

Introduction

- According to the Centers for Disease Control and Prevention, approximately 37 million people in the US are affected by diabetes mellitus (DM).
- Current research on social determinants of health (SDOH) in DM highlights their significant impact on disease prevalence, management, and outcomes.

Methods

- A retrospective analysis of data from all DM patients in two large urban ambulatory clinics within a quaternary integrated health network in the Northeastern United States was conducted between May 2021 and 2024.
- SDOH assessment was performed during new patient visits, physicals, or annual wellness visits, and PHQ 9 screenings were conducted at every visit.
- We analyzed SDOH parameters' influence on DM control, categorized as controlled vs. non-controlled (HbA1C of $\leq 9\%$ vs $>9\%$) and at target vs. non-target groups (HbA1C of $<7\%$ vs $\geq 7\%$).
- Continuous variables were presented as mean and standard deviation, while categorical variables were shown as frequency and percentage. Statistical analyses included T-tests for continuous variables and chi-square or Fisher's exact tests for categorical variables. Fifty imputations were performed to address missing SDOH data, followed by multivariate logistic regression on the imputed dataset to assess predictors of target and controlled DM.

Results

- A total of 3317 patients (mean age 60 years, 58.9% female) were evaluated. 67.14% were in the target group, while 89.75% achieved controlled DM.
- Patients with controlled DM were older (mean age 61.31) compared to those who had uncontrolled DM (mean age 55; $p < .0001$). Age was a significant predictor ($p < .0001$, indicating that with each unit increase was associated with 4% higher odds of being in the controlled group (OR = 1.04, 95% CI [1.03, 1.05]).
- Females were more prevalent in the target group (62.73% vs. 37.27% males, $p < .0001$) and were more likely to have controlled DM (60.09% vs. 39.91% males, $p < .0001$).
- Black individuals and Native Hawaiians had a 56% and 95% lower likelihood of achieving controlled DM compared to white individuals respectively (OR = 0.54, 95% CI [0.42, 0.69], $p < .0001$; OR = 0.05, 95% CI [0.003, 0.90], $p = .0421$).
- Health literacy needs were higher in the non-target group (9.48%) compared to those in the target group (6.07%; $p = .0247$).
- Safety was significantly associated with the target group ($p = .0312$), with 13.34% feeling safe compared to 8.62% in the non-target group.
- Patients with poorly controlled DM had higher incidences of severe depression compared to those with controlled levels (4.71% vs 2.02%; $p = .0072$).

Conclusion

- Younger, non-white, and male patients demonstrated poorer DM control, potentially influenced by factors such as depression, health illiteracy, and perceptions of safety.
- Integrating evidence-based SDOH screening into clinical workflows can identify critical barriers to DM management and mitigate racial and gender disparities in health outcomes.

