



Diabetes

An estimated 20%-25% of US veterans have diabetes, and this rate has been rising.^{1,2} Risk factors for type 2 diabetes (T2D) include obesity, serious mental illnesses, and social determinants of health (SDOH).^{1,3,4} Veterans having three or more SDOH factors, such as food or transportation insecurity, have twice the odds of developing T2D.⁴

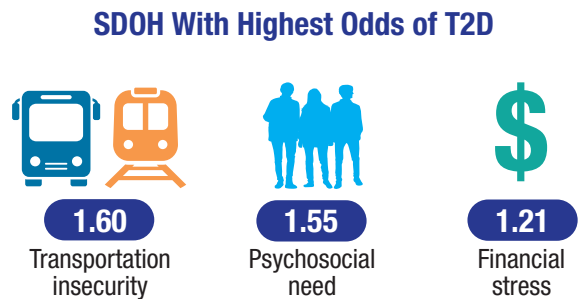
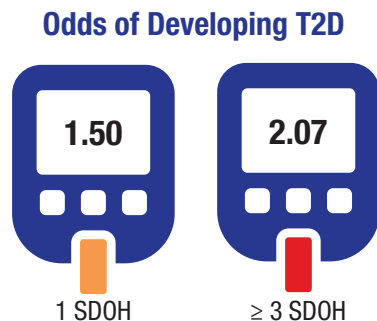
Treatment for T2D includes metformin, sulfonylureas, insulin, and other medications, such as glucagon-like peptide-1 (GLP-1) receptor agonists (RAs) and sodium-glucose cotransporter-2 (SGLT-2) inhibitors.^{5,6} GLP-1 RAs have been shown in early studies to reduce the risk of incident substance use disorders in veterans with diabetes, and demonstrated lower all-cause mortality compared with insulin.^{7,8} While newer therapies like GLP-1 RAs offer mortality and comorbidity benefits for veterans, their clinical utility remains balanced against gastrointestinal adverse events.^{7,8}

Social Determinants of Health and Diabetes in Veterans⁴

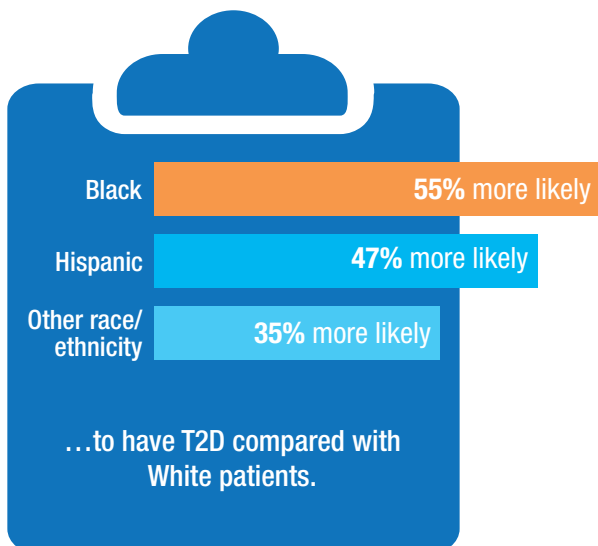


A recent retrospective cohort study of more than 6.5 million VHA patients assessed the effects of SDOH on T2D incidence from 2008 to 2019. Patients did not have T2D or comorbidities at baseline. SDOH included social isolation, financial stress, employment issues, food insecurity, transportation insecurity, housing instability, and psychosocial needs.

Displayed as odds ratios



Racial and Ethnic Disparities in T2D



Black patients were more likely to have ≥ 3 SDOH compared with White patients (8.8% vs 3.8%).

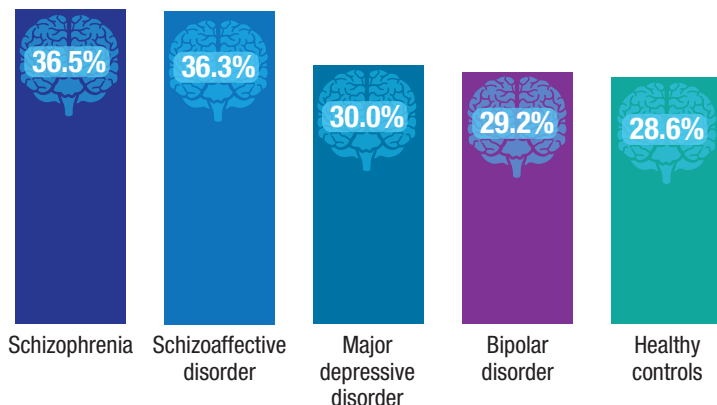


T2D Risk in Veterans With Serious Mental Illness³

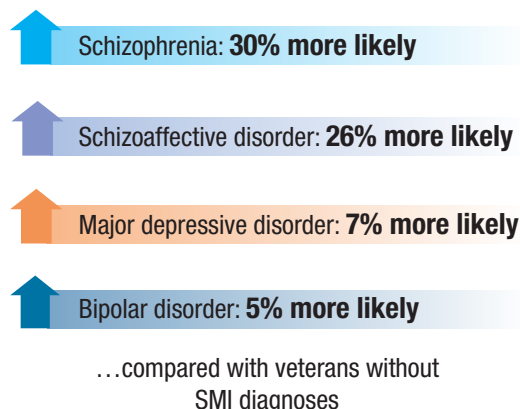


A study of nearly **544,000 veterans** assessed the risk of T2D in those with serious mental illness (SMI) diagnoses from 2009 to 2020.

Prevalence of T2D by Diagnosis



Odds of Developing T2D



Psychiatric medications also affected the likelihood of developing T2D, with exposure to selective serotonin reuptake inhibitors and mood stabilizers, excluding lithium, increasing odds by more than twofold.

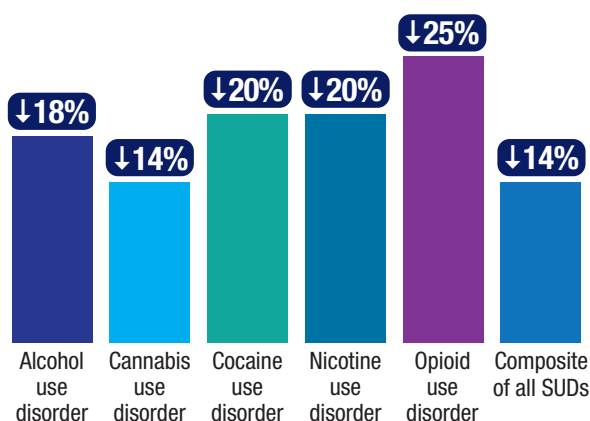
Medication Use and SUDs in Veterans With T2D⁷



A study of over **606,000 veterans** with T2D assessed the effect of GLP-1 RAs and SGLT-2 inhibitors on risk of substance use disorders (SUDs). One part of the study analyzed risk of incident SUDs in those without history, while another part of the study looked at SUD-related adverse events in those with preexisting SUDs.

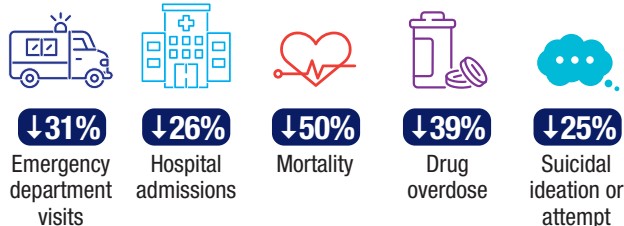
SUD Risk Reduction With GLP-1 RAs

Compared with those on SGLT-2 inhibitors



SUD-Related Adverse Event Risk Reduction With GLP-1 RAs

Compared with those on SGLT-2 inhibitors

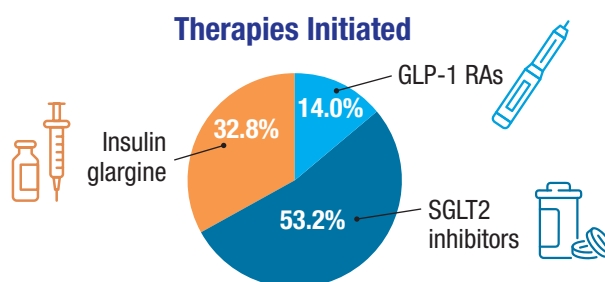


Previous studies have shown that GLP-1 RAs reduced incident alcohol and tobacco use disorders.^{9,10} In this study, GLP-1 RA use, in veterans with T2D, reduced risk of SUDs compared with SGLT-2 inhibitor use.⁷ In those with preexisting SUDs, SUD-related adverse events were also less likely compared with those on SGLT-2 inhibitors.⁷

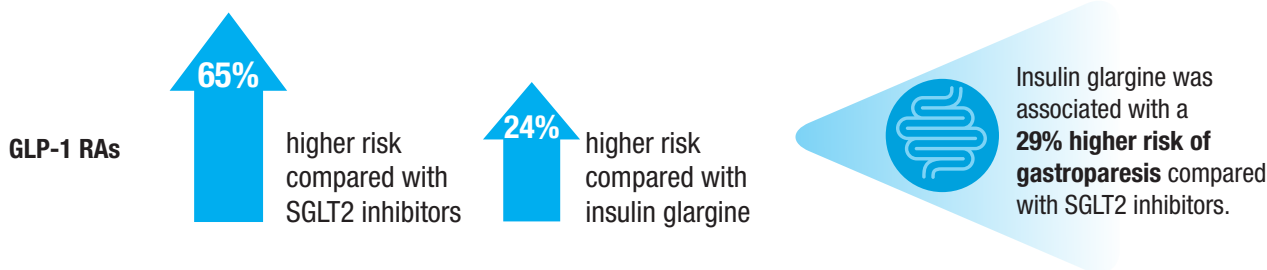
Gastrointestinal Adverse Effects of Diabetes Treatments⁸



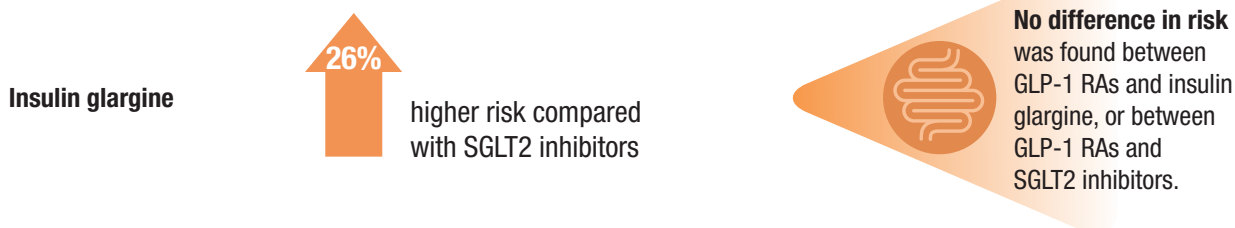
Gastrointestinal adverse effects were assessed in 141,080 veterans with T2D who started GLP-1 RAs, SGLT2 inhibitors, or insulin glargine between 2018 and 2021.



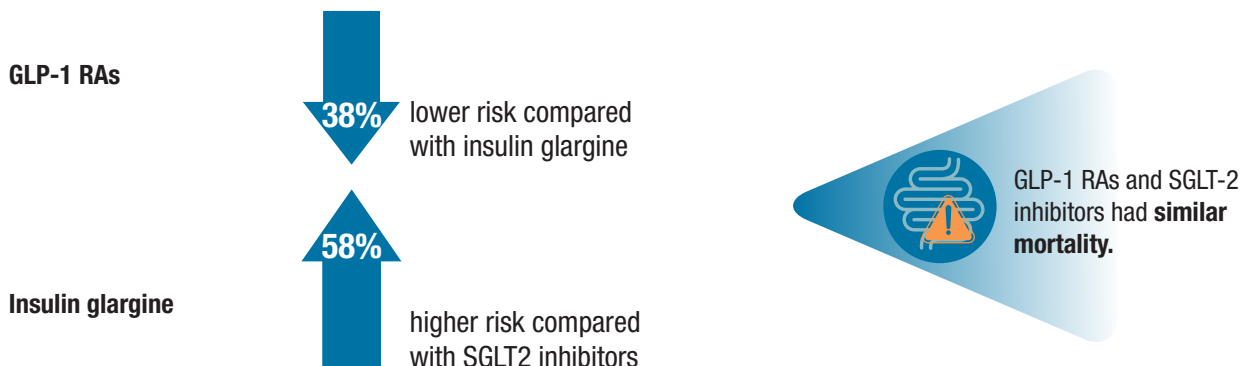
Gastroparesis Risk



Intestinal Obstruction Risk



All-Cause Mortality



Similar risk for gallstones, acute cholecystitis, and pancreatitis was seen in the three treatment groups. SGLT2 inhibitors had a lower risk of gastroparesis and similar all-cause mortality compared with GLP-1 RAs.