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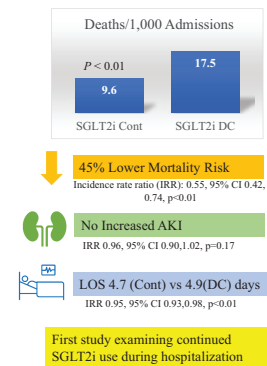
Diabetes Care®

In This Issue of *Diabetes Care*

By Max Bingham, PhD

Continued Use of SGLT2 Inhibitors in Hospital Settings Reduces Mortality in Diabetes

The continued use of previously prescribed sodium–glucose cotransporter 2 (SGLT2) inhibitors in the inpatient setting appears to be associated with 45% lower hospital mortality rate, according to Singh et al. (p. 933). When they compared these rates with those of patients who discontinued the diabetes drugs, they also found no overall difference in rates of acute kidney injury and a modestly shorter length of hospital stay. Based on the findings, the authors suggest that there may be a role for noninsulin-based pharmacotherapy in inpatient settings. Current recommendations indicate insulin for the management of hyperglycemia in nearly all hospitalized patients with diabetes, as abnormal glucose control in the hospital setting has been associated with poor clinical outcomes. The findings come from a nationwide cohort study that used data on acute care hospitalizations, over ~8 years between 2013 and 2021. After a series of exclusions, the authors identified ~36,500 admissions of individuals with diabetes, just under 6,000 of whom were continued on SGLT2 inhibitors after admission, with the balance discontinuing the therapy. The authors found there were 9.2 in-hospital deaths per 1,000 admissions in the group that continued SGLT2 inhibitors compared with 16.8 deaths per 1,000 admissions in the group that discontinued their use. This translated to 45% lower relative mortality, which remained following adjustment for confounders and across multiple sensitivity analyses. “With our retrospective study design, we cannot identify causality or reasons that led to continuation or discontinuation of SGLT2 inhibitors,” said author Elias K. Spanakis. “However, we provide important evidence to support the continued use of SGLT2 inhibitors in the hospital setting in those patients who are receiving them in the ambulatory setting.” Despite the limitations, the authors propose several mechanisms that could be behind the observations. “Most importantly, we show that the reason for using SGLT2 inhibitors in the hospital environment is not for achieving better glycemic control, but because they have other, possibly cardiorenal, protective effects leading to reduced mortality.”



Continued SGLT2 inhibitor (SGLT2i) use in hospital settings led to 45% reduction in mortality risk. AKI, acute kidney injury; Cont, SGLT2i continued; DC, SGLT2i discontinued; LOS, length of stay.

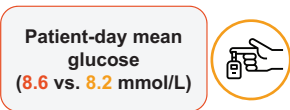
Singh et al. Association of continued use of SGLT2 inhibitors from the ambulatory to inpatient setting with hospital outcomes in patients with diabetes: a nationwide cohort study. *Diabetes Care* 2024;47:933–940

Early, More Intense Treatment of Diabetes in Hospitals Linked to Better Outcomes for Patients

An electronic proactive model of diabetes care that is delivered early and led by specialists appears to reduce glucose levels and hospital-acquired infections in surgical inpatients with diabetes, according to Barmanray et al. (p. 948). The approach focuses on the early identification of inpatients with or at risk of adverse glycemia by clinicians or a team with expertise in inpatient diabetes management. It then focuses on managing a patient’s diabetes at an earlier time point (including earlier delivery of required specialist bedside care) than would be expected under standard care. The findings come from the Specialist Treatment of Inpatients: Caring for Diabetes in Surgery (STOIC-D Surgery) single-center randomized controlled trial that compared outcomes following standard care versus the more intense and proactive diabetes model intervention. Over a period of just under a year (2021), there were 1,371 surgery admissions that met the inclusion criteria, with the authors assigning 680 individuals to the intervention and 691 to standard care. They found that the intervention group achieved a lower level of the primary glucose measure of 8.2 mmol/L while the control group achieved 8.6 mmol/L, giving an estimated difference of –0.3 mmol/L. For the secondary outcome of hospital-acquired infections, there were 77 incident cases in the intervention group and 110 cases in the control group. This translated to an absolute risk difference of –4.6%. The authors go on to discuss the mechanisms involved as well as the cost savings that might be possible with the intervention. In particular, they point to the costs of treating hospital-acquired infections and that the intervention may have saved many tens of thousands of dollars of treatment costs. Commenting further, author Spiros Furlanos said, “The findings of the STOIC-D Surgery randomized clinical trial should accelerate adoption of early-intervention models of care for people with diabetes to improve clinical outcomes in the hospital.”

FINDINGS

A proactive electronic specialist-led diabetes model of care reduces:



and



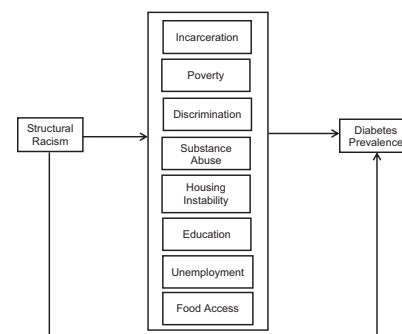
with no increase in hypoglycemia

Proactive specialist-led model of diabetes management in hospital settings led to reduced glycemia and health care-associated infections and related costs.

Barmanray et al. The Specialist Treatment of Inpatients: Caring for Diabetes in Surgery (STOIC-D Surgery) trial: a randomized controlled trial of early intervention with an electronic specialist-led model of diabetes care. *Diabetes Care* 2024;47:948–955

Historic Redlining Practices and Racism Is Linked Directly and Indirectly to Diabetes Prevalence in the U.S.

Structural racism in the form of the historical practice of redlining in the U.S. has a significant association with diabetes prevalence, according to Egede et al. (p. 964). Specifically, redlining appears to be directly associated with diabetes prevalence and indirectly associated via nine social issues and factors. Redlining was a government regulatory scheme that identified neighborhoods that had notionally different levels of risk in terms of giving credit and loans for buying houses. Poorer neighborhoods were identified on maps with a red line and deemed higher risk, but these same areas were also typically inhabited by racial and ethnic minority groups, which led to structural exclusion from homeownership and typically worse provision of basic services, such as health care and access to food. Although the practice was banned in 1968, many of these areas have continued to see high levels of diabetes prevalence, ostensibly linked to poorer social and health outcomes. The findings come from an observational study that combined a series of data sources to capture census tract–level rates of diabetes prevalence and characteristics such as discrimination, substance abuse, education, and food access. The authors then overlaid the historic redlining on the census tracts to use redlining as a proxy for structural racism. While concluding that the factors can be targeted for intervention in a bid to reduce prevalence, they stress that much more work will be needed to identify other potential pathways and to test the effectiveness of any policy interventions designed to mitigate the risks. “Historic redlining is one expression of structural racism, and while not a perfect measure, we now have enough data on its detrimental effect on health to guide action,” said author Leonard E. Egede. “In addition, the study shows that poverty remains a critical component in the pathway between structural racism and diabetes prevalence, hence addressing poverty should be incorporated into multifaceted approaches to address structural racism.”

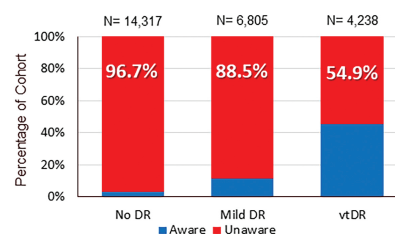


Structural racism in the form of redlining is directly and indirectly linked to diabetes prevalence in the U.S.

Egede et al. Historic redlining and impact of structural racism on diabetes prevalence in a nationally representative sample of U.S. adults. *Diabetes Care* 2024;47:964–969

Substantial Disparities Between Presence of Diabetic Retinopathy and Awareness by Patients

A substantial disparity appears to exist between photographically determined diabetic retinopathy (DR) severity and the self-reported awareness of retinopathy among patients with diabetes, according to Silva et al. (p. 970). A substantial number of patients could not recall whether or when their next eye exam was scheduled or when their most recent eye exam occurred. The authors propose that self-reporting of DR by patients cannot be relied upon in diabetes care visits not focused on vision issues. They also suggest that a substantial issue exists with communication between different care providers and that improvements are needed to improve care overall. The findings come from a prospective observational study, carried out over 10 years, of 25,360 patients with diabetes who underwent retinal imaging that can detect DR and its severity. At the same time, the authors used questionnaires to assess various aspects of patient awareness of retinopathy. They found that just over half had no DR, just over a quarter had mild DR, and ~17% had vision-threatening DR (vtDR), according to the retinal imaging. Of those with no DR, 96.7% reported being unaware of having DR. However, 88.5% and 54.9% of those with mild DR or vtDR, respectively, according to the imaging reported being unaware of having DR. In those patients who had DR, reporting no DR was associated with shorter diabetes duration, milder DR, and seeing a less specialized eye care provider, among other factors. Unawareness in the most serious vtDR group varied according to provider type, with retinal specialists achieving the lowest level of unawareness (at 41%) and the highest level of treatment concordance with guidelines (66.7%) compared with ophthalmologists and optometrists who did not specialize in retinal issues. The authors suggest that changes to medical care and education are necessary to address the evident issues they have uncovered, with communication between providers needing to be addressed most urgently.



Patient-reported DR awareness (blue) vs. unawareness (red) compared with concurrent photographic teleretinal findings.

Silva et al. Disparities between teleretinal imaging findings and patient-reported diabetic retinopathy status and follow-up eye care interval: a 10-year prospective study. *Diabetes Care* 2024;47:970–977

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