (0.67-0.73) Hei Quartile 4 287747 (2.1) 0.67 (0.65-0.70) Hei Quartile 4 287747 (2.1) 0.67 (0.65-0.70) Hei Social Social Control (10.67-0.73) Hei Social	Quartile 3: 54 821-69 460	297874 (11.2)	0.73 (0.70-0.76)	- <b>■</b> -	297874 (8.2)	0.64 (0.61-0.67)	┝═┥
Quartile 1         298 307 (11.7)         0.68 (0.65-0.71)         ++           Quartile 3         266 630 (11.0)         0.70 (0.67-0.73)         ++           Quartile 3         266 630 (10.4)         0.70 (0.67-0.73)         ++           Quartile 4         287 374 (7.1)         0.61 (0.58-0.64)         +++           Quartile 4         287 374 (7.1)         0.61 (0.58-0.64)         +++           Quartile 4         287 374 (7.1)         0.61 (0.58-0.64)         +++           Quartile 3         286 30 (7.7)         0.61 (0.58-0.64)         +++           Quartile 4         287 374 (7.1)         0.65 (0.65-0.70)         +++           Quartile 3         286 30 (7.7)         0.65 (0.62-0.66)         +++           P3991 (14.7)         0.84 (0.78-0.83)         +++         1117232 (1.4)         0.60 (0.62-0.66)         +++           110 723 (7.4)         0.64 (0.62-0.66)         +++         114723 (7.1)         0.65 (0.62-0.66)         +++           260 G F5 180 (7.1)         0.60 (0.61-0.71)         +++         111723 (7.4)         0.64 (0.62-0.66)         +++           261 G F5 180 (7.1)         0.60 (0.65-0.72)         +++         125 45 (6.9)         0.65 (0.62-0.62)         +++           260 G L Manurun 45 (10.8)         0.72 (0.69-0.73	Quartile 4: >69 460	297947 (11.8)	0.71 (0.68-0.73)	H∎H	297947 (8.4)	0.65 (0.62-0.68)	⊦≡⊣
Quartile 1         298 307 (11.7)         0.68 (0.65-0.71)         I=I           Quartile 2         298 635 (11.0)         0.70 (0.57-0.73)         I=I           Quartile 3         286 635 (11.0)         0.70 (0.57-0.73)         I=I           Quartile 4         287 374 (7.1)         0.51 (0.58-0.64)         I=I           Quartile 3         286 635 (10.4)         0.72 (0.69-0.75)         I=I         286 330 (7.7)         0.65 (0.58-0.64)         I=I           CVD							
Quartile 2         304649 (11)         0.71 (0.58-0.75)          +            Quartile 3         286830 (11)         0.72 (0.58-0.74)          +            Quartile 4         287747 (2.9)         0.67 (0.57-0.73)          +            Quartile 3         287747 (2.9)         0.67 (0.55-0.70)          +            Yes         307457 (14.0)         0.72 (0.59-0.75)          +          287747 (7.1)         0.66 (0.52-0.67)           Yes         79991 (12.0)         0.66 (0.61-0.71)          +          287747 (7.1)         0.66 (0.61-0.71)           No         1117923 (1.40         0.84 (0.79-0.88)          +          29991 (12.0)         0.66 (0.61-0.71)           No         1117923 (1.41         0.80 (0.77-0.83)          +          299991 (12.0)         0.66 (0.61-0.71)           No         56 18 71 (15.0)         0.70 (0.68-0.72)          +          299991 (12.0)         0.66 (0.61-0.71)           Vicio Lidney diseue         56 17 10 (15.0)         0.70 (0.68-0.72)          +          299991 (12.0)         0.66 (0.61-0.71)           Vicio Lidney diseue         56 17 10 (15.0)         0.70 (0.68-0.72)          +          299991 (12.0)         0.66 (0.61-0.71)           Vicio Lidney diseue         56 16 10 (10.0)         0.70 (0.69-0.78)          +          2999			0.68 (0.65-0.71)	⊦≡⊣	298307 (8.4)	0.64 (0.60-0.68)	⊨∎⊣
Quartile 3 286830 (12) 40. 270 (0.57-0.73) Here 287747 (2) 0.61 (0.58-0.64) Here 287747 (2) 0.65 (0.58-0.70) Here 287747 (2) 0.65 (0.59-0.70) Here 2877474 (2) 0							
Quartile 4       287747 (2.9)       0.76 (0.74-0.79)       imit         Ves       307467 (14.0)       0.72 (0.57-0.75)       imit         Ves       307467 (14.0)       0.72 (0.71-0.74)       imit         ves       79991 (12.7)       0.84 (0.78-0.89)       imit         Non       1117923 (10.4)       0.84 (0.78-0.89)       imit         Non       567187 (1.1)       0.70 (0.65-0.70)       imit         Ves       331031 (11.4)       0.80 (0.77-0.83)       imit         Ves       331031 (11.6)       0.62 (0.65-0.70)       imit         Unknown       299696 (6.5)       0.72 (0.65-0.75)       imit         260       95160 (16.5)       0.77 (0.73-0.82)       imit         253       158 496 (1.9)       0.74 (0.65-0.72)       imit         2610 datumunia stage, mg/g							
SCVD							
Yes       307467 (14.0)       0.72 (0.69-0.75)       Het       307467 (14.0)       0.72 (0.71-0.74)         No       390447 (0.2)       0.65 (0.63-0.67)       Het       9991 (12.7)       0.66 (0.61-0.71)         No       1117923 (10.4)       0.84 (0.78-0.89)       Het       1117923 (7.4)       0.66 (0.61-0.71)         No       567187 (7.3)       0.64 (0.62-0.66)       Het       31031 (1.0.8)       0.62 (0.50-0.65)       Het         100 G GF stage, mL/min/L.73       T       299696 (8.5)       0.72 (0.69-0.75)       Het       31031 (1.08)       0.62 (0.57-0.66)       Het         260       95160 (1.65)       0.77 (0.73-0.82)       Het       31031 (1.08)       0.62 (0.57-0.66)       Het         15.44       76449 (0.0)       0.74 (0.73-0.82)       Het       95160 (1.18)       0.62 (0.57-0.66)       Het         15.47 (7.3)       0.64 (0.52-0.66)       Het       192096 (1.2.2)       0.62 (0.57-0.66)       Het         15.47 (7.3)       0.64 (0.62-0.66)       Het       192096 (1.2.2)       0.62 (0.57-0.66)       Het         15.47 (7.18)       0.77 (0.48.02)       Het       192096 (1.2.2)       0.62 (0.57-0.66)       Het         15.48 (7.40)       0.77 (0.48.02)       Het       192096 (1.2.2)       0.57 (0.65-0.72)		201141 (9.9)	0.70 (0.74-0.79)		20/14/(/.1)	0.07 (0.05-0.70)	r=1
No         S90447 (9.6)         0.72 (0.71-0.74)         Image: S90447 (7.2)         0.65 (0.63-0.67)         Image: S90447 (7.2)         0.65 (0.62-0.66)         Image: S90447 (7.2) <td></td> <td>207467 (14 0)</td> <td>0.72 (0.60.0.75)</td> <td>1=1</td> <td>207467 (0.4)</td> <td>0.02 (0.02 0.00)</td> <td>1 - 1</td>		207467 (14 0)	0.72 (0.60.0.75)	1=1	207467 (0.4)	0.02 (0.02 0.00)	1 - 1
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		. ,					
Yes       79991 (14.7) $0.44 (0.78-0.89)$ $117923 (1.24)$ $0.66 (0.61-0.71)$ $1117923 (1.24)$ $0.66 (0.61-0.71)$ Yes       331031 (1.14) $0.80 (0.77-0.83)$ $1117923 (1.24)$ $0.66 (0.61-0.71)$ $1117923 (1.24)$ $0.66 (0.61-0.71)$ No $567187 (1.15)$ $0.70 (0.68-0.72)$ $1117923 (1.24)$ $0.64 (0.62-0.66)$ $111992 (1.24)$ $0.64 (0.62-0.66)$ $111992 (1.24)$ $0.64 (0.62-0.66)$ $111992 (1.24)$ $0.64 (0.62-0.66)$ $111992 (1.24)$ $0.64 (0.62-0.66)$ $111992 (1.24)$ $0.64 (0.62-0.66)$ $111992 (1.24)$ $0.64 (0.62-0.66)$ $111992 (1.24)$ $0.64 (0.62-0.66)$ $11192 (1.24)$ $0.64 (0.62-0.66)$ $11192 (1.24)$ $0.62 (0.57-0.66)$ $11192 (1.24)$		890447 (9.6)	0.72 (0.71-0.74)	<b></b>	890447 (7.2)	0.65 (0.63-0.67)	
No       1117923 (10.4)       0.71 (0.69-0.72)       III 117923 (7.4)       0.64 (0.62-0.66)       III 117923 (7.4)       0.65 (0.62-0.66)       III 117923 (7.4)       IIII 117923 (7.4)       IIII 117923 (	eart failure						
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Yes	79991 (14.7)	0.84 (0.78-0.89)	⊨∎⊣	79991 (12.0)	0.66 (0.61-0.71)	┝╼═╾┥
$ \begin{array}{c} \mbox{ronic kidney disease} \\ \mbox{ronic ronic ronic rol ronic rol ronic kidney disease} \\ ronic ronic ronic ronic rol ronic roni$	No	1117923 (10.4)	0.71 (0.69-0.72)		1117923 (7.4)	0.64 (0.62-0.66)	
Yes       331031 (11.4)       0.80 (0.77-0.83)       I=I       331031 (0.8)       0.62 (0.59-0.65)       I=I         Vonkown       299696 (8.5)       0.72 (0.69-0.75)       I=I       299696 (5.1)       0.64 (0.62-0.66)       I=I         Vonkown       299696 (8.5)       0.72 (0.69-0.75)       I=I       299696 (5.1)       0.65 (0.62-0.66)       I=I         Vonkown       299696 (5.1)       0.65 (0.62-0.66)       I=I       299696 (5.1)       0.65 (0.62-0.66)       I=I         Vonkominuri stage, mg/a       No A (0.69-0.78)       I=I       95 167 (7.3 0.80)       I=I       299696 (5.1)       0.63 (0.58-0.69)       I=I         Vic0 Albuminuri stage, mg/a       No A (0.57-0.68)       I=I       126 (0.57-0.68)       I=I       126 (0.57-0.68)       I=I         Vic0 Albuminuri stage, mg/a       No A (0.52 (0.57-0.68)       I=I       126 (0.57-0.68)       I=I       126 (0.57-0.68)       I=I         Vic0 Albuminuri stage, mg/a       No A (0.57-0.68)       I=I       126 (0.57-0.68)       I=I       126 (0.57-0.68)       I=I       126 (0.57-0.68)       I=I       126 (0.50-0.67)       I=I       126 (0.50-0.67)       I=I       126 (0.50-0.72)       I=I       126 (0.50-0.72)       I=I       126 (0.50-0.72)       I=I       126 (0.50-0.72)       I=I       12	ronic kidnev disease						
No       567 187 (1.1.3)       0.70 (0.58-0.72)       Imit         Unknown       295 696 (6.5)       0.72 (0.69-0.75)       Imit         260       95 160 (16.5)       0.77 (0.73-0.82)       Imit         260       95 160 (11.8)       0.62 (0.57-0.66)       Imit         260       95 160 (11.8)       0.62 (0.57-0.66)       Imit         15.44       76 469 (6.0)       0.85 (0.76-0.95)       Imit       158 496 (10.9)       0.78 (0.71-0.83)         CAR 3:0       192 096 (13.2)       0.63 (0.58-0.69)       Imit       192 096 (12.2)       0.62 (0.57-0.66)       Imit         77       61 59 592 (4.7)       0.69 (0.66-0.71)       Imit       192 096 (12.2)       0.63 (0.66-0.66)       Imit         99       114 121 (22.1)       0.78 (0.77-0.84)       Imit       124 763 (16.9)       0.69 (0.66-0.72)       Imit         99       114 121 (22.1)       0.78 (0.75-0.81)       Imit       124 763 (16.5)       0.59 (0.65-0.62)       Imit         14 statutor curde rate of SLL 2/6 (11.8)       0.79 (0.76-0.80)       Imit       124 763 (16.5)       0.59 (0.65-0.73)       Imit         14 121 (12.6)       0.79 (0.76-0.80)       Imit       124 763 (16.5)       0.59 (0.65-0.73)       Imit         14 statutor curde rate of SLL 2		331031(114)	0.80 (0.77-0.83)	H <b>a</b> -l	331031(10.8)	0.62 (0.59-0.65)	H=-1
Unknown         299696 (6.3)         0.72 (0.69-0.75)         Heri           260         95 160 (16.5)         0.77 (0.73-0.82)         Heri           250         95 160 (16.5)         0.77 (0.73-0.82)         Heri           15-44         76 469 (6.0)         0.55 (0.76-0.69)         Heri           15-44         76 469 (12.2)         0.65 (0.62-0.69)         Heri           15-44         76 469 (12.2)         0.65 (0.62-0.69)         Heri           15-44         76 469 (12.2)         0.63 (0.58-0.69)         Heri           15-44         76 469 (12.2)         0.63 (0.58-0.69)         Heri           95 172 (9.9)         0.78 (0.77-0.84)         Heri         192096 (12.2)         0.63 (0.56-0.62)           16         192095 (12.2)         0.63 (0.56-0.62)         Heri         192096 (12.2)         0.63 (0.65-0.62)           17         8-9         124763 (21.8)         0.77 (0.79-0.80)         Heri         192095 (12.9)         0.63 (0.65-0.62)           10kinown         69991 (10.3)         0.64 (0.59-0.69)         Heri         124763 (15.9)         0.69 (0.66-0.72)           10kinown         6990 (16.6)         0.77 (0.79-0.80)         Heri         124763 (15.9)         0.59 (0.57-0.62)           10kinor rule cateof 52112/GLP-1			· · · ·			· · · ·	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				=-  	. ,		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			0.72 (0.05-0.75)	<b>1-</b> 1	233030(3.1)	0.03 (0.02-0.03)	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			0.77 (0.72, 0.02)	1 - 1	05460 (44.0)	0.62 (0.53.0.66)	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $				1 = 1			
$\begin{aligned} DiGG altominuria stage, mg/g \\ ACR < 30 & 95 172 (9.9) & 0.78 (0.71-0.85) \\ H = H \\ PS (7 & 6.19593 (4.7) & 0.69 (0.66-0.71) \\ S7 & 6.19593 (4.7) & 0.69 (0.66-0.71) \\ S7 & 8 & 269516 (14.8) & 0.72 (0.69-0.74) \\ S7 & 1.112 (22.1) & 0.78 (0.75-0.81) \\ S7 & 1.112 (22.1) & 0.77 (0.74-0.80) \\ S1 & 1.112 (22.1) & 0.71 (0.68-0.72) \\ S1 & 1.112 (22.1) & 0.71 (0.74-0.80) \\ S1 & 1.112 (22.1) & 0.71 (0.74-0.80) \\ S1 & 1.112 (22.1) & 0.71 (0.68-0.72) \\ S1 & 1.112 (22.1) & 0.71 (0.74-0.80) \\ S1 & 1.112 (22.1) & 0.71 (0.68-0.72) \\ S1 & 1.112 (22.1) & 0.71 (0.68-0.72) \\ S1 & 1.112 (22.1) & 0.71 (0.74-0.80) \\ S1 & 1.112 (22.1) & 0.71 (0.68-0.72) \\ S1 & 1.112 (22.1) & 0.71 (0.64-0.72) \\ S1 & 1.112 (22.1) & 0.71 (0.64-0.72) \\ S1 & 1.112 (22.1) & 0.71 (0.64-0.72) \\ S1 & 1.112 (22.1) & 0.72 (0.68-0.71) \\ S1 & 1.112 (22.1) & 0.73 (0.71-0.72) \\ S1 & 1.112 (22.1) & 0.73 (0.71-0.72) \\ S1 & 1.112 (22.1) & 0.73 (0.71-0.72) \\ S1 & 1.112 (22.0) & 0.57 (0.51-0.61) \\ S2 & 1.111 (22.1) & 0.73 (0.71-0.72) $				⊨∎⊣			⊢≡⊣
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	15-44	76469 (6.0)	0.85 (0.76-0.95)	┝╼╼┥┊	76469 (12.5)	0.62 (0.57-0.68)	├──╋──┤
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	DIGO albuminuria stage, mg	I/g					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	ACR <30	95172(9.9)	0.78 (0.71-0.85)	┝╼═╾┥	95172 (9.8)	0.63 (0.58-0.69)	┝╼═─┤
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	ACR ≥30	192096 (13.2)	0.80 (0.77-0.84)	<del>∎</del> -	192096 (12.2)	0.62 (0.59-0.65)	⊦ <del>_</del>
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	emoglobin A <sub>1</sub> , level, %						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		610503 (17)	0.69 (0.66-0.71)	La.I	619593 (2.9)	0.59 (0.56-0.62)	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			. ,				
>9       114121 (22.1)       0.78 (0.75-0.81)       Image: constraint of the second				1=1			
Unknown       69921 (10.3)       0.64 (0.59-0.69)       Image: constraint of the second sec							
HA station crude rate of SGLT2i/GLP-1 RA use       Image: Construct of SGLT2i/GLP-1 RA use       Image: Construct of SGLT2i/GLP-1 RA use         Quartile 1       308 798 (6.0)       0.69 (0.66-0.72)       Image: Construct of SGLT2i/GLP-1 RA use         Quartile 2       258332 (8.7)       0.69 (0.66-0.72)       Image: Construct of SGLT2i/GLP-1 RA use         Quartile 3       311188 (11.6)       0.73 (0.70-0.76)       Image: Construct of SGLT2i/GLP-1 RA use       Image: Construct of SGLT2i/GLP-1 RA use         Quartile 4       319596 (16.1)       0.77 (0.74-0.80)       Image: Construct of SGLT2i/GLP-1 RA use       Image: Construct of SGLT2i/GLP-1 RA use         1a       514986 (11.3)       0.75 (0.73-0.77)       Image: State of SGLT2i/GLP-1 RA use       Image: State of SGLT2i/GLP-1 RA use         1c       187144 (6,4)       0.75 (0.71-0.79)       Image: State of SGT3 (1.0, 0.66 (0.63-0.68)       Image: State of SGT3 (1.0, 0.63 (0.58-0.69)         2       156573 (1.1.3)       0.67 (0.63-0.72)       Image: State of SGT3 (1.0, 0.81 (0.77-0.36)       Image: SGT3 (1.0, 0.71 (0.64-0.78)				. F=1			. F=1
Quartile 1       308798 (6.0)       0.69 (0.66-0.72)       H=H       323924 (3.5)       0.60 (0.56-0.63)       H=H         Quartile 2       258332 (8.7)       0.69 (0.66-0.72)       H=H       291763 (6.5)       0.59 (0.57-0.62)       H=H         Quartile 3       311188 (1.6)       0.73 (0.70-0.76)       H=H       291763 (6.5)       0.59 (0.57-0.62)       H=H         Quartile 4       319596 (16.1)       0.77 (0.74-0.80)       H=H       257765 (12.9)       0.71 (0.68-0.74)       H=H         1a       514986 (7.4)       0.66 (0.63-0.68)       H=H       195689 (8.3)       0.62 (0.59-0.65)       H=H         1a       514986 (7.4)       0.66 (0.60-0.69)       H=H       195689 (8.3)       0.62 (0.59-0.65)       H=H         1c       187144 (9.4)       0.75 (0.71-0.79)       H=H       187144 (6.7)       0.64 (0.60-0.69)       H=H         2       156573 (11.3)       0.67 (0.63-0.62)       H=H       156573 (8.4)       0.63 (0.59-0.62)       H=H         2       156573 (11.3)       0.68 (0.63-0.74)       H=H       156573 (8.4)       0.66 (0.55-0.64)       H=H         2       1565148 (10.4)       0.72 (0.68-0.76)       H=H       156573 (8.4)       0.62 (0.57-0.68)       H=H         2       1565148 (1.0.			0.64 (0.59-0.69)	⊨∎⊣	69921 (5.8)	0.55 (0.49-0.62)	∎
Quartile 2       258 332 (8.7)       0.69 (0.66-0.72)       H=H       291763 (6.5)       0.59 (0.57-0.62)       H=H         Quartile 3       3111 188 (11.6)       0.73 (0.70-0.76)       H=H       324 462 (8.9)       0.65 (0.62-0.68)       H=H         Quartile 4       319596 (16.1)       0.77 (0.74-0.80)       H=H       257765 (12.9)       0.71 (0.68-0.74)       H=H         1a       514986 (11.3)       0.75 (0.73-0.77)       H=H       195689 (8.3)       0.66 (0.63-0.68)       H=H         1b       195689 (10.0)       0.69 (0.66-0.72)       H=H       195689 (8.3)       0.62 (0.59-0.62)       H=H         2       156573 (11.3)       0.67 (0.63-0.72)       H=H       195689 (8.3)       0.62 (0.59-0.68)       H=H         3       138277 (11.1)       0.63 (0.58-0.69)       H=H       138277 (8.8)       0.65 (0.59-0.72)       H=H         138277 (8.8)       0.65 (0.57-0.68)       H=H       138277 (8.8)       0.62 (0.57-0.68)       H=H         Middle Atlantic       101238 (9.4)       0.72 (0.68-0.78)       H=H       105573 (9.9)       0.72 (0.68-0.77)       H=H         Middle Atlantic       101238 (9.4)       0.63 (0.58-0.69)       H=H       101238 (7.9)       0.62 (0.57-0.68)       H=H         South Central							
Quartile 3       311188 (11.6)       0.73 (0.70-0.76)       Hert       324462 (8.9)       0.65 (0.62-0.68)       Hert         Quartile 4       319596 (16.1)       0.77 (0.74-0.80)       Hert       324462 (8.9)       0.65 (0.62-0.68)       Hert         Quartile 4       319596 (11.3)       0.75 (0.73-0.77)       Hert       514986 (7.4)       0.66 (0.63-0.68)       Hert         1a       514986 (11.3)       0.75 (0.71-0.79)       Hert       195689 (8.3)       0.62 (0.59-0.65)       Hert         1c       187144 (9.4)       0.75 (0.71-0.79)       Hert       195689 (8.3)       0.65 (0.62-0.68)       Hert         2       156573 (11.3)       0.67 (0.63-0.72)       Hert       195689 (8.3)       0.62 (0.59-0.65)       Hert         3       138277 (11.1)       0.63 (0.58-0.67)       Hert       136573 (8.4)       0.66 (0.63-0.68)       Hert         2       15573 (11.0)       0.81 (0.77-0.86)       Hert       138277 (8.8)       0.65 (0.59-0.72)       Hert         Mountain       91754 (9.4)       0.77 (0.66-0.88)       Hert       105573 (9.9)       0.72 (0.68-0.77)       Hert         92162       19       0.77 (0.66-0.87)       Hert       105573 (9.9)       0.72 (0.68-0.77)       Hert         Mountain		308798 (6.0)		H=H	323924 (3.5)	0.60 (0.56-0.63)	H
Quartile 3       311188 (11.6)       0.73 (0.70-0.76)       Hert       324462 (8.9)       0.65 (0.62-0.68)       Hert         Quartile 4       319596 (16.1)       0.77 (0.74-0.80)       Hert       237765 (12.9)       0.71 (0.68-0.74)       Hert         1a       514986 (11.3)       0.75 (0.73-0.77)       Hert       514986 (7.4)       0.66 (0.63-0.68)       Hert         1b       195689 (10.0)       0.69 (0.66-0.72)       Hert       195689 (8.3)       0.62 (0.59-0.65)       Hert         1c       187144 (9.4)       0.75 (0.71-0.79)       Hert       195689 (8.3)       0.65 (0.62-0.68)       Hert         3       138277 (11.3)       0.67 (0.63-0.72)       Hert       195689 (8.3)       0.62 (0.59-0.65)       Hert         3       138277 (11.1)       0.63 (0.58-0.69)       Hert       195673 (8.4)       0.66 (0.63-0.68)       Hert         1285 Xouth Central       105573 (11.0)       0.81 (0.77-0.86)       Hert       105573 (9.9)       0.72 (0.68-0.77)       Hert         Mountain       91754 (9.4)       0.71 (0.64-0.78)       Hert       105573 (9.9)       0.72 (0.68-0.77)       Hert         Pacific       126408 (11.2)       0.78 (0.73-0.84)       Hert       101238 (7.9)       0.62 (0.57-0.68)       Hert	Quartile 2	258332 (8.7)	0.69 (0.66-0.72)	⊦∎⊣	291763 (6.5)	0.59 (0.57-0.62)	<b>⊦</b> ∎-
Quartile 4       319596 (16.1)       0.77 (0.74-0.80)       Image: Constraint of the second	Quartile 3			<b>⊨</b> ∎-			H=-1
HA station parent facility complexity level       Image: Complexity level       Image: Complexity level         1a       514986 (11.3)       0.75 (0.73-0.77)       Image: Complexity level         1b       195689 (10.0)       0.69 (0.66-0.72)       Image: Complexity level       195689 (8.3)       0.66 (0.63-0.68)       Image: Complexity level         1c       187 144 (0.94)       0.75 (0.71-0.79)       Image: Complexity level       195689 (8.3)       0.62 (0.59-0.65)       Image: Complexity level         2       156573 (11.3)       0.67 (0.63-0.72)       Image: Complexity level       156573 (8.4)       0.63 (0.59-0.68)       Image: Complexity level         3       138277 (11.1)       0.63 (0.58-0.69)       Image: Complexity level       156148 (8.0)       0.60 (0.55-0.64)       Image: Complexity level         Vision       East North Central       105573 (11.0)       0.81 (0.77-0.86)       Image: Complexity level       105573 (9.9)       0.72 (0.68-0.77)       Image: Complexity level         Middle Atlantic       101238 (9.4)       0.68 (0.63-0.74)       Image: Complexity level       101238 (7.9)       0.62 (0.57-0.68)       Image: Complexity level         New England       38929 (12.9)       0.77 (0.66-0.88)       Image: Complexity level       101238 (7.9)       0.72 (0.65-0.80)       Image: Complexity level       Image: Complexity level				i territaria di			Hand I
1a       514986 (11.3)       0.75 (0.73-0.77)       Im         1b       195689 (10.0)       0.69 (0.66-0.72)       Im       195689 (8.3)       0.62 (0.59-0.68)         1c       187144 (9.4)       0.75 (0.73-0.72)       Im       195689 (8.3)       0.62 (0.59-0.65)         1c       187144 (9.4)       0.75 (0.63-0.72)       Im       195689 (8.3)       0.62 (0.59-0.65)         1c       187144 (9.4)       0.75 (0.63-0.72)       Im       195673 (8.4)       0.63 (0.59-0.69)         2       156573 (11.3)       0.67 (0.63-0.72)       Im       138277 (8.8)       0.65 (0.59-0.64)         3       138277 (11.1)       0.63 (0.58-0.69)       Im       138277 (8.9)       0.72 (0.68-0.77)         Vision       Im       105573 (11.0)       0.81 (0.77-0.86)       Imm       105573 (9.9)       0.72 (0.68-0.77)         Kast North Central       105573 (11.0)       0.81 (0.77-0.86)       Imm       101238 (7.9)       0.62 (0.57-0.68)         Mountain       91754 (9.4)       0.71 (0.64-0.78)       Imm       101238 (7.9)       0.72 (0.68-0.77)         New England       38292 (12.9)       0.77 (0.66-0.87)       Imm       126408 (9.0)       0.76 (0.70-0.82)         Pacific       126408 (11.2)       0.78 (0.73-0.84)       Imm <td></td> <td></td> <td>(</td> <td></td> <td> (12.0)</td> <td></td> <td></td>			(		(12.0)		
1b       195 689 (10.0)       0.69 (0.66 - 0.72)       Her       195 689 (8.3)       0.62 (0.59 - 0.65)       Her         1c       187 144 (9.4)       0.75 (0.71 - 0.79)       Her       187 144 (6.7)       0.64 (0.60 - 0.69)       Her         2       156 573 (11.3)       0.67 (0.63 - 0.72)       Her       187 144 (6.7)       0.64 (0.60 - 0.69)       Her         2       156 573 (11.3)       0.67 (0.63 - 0.72)       Her       156 573 (8.4)       0.63 (0.59 - 0.68)       Her         3       138 277 (11.1)       0.63 (0.58 - 0.69)       Her       156 148 (8.0)       0.60 (0.55 - 0.64)       Her         ision       East South Central       105 573 (11.0)       0.81 (0.77 - 0.86)       Her       105 573 (9.9)       0.72 (0.68 - 0.77)       Her         Middle Atlantic       101 238 (0.94)       0.58 (0.63) - 0.74)       Her       101 238 (7.9)       0.62 (0.57 - 0.68)       Her         Mountain       91 754 (9.4)       0.71 (0.64 - 0.78)       Her       128 408 (9.0)       0.71 (0.61 - 0.84)       Her         Pacific       126 408 (11.2)       0.78 (0.73 - 0.84)       Her       128 408 (9.0)       0.57 (0.51 - 0.63)       Her         West North Central       171 167 (11.8)       0.79 (0.76 - 0.83)       Her       128 408 (0.0)			0 75 (0 73-0 77)	لحيز	514986 (7 /)	0.66 (0.63-0.68)	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$							
2       156573 (11.3)       0.67 (0.63-0.72)       Image: first state stat							
3       138277 (11.1)       0.63 (0.58-0.69)       Image: constraint of the second s				<b>⊢</b> ∎-1			
vision       East North Central       156148 (10.4)       0.72 (0.68-0.76)       Image: Control of the start of the star				⊢∎⊣			
East North Central       156148 (10.4) $0.72 (0.68-0.76)$ $H = H$ 156148 (8.0) $0.60 (0.55-0.64)$ $H = H$ East South Central       105573 (11.0) $0.81 (0.77-0.86)$ $H = H$ 105573 (9.9) $0.72 (0.68-0.77)$ Middle Atlantic       101238 (9.4) $0.68 (0.63-0.74)$ $H = H$ 101238 (7.9) $0.62 (0.57-0.68)$ $H = H$ New England       38929 (12.9) $0.77 (0.66-0.88)$ $H = H$ 1024608 (10.1) $0.72 (0.65-0.80)$ $H = H$ Pacific       126408 (11.2) $0.78 (0.73-0.84)$ $H = H$ 126408 (9.0) $0.71 (0.61-0.84)$ $H = H$ South Atlantic       283648 (9.9) $0.67 (0.64-0.69)$ $H = H$ 1283648 (6.0) $0.60 (0.58-0.63)$ $H = H$ West North Central       171167 (11.8) $0.79 (0.76-0.83)$ $H = H$ 171167 (6.0) $0.69 (0.64-0.73)$ $H = H$ yez 2 diabetes status <sup>2</sup> $Prevalent$ $985954 (11.4)$ $0.73 (0.71-0.74)$ $H = H$ $985954 (8.5)$ $0.64 (0.63-0.66)$ $H = H$ Incident       211960 (7.6) $0.67 (0.63-0.71)$ $H = H$ $985954 (8.5)$ $0.64 (0.63-0.66)$ $H = H$	3	138277 (11.1)	0.63 (0.58-0.69)	-∎-	138277 (8.8)	0.65 (0.59-0.72)	∎
East North Central       156148 (10.4)       0.72 (0.68-0.76)       Image: Control Central       156148 (10.4)       0.72 (0.68-0.76)         East South Central       105573 (11.0)       0.81 (0.77-0.86)       Image: Control Central       105573 (10.2)       Image: Control Central       105573 (10.2)       Image: Control Central       0.5573 (10.2)       Image: Control Central       105573 (10.2)       Image: Control Central       101238 (7.9)       0.62 (0.57-0.68)       Image: Control Central       Image: Control Central       101238 (7.9)       0.62 (0.57-0.68)       Image: Control Central       Image: Control Central       Image: Control Central       101238 (7.9)       0.62 (0.57-0.68)       Image: Control Central       Image: Control Centra	vision						
East South Central       105 573 (11.0)       0.81 (0.77-0.86)       Image: Control of the second		156148 (10.4)	0.72 (0.68-0.76)	⊨∎⊣	156148 (8.0)	0.60 (0.55-0.64)	⊨∎⊣
Middle Atlantic       101238 (9.4)       0.68 (0.63-0.74)       Image: Constraint of the second se				,		. ,	
Mountain         91 754 (9.4)         0.71 (0.64-0.78)         Image: Constraint of the state of t							
New England       38 929 (12.9)       0.77 (0.66-0.88)       Image: Constraint of the second secon							
Pacific       126408 (11.2)       0.78 (0.73-0.84)       Image: Constraint of the second se							
South Atlantic       283 648 (9.9)       0.67 (0.64-0.69)       Image: Constraint of the status of							
West North Central       104894 (13.4)       0.63 (0.58-0.69)       Image: Control of the state st				⊢■┤			⊢∎⊣
West South Central       171167 (11.8)       0.79 (0.76-0.83)       Image 2 diabetes status <sup>3</sup> prevalent       985 954 (11.4)       0.73 (0.71-0.74)       Image 2 diabetes status <sup>3</sup> Prevalent       985 954 (11.4)       0.73 (0.71-0.74)       Image 2 diabetes status <sup>3</sup> Incident       211960 (7.6)       0.67 (0.63-0.71)       Image 2 diabetes status <sup>4</sup>		283648 (9.9)		H=1	283648 (6.0)		∎
West South Central         171167 (11.8)         0.79 (0.76-0.83)         Image 2 diabetes status <sup>a</sup> Incident         171167 (6.0)         0.69 (0.64-0.73)         Image 2 diabetes status <sup>a</sup> Prevalent         985 954 (11.4)         0.73 (0.71-0.74)         Image 2 diabetes status <sup>a</sup> 985 954 (8.5)         0.64 (0.63-0.66)         Image 2 diabetes status <sup>a</sup> Incident         211960 (7.6)         0.67 (0.63-0.71)         Image 2 diabetes status <sup>a</sup> 985 954 (8.5)         0.64 (0.63-0.66)         Image 2 diabetes status <sup>a</sup>	West North Central	104894 (13.4)	0.63 (0.58-0.69)	⊨∎→	104894 (9.1)	0.57 (0.51-0.63)	⊨∎→
pre 2 diabetes status <sup>3</sup> Prevalent       985 954 (11.4)       0.73 (0.71-0.74)         Incident       211 960 (7.6)       0.67 (0.63-0.71)							⊨∎⊣
Prevalent         985 954 (11.4)         0.73 (0.71-0.74)         Im         985 954 (8.5)         0.64 (0.63-0.66)         Im           Incident         211 960 (7.6)         0.67 (0.63-0.71)         Im         211 960 (4.2)         0.63 (0.58-0.67)         Im		/					
Incident 211960 (7.6) 0.67 (0.63-0.71)		985954 (11 4)	0 73 (0 71-0 74)	<b>_</b>	985954 (8 5)	0.64 (0.63-0.66)	
	meidellt	211300(1.0)	0.07 (0.03-0.71)		211900 (4.2)	0.03 (0.0-86.0)	
						·	
0.4 0.5 0.6 0.8 I 0.4 0.5 0.6 0.8			0.4	0.5 0.6 0.8 1		0.4	0.5 0.6 0.8

The variables adjusted for in the multivariable models are listed in the Figure 1 legend. Adjusted odds ratios (aORs) <1 indicate Black persons were less likely to receive medications than White persons.

<sup>a</sup> Prevalent type 2 diabetes includes a diagnosis of type 2 diabetes before January 1, 2019. Incident type 2 diabetes includes a diagnosis between January 1, 2019, and December 31, 2020.

868 JAMA September 6, 2022 Volume 328, Number 9

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### Figure 4. Prescription of Sodium-Glucose Cotransporter-2 Inhibitor (SGLT2i) and Glucagon-like Peptide-1 Receptor Agonist (GLP-1 RA) Comparing Hispanic or Latino Ethnicity vs Not Hispanic or Latino Ethnicity Across Patient- and System-Level Characteristics

Subgroup	No. (% SGLT2i)	aOR (95% CI)	Prescription less likely	Prescription more likely	No. (% GLP-1 RA)	aOR (95% CI)	Prescription less likely	Prescription more likely
Age, y			tess they				less intery	more mery
<75	920560 (12.3)	0.95 (0.92-0.98)			920 560 (8.8)	0.94 (0.90-0.97)		
≥75	277354 (5.5)	0.90 (0.82-0.99)	<b>⊢</b> ∎-		277 354 (4.2)	0.87 (0.78-0.97)	⊢∎	
Sex								
Male	1149499(10.8)	0.90 (0.87-0.93)	<b>H</b>		1149499 (7.6)	0.88 (0.85-0.91)	) III	
Female	48415 (9.8)	0.97 (0.84-1.12)	<b>⊢</b> -∎		48415 (11.0)	0.99 (0.85-1.14)	. H-#	н
Service connected, %								
<50	657071(9.8)	0.89 (0.85-0.93)	H		657071(6.8)	0.86 (0.82-0.91)	<del>∎ </del>	
≥50	540843 (11.9)	0.91 (0.88-0.95)	HERH.		540843 (8.9)	0.90 (0.86-0.94)	H <b>e</b> l	
Service connection for diabetes								
Yes	301066 (12.8)	0.93 (0.88-0.98)	<del>_</del>		301066 (9.6)	0.90 (0.85-0.96)	- <b>■</b> -	
No	896848 (10.0)	0.89 (0.86-0.92)			896848 (7.1)	0.88 (0.84-0.91)	H	
Patient rurality		/				/		
Rural/highly rural	447 543 (10.6)	0.89 (0.84-0.95)			447 543 (7.8)	0.88 (0.82-0.95)	-■-	
Urban Ziana di uni una di uni	746651 (10.8)	0.91 (0.88-0.94)			746651(7.7)	0.89 (0.86-0.92)	H	
Zip code median income, \$	200 400 (0 5)	0.02 (0.07.0.00)	. – .		200 400 (0 0)	0.01 (0.05.0.00)	. – .	
Quartile 1: <44 943	296468 (9.5)	0.92 (0.87-0.98)	}≡-1		296 468 (6.6)	0.91 (0.85-0.98)	⊦∎⊣	
Quartile 2: 44 943-54 820	297 425 (10.5)	0.91 (0.86-0.97)	- <b>■</b> -		297 425 (7.7)	0.96 (0.89-1.03)		1
Quartile 3: 54 821-69 460	297874 (11.2)	0.91 (0.86-0.97)	-≡-   -=-		297 874 (8.2)	0.87 (0.82-0.93)	⊢∎⊣ I = I	
Quartile 4: >69 460	297947 (11.8)	0.87 (0.83-0.92)	<b>⊦</b> ∎-1		297 947 (8.4)	0.83 (0.78-0.88)	⊦∎⊦	
Zip code Social Deprivation Inde Quartile 1	298307 (11.7)	0.88 (0.83-0.94)	⊦∎⊣		298307 (8.4)	0.87 (0.81-0.94)	<b>⊢</b> ∎-1	
Quartile 2	304649 (11.1)	0.88 (0.83-0.94)	⊦∎⊣		304649 (8.0)	0.87 (0.81-0.94)	⊢∎-1  -∎-1	
Quartile 3	286830 (10.4)	0.87 (0.82-0.93)	┌╼┑ ├═┤		286830 (7.7)	0.88 (0.81-0.94)		
Quartile 4	287747 (9.9)	0.94 (0.90-0.99)			287 747 (7.1)	0.90 (0.85-0.96)	, = ,  ∎	
ASCVD	_0(5.5)		(=)		20 ( ( )		1-1	
Yes	307467 (14.0)	0.94 (0.89-0.99)	H <b>a</b> -1		307467 (9.4)	0.94 (0.88-1.01)	<b> -</b>	1
No	890447 (9.6)	0.90 (0.87-0.93)			890 447 (7.2)	0.87 (0.84-0.91)		
Heart failure	050117 (510)	0.50 (0.07 0.55)			050117 (712)	0.07 (0.01 0.01)		
Yes	79991 (14.7)	1.04 (0.94-1.16)	⊢	-	79991 (12.0)	0.97 (0.86-1.10)	- <b>•</b>	
No	1117923 (10.4)	0.89 (0.87-0.92)	i i i i i i i i i i i i i i i i i i i	- '	1117923 (7.4)	0.88 (0.85-0.91)		
Chronic kidney disease								
Yes	331031 (11.4)	0.94 (0.89-1.00)	<b>≡</b>		331031 (10.8)	0.88 (0.83-0.94)	⊦∎⊦∣	
No	567187(11.5)	0.89 (0.85-0.92)			567 187 (7.3)	0.89 (0.85-0.93)	<b> =</b>	
Unknown	299696 (8.5)	0.91 (0.86-0.97)	⊦⊞⊦		299696 (5.1)	0.87 (0.80-0.95)	+∎-1	
KDIGO GFR stage, mL/min/1.73	m <sup>2</sup>							
≥60	95160(16.5)	0.96 (0.88-1.04)	⊢∎	H	95160 (11.8)	0.90 (0.82-0.99)	-∎-(	
45-59	158496 (10.9)	0.93 (0.86-1.02)	<b>⊢</b> ∎-		158496 (9.5)	0.86 (0.78-0.95)	⊢∎⊣	
15-44	76469 (6.0)	0.91 (0.77-1.06)	<b>⊢</b> ∎−	Η	76469 (12.5)	0.91 (0.81-1.04)	<b>⊢</b> ∎-	-
KDIGO albuminuria stage, mg/g								
ACR <30	95 172 (9.9)	0.92 (0.82-1.04)		H	95172 (9.8)	0.88 (0.78-1.00)	-∎-	
ACR ≥30	192096 (13.2)	0.95 (0.89-1.01)	<b>⊢</b> ∎-	ł	192096 (12.2)	0.89 (0.83-0.96)	⊢∎⊣	
Hemoglobin A <sub>1c</sub> level, %								
≤7	619593 (4.7)	0.94 (0.88-0.99)	⊦≡⊦		619593 (2.9)	0.90 (0.83-0.97)	⊢∎⊣	
>7-8	269516 (14.8)	0.87 (0.82-0.91)	<del>■</del>		269516 (9.9)	0.85 (0.80-0.91)	H∎H	
>8-9	124763 (21.8)	0.89 (0.83-0.94)	<del>∎</del>		124763 (16.9)	0.86 (0.80-0.93)	⊢∎⊣	
>9	114121 (22.1)	0.92 (0.86-0.97)	-∎-		114121 (19.6)	0.93 (0.87-0.99)	H∎-€	
Unknown	69921(10.3)	0.97 (0.87-1.08)	<b>⊢</b> ∎	H	69921 (5.8)	0.89 (0.76-1.04)	∎	-
VHA station crude rate of SGLT2								
Quartile 1	308798 (6.0)	0.85 (0.80-0.91)	┝═┤		323924 (3.5)	0.88 (0.81-0.96)	⊢∎⊣	
Quartile 2	258332 (8.7)	0.88 (0.81-0.95)	⊢■┤		291763 (6.5)	0.86 (0.79-0.93)	⊢∎⊣	
Quartile 3	311188 (11.6)	0.94 (0.89-0.99)	I∎I		324462 (8.9)	0.90 (0.84-0.95)	-∎-	
Quartile 4	319596 (16.1)	0.91 (0.86-0.95)	<b></b>		257765 (12.9)	0.89 (0.83-0.94)	F∎I	
VHA station parent facility com		0.00 (0.00 0.00)			F1400C (7.4)	0.00 (0.02, 0.02)		
1a	514986 (11.3)	0.90 (0.86-0.93)			514986 (7.4)	0.86 (0.83-0.90)	비	
1b	195689 (10.0)	0.93 (0.86-1.01)			195 689 (8.3)	0.97 (0.89-1.05)	, <b> -</b> -	۹.
1c	187144 (9.4)	0.90 (0.81-1.00)	- <b>∎</b> -		187 144 (6.7)	0.98 (0.87-1.10)		
2	156573 (11.3)	0.88 (0.81-0.96)			156 573 (8.4)	0.85 (0.76-0.95)		
3 Division	138277 (11.1)	0.96 (0.87-1.05)	-∎	Η	138277 (8.8)	0.82 (0.73-0.92)	⊢■⊣	
Division	150140 (10 4)	0.00 (0.70.1.02)			156140 (0.0)	0.01 (0.70.1.05)		1
East North Central	156148 (10.4)	0.90 (0.79-1.02)		1	156148 (8.0)	0.91 (0.79-1.05)		1
East South Central	105573 (11.0)	1.02 (0.85-1.22)			105 573 (9.9)	0.83 (0.67-1.02)		1
Middle Atlantic	101238 (9.4)	0.92 (0.82-1.03)	1 m 1		101238 (7.9)	0.90 (0.79-1.03)		
Mountain New England	91754 (9.4)	0.90 (0.83-0.97)	<b>⊢∎</b> -		91754 (10.1)	0.94 (0.87-1.01)		1
New England	38929 (12.9)	0.95 (0.78-1.15)			38929 (9.8)	0.89 (0.71-1.12) 0.85 (0.78-0.92)		-1
Pacific South Atlantic	126408 (11.2)	0.87 (0.81-0.93)			126408 (9.0)	, ,	- <b>8</b> -   -∎-	ı
	283648 (9.9)	0.87 (0.81-0.93) 0.93 (0.80-1.08)	- <b>-</b>		283648 (6.0)	0.93 (0.85-1.02)		
West North Central	104894 (13.4)				104894 (9.1)	0.91 (0.76-1.08)		
West South Central Type 2 diabetes status <sup>a</sup>	171167 (11.8)	0.96 (0.91-1.01)	<del>∎</del>	1	171167 (6.0)	0.87 (0.81-0.94)	∎-	
Prevalent	985954 (11.4)	0.90 (0.87-0.93)			985954 (8.5)	0.88 (0.85-0.91)		
Incident	211960 (7.6)	0.90 (0.87-0.93)	⊢∎⊣		211960 (4.2)	0.89 (0.80-0.99)	, <b>™</b>  -≣-	
meluent	211500(7.0)	0.52 (0.05-0.99)			211 500 (4.2)	0.00-0.03)		
			0.0					
				L 2			0.6 1	
			-10P	(95% CI)				(95% CI)

The variables adjusted for in the multivariable models are listed in the Figure 1 legend. Adjusted odds ratios (aORs) <1 indicate Hispanic persons were less likely to receive medications than non-Hispanic persons.

<sup>a</sup> Prevalent type 2 diabetes includes a diagnosis of type 2 diabetes before January 1, 2019. Incident type 2 diabetes includes a diagnosis between January 1, 2019, and December 31, 2020.

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and/or GLP-1 RA prescription irrespective of glycemic control. These findings align with 2 recent VHA studies that found low prescription rates of GLP-1 RA among patients with established ASCVD and similar facility-level variability in SGLT2i and GLP-1 RA prescription.<sup>21,25</sup>

The observed lower prescription of SGLT2i and GLP-1 RA for all race and ethnic groups relative to White patients and non-Hispanic patients persisted even after accounting for a broad array of patient- and system-level characteristics. Differences in comorbidities, social determinants of health at the zip code level, and access to primary and specialty care did not appear to explain observed racial and ethnic differences in these prescriptions. Indeed, system-level variation was low relative to overall variability in the prescription of SGLT2i and GLP-1 RA.

Racial and ethnic disparities in health and health care are pervasive in the US.<sup>26</sup> Although to a smaller magnitude, these disparities have been reproduced in the VHA,<sup>27</sup> indicating that financial constraints do not solely account for the observed differences across race and ethnic groups.

Racism-a system of structuring opportunity and assigning value based on the social interpretation of how one looks<sup>28</sup>-and other implicit biases may be playing a role. Prior research has identified that clinician perceptions and attitudes of risk and treatment benefits frequently underlie differential prescription of guideline-recommended therapies.<sup>29,30</sup> However, quantitative analyses can offer only a general overview of racial differences and cannot provide in-depth information about contextual determinants. For instance, clinician knowledge of these novel therapies, comfort with prescribing, and clinicians' race and ethnicity were not assessed in this study. Therefore, qualitative explorations are needed to further understand and contextualize these findings. In addition, the low prescription rates observed across all race and ethnic groups may be due to the relative novelty of these medications. As quality improvement initiatives are established to overcome this treatment gap, these findings suggest that such initiatives must take a racial and ethnic equity lens so that improvements in care can extend benefits to all.

### Limitations

This study has several limitations. First, racial and ethnic disparities in the VHA system are less pronounced than in other US health systems.<sup>31</sup> Therefore, these results are not necessarily generalizable to other health systems. Second, there was low representation of women, which is inherent to the VHA. Third, the VHA does not retain individual-level information on socioeconomic characteristics; thus, unmeasured and residual confounding by individual-level socioeconomic characteristics may have partially accounted for these findings. Fourth, only 1 medication per class was available in the VHA national formulary, which may limit prescriptions. Fifth, the VHA facility complexity index does not necessarily indicate quality of care. Better indicators of facility-level quality might have demonstrated a larger contribution of facility characteristics to the observed findings. Sixth, this study includes all patients with type 2 diabetes and does not exclusively focus on patients with concomitant ASCVD, heart failure, and CKD, for whom SGLT2i and GLP-1 RA should be prioritized. Seventh, the cross-sectional design has limitations, which include prevalence-incidence bias and reverse causality. Eighth, this study did not assess the association of prescription and utilization of these medications with clinical outcomes.

### Conclusions

Among patients with type 2 diabetes in the VHA system during 2019 and 2020, prescription rates of SGLT2i and GLP-1 RA medications were low, and individuals of several different racial groups and those of Hispanic ethnicity had statistically significantly lower odds of receiving prescriptions for these medications compared with individuals of White race and non-Hispanic ethnicity. Further research is needed to understand the mechanisms underlying these differences in rates of prescribing and the potential relationships with differences in clinical outcomes.

#### **ARTICLE INFORMATION**

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Author Contributions: Drs Lamprea-Montealegre and Ms Madden had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. Concept and design: Lamprea-Montealegre, Madden, Shlipak, Estrella. Acquisition, analysis, or interpretation of data: All authors. Drafting of the manuscript: Lamprea-Montealegre, Madden, Shlipak, Estrella. Critical revision of the manuscript for important intellectual content: All authors. Statistical analysis: Madden. Obtained funding: Lamprea-Montealegre, Karliner, Shlipak, Estrella. Administrative, technical, or material support: Lamprea-Montealegre, Madden, Shlipak, Estrella. Supervision: All authors. Other-Statistical advice and consultation: Neilands.

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