

## Abstract

# Examining the Use of Telehealth During the COVID-19 Pandemic Among Patients With Type 2 Diabetes at a Federally Qualified Health Center

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## Abstract

**Background:** The COVID-19 pandemic necessitated an expedited shift toward remote health care delivery (eg, telehealth). Prior research has shown individuals from underserved communities may face greater challenges accessing telehealth services, which could exacerbate existing disparities in chronic conditions, including type 2 diabetes (T2D). As patient engagement in telehealth care is likely to persist indefinitely, it is critical to determine whether certain patients may face greater challenges in accessing remote care so that appropriate accommodations can be made.

**Objective:** This study aimed to examine factors associated with the use of telehealth during the COVID-19 pandemic among adults with T2D at a large federally qualified health center in Southern California.

**Methods:** Electronic health records (EHR) from all T2D-related medical visits completed between July 2019 and July 2021 were obtained. The following variables were extracted from the EHR: modality of visit (in person vs telehealth), patient gender (male, female, nonbinary, or transgender), age, race or ethnicity (non-Hispanic White, Hispanic, Black, Asian, Middle Eastern or Arab, Asian-Pacific Islander, Native American or Alaskan, or multiracial), and income level (below or at vs above the poverty threshold). Patients were trichotomized based on whether they completed at least one telehealth visit following the start of the pandemic, if they completed all visits in person, or if they completed no visits. Chi-square analysis and *t* tests were conducted to examine univariate group differences. Multinomial logistic regression was conducted to examine associations between telehealth use and patient sociodemographics.

**Results:** Participants included 14,989 patients with T2D (51.7% female, 48.1% male, and 0.2% transgender or nonbinary; 83.7% below or at the poverty threshold). Over half (59.0%) of patients completed at least one T2D-related telehealth visit, 27.6% completed only in-person visits, and 13.4% complete no visits after the start of the pandemic. Compared to male (54.9%) and transgender or nonbinary patients (52.8%), significantly more females used telehealth (62.8%;  $\chi^2=100.89$ ,  $P<.001$ ). Significant differences also emerged between racial and ethnic groups, with the highest engagement among Middle Eastern or Arab (66.8%) and Hispanic patients (60.7%) and the lowest among Asian-Pacific Islander (50.0%) and Native American or Alaskan patients (52.2%;  $\chi^2=72.33$ ,  $P<.001$ ). Multinomial regression analysis revealed that women (odds ratio [OR] 1.29, 95% CI 1.17-1.42), Hispanic patients (OR 1.56, 95% CI 1.06-2.30), and Arab patients (OR 2.22, 95% CI 1.32-3.76) were more likely to complete telehealth visits rather than no visits than male patients and those of all other racial and ethnic groups. Similarly, women (OR 1.42, 95% CI 1.33-1.54) and Arab patients (OR 1.62, 95% CI 1.08-2.43) were more likely to complete telehealth than in-person visits. No significant differences by age or income were identified.

**Conclusions:** While many patients accessed telehealth during the pandemic, observed differences by sociodemographic characteristics suggest that some patients may require additional support when accessing remote health care. Future research should explore additional factors that could impact telehealth access within underserved communities (eg, internet or broadband access, language concordance, and technology literacy) so that tailored strategies can be developed to facilitate equitable access to care.

**Conflicts of Interest:** None declared.

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**KEYWORDS**

diabetes; electronic health records; telehealth; COVID-19

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