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ORIGINAL PAPER

# Telemedicine Use in Refugee Primary Care: Implications for Care Beyond the COVID-19 Pandemic

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**Abstract**
The expansion of telemedicine during the COVID-19 pandemic offers an opportunity to reach vulnerable refugee communities with limited access to healthcare; however, there are limited data on characteristics of refugee patients that are associated with telemedicine use. We examined primary care encounters between March 2020 and February 2021. We compared telemedicine encounters among refugee and non-refugee patients and examined patient characteristics associated with telemedicine use in refugee patients. Overall, refugees used telemedicine less (aOR = 0.59, p < .001). Among refugee patients, telemedicine encounters were more likely if the patient had hypertension or diabetes, had an activated patient portal, carried private insurance and spoke English as their primary language. Telemedicine may be a useful modality of care management for refugee patients who require many follow-up visits; however, language barriers remain a concern. This is important to consider as telemedicine efforts continue and are expanded.

**Keywords** Refugees · Telemedicine · Family medicine · Primary care

## Introduction

Previous research has elucidated the multitude of healthcare challenges faced by refugees once resettled in the United States, contributing to health disparities in refugee populations. For instance, refugees have a higher prevalence of infectious diseases that are not commonly seen in the US, such as tuberculosis and schistosomiasis, and may encounter providers who are not experienced with treating these conditions [1–4]. Mental health disorders such as depression and post-traumatic stress disorder are more common in refugees than other immigrant groups [5–9]. Many other factors pose a barrier for refugees to access healthcare including language barriers, financial burden and mistrust of healthcare providers [9–12].

The COVID-19 pandemic has created additional barriers to accessing healthcare for refugees, while highlighting the many existing challenges [13]. During the pandemic, refugees and migrants were least likely to seek healthcare for COVID-19 symptoms, citing lack of financial resources, fear of deportation and lack of available healthcare providers as a concern [14]. However, refugees had an increased risk of exposure to COVID and severity of symptoms due to higher rates of poverty and higher rates of co-morbidities, in addition to healthcare access barriers [15]. During the pandemic, high percentages of refugees reported difficulty pay for food, housing and healthcare, further impacting health and well-being [16].

As health disparities continue to persist in refugee populations, the expansion of telemedicine during the COVID-19 pandemic offers an opportunity to reach vulnerable refugee communities with limited access to healthcare. Indeed, telemedicine is being used to address other health disparities in the US, such as those seen in rural populations. Telemedicine improves healthcare accessibility for patients in underserved areas or populations, and can save costs and time associated with providing healthcare [17–19]. Some research during the COVID-19 pandemic suggests telemedicine can help reduce health disparities, particularly racial and age disparities. Roghani and Panahi examined data from the Research and Development Survey (RANDS) between June and August of 2020 [20]. They concluded that while older adults had the lowest access to telemedicine prior to the pandemic, they had higher access to telemedicine and higher scheduling

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frequencies during the pandemic compared to other age groups. Additionally, Black patients had the highest access to telemedicine services compared to other racial-ethnic groups [21]. Telemedicine may address some common challenges to accessing healthcare, such as transportation and missing school or work [22]. Additionally, telemedicine can be effective for patients with complex psychiatric conditions [23, 24]; this is relevant, as many refugee patients come from high conflict areas and have a higher prevalence of mental health disorders [5].

Models of care incorporating telemedicine can also improve access to ambulatory sub-specialties, reducing cost of healthcare, physician travel time and patient travel time [25–27]. Use of telemedicine in ambulatory settings has reduced the need for office visits, improved appropriate emergency department utilization, increased patient satisfaction and enhanced population health management (e.g., increased uptake of preventative screenings) [28]. Additionally, refugees in the United States show a preference for using primary health care services over emergency room services [29]; however in areas with limited access to primary care, emergency services may be the only option, placing financial burden on the patient. Availability of telemedicine could alleviate this burden in non-urgent cases [21].

In addition to providing care to refugees and underserved populations during the pandemic, telemedicine could offer a way to reach refugees who have limited access to care, reduce burden on refugees who need more frequent healthcare and reduce unnecessary use of emergency services. However, there are limited data on characteristics of refugee patients that are associated with telemedicine use. This study was guided by two research questions: (1) Among patients attending a single, urban, family medicine practice, does telemedicine use in refugee and non-refugee patients differ? and (2) Among refugee patients, what are predictors of telemedicine use? The study objectives were to (1) examine refugee patients' use of telemedicine services during the COVID-19 pandemic; (2) compare refugee patients' use of telemedicine with non-refugee patients; and (3) examine predictors of refugees' use of telemedicine.

## Methods

A retrospective chart review was conducted of refugee encounters at an academic family medicine practice. Data were extracted from primary care visits from March 2020 to February 2021. Certain appointment types that were not eligible for telemedicine (e.g., procedures, immunizations) were excluded. This study was approved by the University of Virginia Institutional Review Board for Health Sciences Research.

### Study Setting

The study took place in a single, Family Medicine practice in Charlottesville, VA, a small-sized urban area with an academic medical center. The practice serves approximately 10,000 patients, of whom 28% receive Medicaid (government health insurance for eligible, low-income individuals). Within the practice is the International Family Medicine Clinic (IFMC). The IFMC provides care for the majority of refugee and Special Immigrant Visa holders (hereafter called refugee) in the Charlottesville region [30]. In almost 20 years of operation, the clinic has served close to 4000 patients.

### Encounters

All encounters that were eligible for telemedicine that took place during the study period were included in the analysis. Each encounter was treated as a unique data point and the same patient could have multiple encounters. Duplicate patients were not removed as many patients had both telemedicine and in-person visits during the study period, especially as in-person visits were restricted during the early months of the COVID-19 pandemic.

There were 16,386 encounters (3007 with refugee patients) eligible for telemedicine that took place at the clinic during the study period. Encounters with refugee patients are identified based on immigration status documented in the patient's chart. There were 13,379 visits during the study period with non-refugee patients. To address Research Question 1 (compare refugee and non-refugee patients' use of telemedicine), we used the *matchit* package from R to match refugee encounters (3007) with non-refugee control encounters (3007) based on patient: age, sex, insurance status and patient portal activation and time of visit. We examined the effect of refugee status, comorbidities and emergency department and inpatient utilization on likelihood of an encounter being telemedicine. To address Research Question 2 (examine predictors of telemedicine in refugee patients), we limited our analysis to the 3007 refugee encounters. Patient information was extracted from encounter reports generated during the study period.

### Data Collection

The following information was collected from the EMR: patient demographics (age, sex, primary language, country of origin), health services utilization (emergency department visit or inpatient hospitalization in the last year), chronic health conditions (hypertension and diabetes), MyChart (the health system's electronic patient portal) activation

status, and insurance. Variables were selected prior to data extraction based on previous literature [31] and clinic trends showing patients with these characteristics (health services utilization and chronic health conditions) were more likely to have frequent visits, which could potentially influence their use of telemedicine.

### Measures

Our main outcome of interest was whether a visit was conducted via telemedicine or in person, coded as a dichotomous variable. Refugee status, age, sex, primary language (coded as English or non-English), emergency room visit in the last 365 days (coded as yes or no), inpatient hospitalization in the last 365 days (coded as yes or no), and diagnosis of hypertension or diabetes were included as covariates. Finally, to control for effects of the COVID-19 pandemic on clinic visit restrictions, we created a dichotomous variable indicating the time period of the visit: during the time in which majority of in-person visits were restricted (March–June 2020) versus when the clinic reopened for majority in-person visits (July 2020–March 2021).

### Analysis

Frequencies were applied to discrete study measures and descriptive statistics were gathered for continuous variables. We used a logistic regression model to examine associations between predictors and odds of a visit being telemedicine or in person. Another logistic regression model estimated differences in refugee and non-refugee patients' use of telemedicine appointments, matching patients on age, sex, insurance status, patient portal status, and time of visit, and controlling for comorbidities and health care utilization in the past year. Analyses were conducted using R.4.1.

## Results

### Participants

Patients seen at the 3007 refugee encounters between March 2020 and February 2021 represented 61 countries and 49 languages. Encounters were most common with patients from Afghanistan (n = 1197), Bhutan (n = 300), Iraq (n = 224), Syria (n = 180) and the Democratic Republic of the Congo (n = 173). Most common languages represented were Dari (n = 675), English (n = 625), Nepali (n = 393), Arabic (n = 358) and Pashto (n = 277). Mean age of patients seen was 34.10 years (SD = 21.7). Patients had been in the United States for an average of 7.55 years (SD = 4.68).

Compared with non-refugee patients, refugee patients had lower rates of MyChart activation (48% vs. 65%), higher proportions of Medicaid (72% vs. 25%), and lower rates of diabetes (4% vs. 25%) and hypertension (19% vs. 35%) (Table 1).

### Encounters

The majority of encounters (n = 2253, 75%) with refugees in the study time period were non-telemedicine. The majority of non-refugee encounters were also non-telemedicine, however the proportion of telemedicine visits was greater (n = 5217, 39%) compared with refugee telemedicine visits (n = 754, 25%). When in-person clinic operations resumed in July 2020, refugee patients' use of telemedicine ranged from 7 to 14% of visits, compared to non-refugee patients ranging from 16 to 28% (Fig. 1). The most common reasons for refugee telemedicine visits were follow-up appointments (n = 144), well-child checks (n = 66) and routine prenatal visits (n = 40). These were also the top three reasons for non-telemedicine visits (respectively, n = 991, n = 273, n = 79). The most common reasons for non-refugee telemedicine visits were follow-up (n = 731), psychotherapy/behavioral health appointment (n = 331) and annual exam (n = 130). The top three reasons for non-telemedicine visits in non-refugee patients were follow-up (n = 4,059), contraception (n = 909) and establishing care (n = 659).

### Telemedicine in Refugee and Non-Refugee Encounters

In a logistic regression of 3007 refugee encounters and 3007 non-refugee encounters matched on age, sex, insurance status, patient portal status, and time of visit controlling for comorbidities and emergency and inpatient utilization, refugee patients had lower odds of telemedicine use compared to non-refugee patients (aOR = 0.59, 95% CI 0.48, 0.73). The model accounted for 25% of the variance with a 63% accuracy (Table 2). Controlling for refugee status, patients with hypertension (aOR = 1.59, 95% CI 1.25, 2.02) were more likely to use telemedicine while patients with at least one emergency department admission were less likely (aOR = 0.43, 95% CI 0.31, 0.58).

### Predictors of Telemedicine Use among Refugee Patients

The logistic regression model assessing the relationship between covariates and type of visit (telemedicine or non-telemedicine) explained 31.4% of the variance (McFadden R2) and demonstrated an accuracy of 83.5% among refugee patients. There were no statistically significant differences in telemedicine use by age group or sex (Table 3). Patients with hypertension (aOR = 1.43, 95% CI 1.06, 1.91) and patients with diabetes (aOR = 1.85, 95%

**Table 1** Characteristics of patients participating in refugee and non-refugee encounters

| Patient characteristic | Refugee encounters N = 3007 | Non-refugee encounters N = 13,379 |
|---|---|---|
| Telemedicine visit | | |
| Non-telemedicine | 2253/(75%) | 8162 (61%) |
| Telemedicine | 754/(25%) | 5217 (39%) |
| Sex | | |
| Male | 1095 (36.4%) | 4495 (33.6%) |
| Female | 1192 (63.6%) | 8884 (66.4%) |
| Age category | | |
| 18 to 39 | 1011/(34%) | 4342/(33%) |
| 40–64 | 876/(29%) | 5812/(44%) |
| 65 and over | 305/(10%) | 2217/(17%) |
| Under 18 | 810/(27%) | 973/(7%) |
| Diabetes | | |
| No | 2894 (96%) | 10,044 (75%) |
| Yes | 113/(4%) | 3,335 (25%) |
| Hypertension | | |
| No | 2437/(81%) | 8635 (65%) |
| Yes | 570/(19%) | 4744 (35%) |
| Inpatient hospitalization in last year | | |
| No IP hospitalization in last year | 2941/(98%) | 12,957 (3%) |
| IP hospitalization in last year | 66/(2%) | 422/(3%) |
| ED visit in last year | | |
| No ED visit in last year | 2485/(83%) | 11,118 (83%) |
| ED visit in last year | 518/(17%) | 2261/(17%) |
| Language | | |
| English | 625/(21%) | 11,758/(88%) |
| Non-English | 2382/(79%) | 1621 (12%) |
| Insurance | | |
| Medicaid | 2175/(72%) | 3296/(25%) |
| Private insurance | 363/(13%) | 5927/(44%) |
| Financial assistance | 113/(4%) | 1043/(8%) |
| Medicare | 96/(3%) | 2304/(17%) |
| No insurance | 260/(8%)2 | 809/(6%) |
| MyChart status | | |
| Activated | 1447/(48%) | 8675/(65%) |
| Declined/Inactive | 1560/(52%) | 4704 (35%) |

CI 1.06, 3.11) had greater odds of having their encounter be through telemedicine. Non-English speaking patients had lower odds of a telemedicine encounter (aOR = 0.60, 95% CI 0.46, 0.78). Encounters in which the patient had an active MyChart were more likely to be telemedicine (aOR = 1.28, 95% CI 1.03, 1.60). Encounters in which patients' primary insurance was Medicaid were less likely to be telemedicine compared to encounters in which the patient had private insurance (aOR = 0.71, 95% CI 0.52, 0.97). Emergency room use and inpatient hospitalization in the last year, age and sex were not associated with telemedicine use.

## Discussion

Overall, refugee patients were less likely to have telemedicine encounters even after accounting for age, sex, insurance status, patient portal (MyChart) status, comorbidities and inpatient and emergency department visits in the past year. Among refugee specific encounters, after

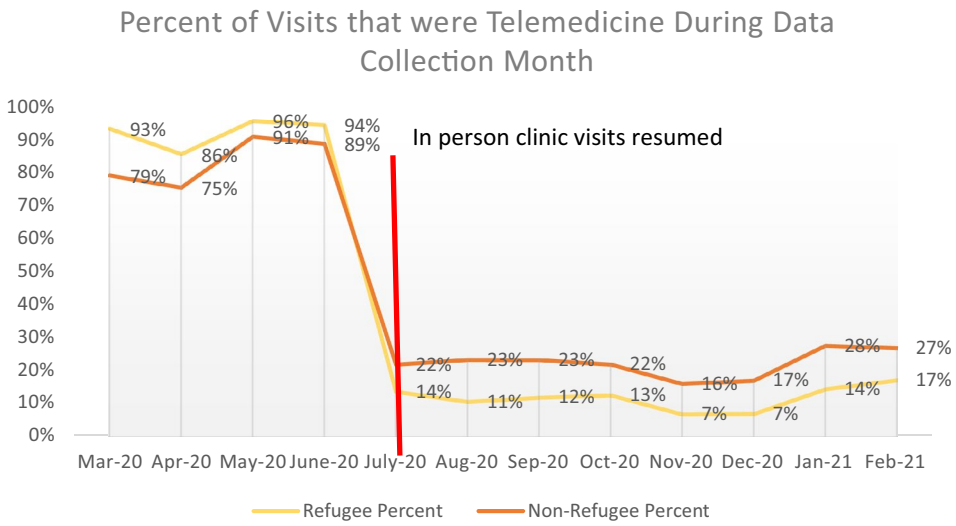


**Fig. 1** Telemedicine utilization during study period

**Table 2** Telemedicine in refugees and non-refugee encounters + (n = 6014)

| Characteristic | aOR[a] | 95% CI[a] |
|---|---|---|
| Refugee | | |
| Non-Refugee | REF | |
| Refugee | 0.59*** | 0.48, 0.73 |
| Hypertension | | |
| No | REF | |
| Yes | 1.59*** | 1.25, 2.02 |
| Diabetes | | |
| No | REF | |
| Yes | 1.18 | 0.91, 1.52 |
| Emergency Department visits | | |
| No ED visit in last year | REF | |
| ED visit in last year | 0.43*** | 0.31, 0.58 |
| Inpatient admission | | |
| No IP admission in last year | REF | |
| IP admission in last year | 0.95 | 0.39, 1.99 |

[a]*aOR* adjusted odds ratio, *CI* confidence interval

+ Encounter patients matched on age, sex, insurance status, patient portal status, and time of visit

***$p < 0.001$

controlling for selected covariates, encounters were more likely to be conducted via telemedicine with patients who had: hypertension, diabetes, active MyChart status, private insurance, and English as their primary language. It is probable that patients with comorbid conditions such as diabetes and hypertension used telemedicine out of concern for increased risk of contracting COVID, as evidence has shown generalized anxiety, COVID-19-related fear, adherent/dysfunctional safety behavior and subjective risk perception are higher in patients with high-risk diseases compared to those without [32]. The results demonstrate that telemedicine may be a useful modality of care management for refugee patients who require many follow-up visits due to chronic conditions. Refugees carry a high burden of disease that requires prolonged follow-up care (e.g., HIV, tuberculosis, PTSD, diabetes) and care coordination. Yet, refugees face many structural barriers to ensuring continuity of care for complex conditions, including transportation access, high cost, wait times, scheduling challenges and complicated provider networks [11, 33]. For a comprehensive discussion of barriers to care in the context of the COVID-19 pandemic, see Brickhill-Atkinson and Hauck [34].

Health information technology and telemedicine can be used to address many of these barriers to treatment for patients with comorbid conditions [35], despite limited health literacy and poor patient-provider communication, which are notable challenges for refugees with complex conditions. Indeed, research has demonstrated that health literacy is typically not associated with patients' use of mobile health tools [36], suggesting structural barriers to telemedicine implementation and access may play a larger role. Historically, challenges with widespread implementation of telemedicine include cost, training and personnel; however, as telemedicine services were scaled-up out of necessity during the COVID-19 pandemic, the infrastructure to support pervasive telemedicine is strong. In the IFMC, these supports were provided and changes in insurance reimbursement for these visits facilitated the use of telemedicine [37, 38]. Previous research has shown that telemedicine can enhance care coordination and has led to reductions in inpatient admissions, emergency room visits and days of bed-care [39–41]. Promoting telemedicine services among refugees may improve care management and coordination for those requiring more complex care,

**Table 3** Predictors of telemedicine use in refugee encounters (n = 3007)

| Characteristic | aOR | 95% CI |
|---|---|---|
| Age category | | |
| 18 to 39 | REF | |
| 40–64 | 1.01 | 0.75, 1.35 |
| 65 and over | 1.13 | 0.68, 1.85 |
| Under 18 | 0.81 | 0.60, 1.09 |
| Sex | | |
| Female | REF | |
| Male | 1.10 | 0.88, 1.38 |
| Inpatient admission | | |
| No IP admission in last year | REF | |
| IP admission in last year | 1.22 | 0.87, 1.71 |
| Emergency department visits | | |
| No ED visit in last year | REF | |
| ED visit in last year | 1.21 | 0.52, 2.51 |
| Hypertension | | |
| No | REF | |
| Yes | 1.43* | 1.06, 1.91 |
| Diabetes | | |
| No | REF | |
| Yes | 1.85* | 1.06, 3.11 |
| Language | | |
| English | REF | |
| Non-English | 0.60*** | 0.46, 0.78 |
| MyChart Status | | |
| Declined/Inactive | REF | |
| Activated | 1.28* | 1.03,1.60 |
| Insurance | | |
| Private insurance | REF | |
| Financial assistance | 0.71 | 0.38, 1.27 |
| Medicaid | 0.71* | 0.52, 0.97 |
| Medicare | 0.87 | 0.46, 1.65 |
| No insurance | 0.87 | 0.35, 2.02 |
| Time period | | |
| March–Jul 2020 | REF | |
| July 2020–Feb 2021 | 0.05*** | 0.04, 0.06 |

*p < 0.05, ***p < 0.001

in addition to alleviating burdens for those seeking general care (e.g., annual wellness exam) [35].

Although refugee patients had lower utilization of telemedicine services compared to non-refugee patients, for the entire study period, use of telemedicine services from March–July 2020 was higher than use in non-refugee patients. After in-person visits were allowed, telemedicine use declined in refugee patients. There are a several potential explanations for this. First, from March–July 2020, in-person visits were suspended with the exception of urgent appointments and procedures. Since refugee patients tend to have more health conditions, they may have had higher telemedicine utilization out of necessity. Second, as schools shifted to remote learning, broadband and internet services were scaled up at no, or reduced cost, allowing better internet access in homes for families who previously were without. Additionally, many schools provided laptops for children to bring home for remote learning. These services may have offered a temporary opportunity for some patients to use telemedicine who were previously unable. However, language barriers experienced during telemedicine visits may have been an important driver for refugee patients to return to in-person visits when able.

One of the strongest predictors of telemedicine use in refugee patients was English proficiency, which was substantially less among refugee patients than non-refugee patients (21% vs. 88%, respectively). In a representative sample of California adults, English proficiency was a strong predictor of telemedicine use, even after controlling for sociodemographic, health status and internet access [42]. Though professional interpretation is a standard of care for LEP patients [43] and offered to all LEP patients in the IFMC, there is a dearth in the literature on integrating interpreters into telemedicine work flows, and whether different modalities of providing interpretation impacts patient care, outcomes and satisfaction. One study demonstrated that Spanish-speaking Latino patients rated video interpretation as superior over in-person interpretation [44]; however, this has not been explored in a telemedicine context. Having a better understanding of LEP patients' preferences with regard to interpreter use in telemedicine delivery will be crucial in ensuring equitable access to telemedicine.

In the IFMC, a telephone interpreting service, CyraCom (https://interpret.cyracom.com/), is used for both in-person and telemedicine visits. Interpreters were off-site for both in-person and telemedicine visits. Despite the same use of interpreting services for virtual and in-person visits, patients with limited English proficiency were less likely to have telemedicine encounters. Using bilingual patient navigators may help with this issue. While interpreters are used during visits, patient navigators have more freedom to build trust with patients and their families over time. This allows them to work with patients on preparing for medical appointments, and offers an opportunity to build patient comfort with telemedicine. There is already evidence suggesting the benefits of virtual patient navigation [45] and some experts are calling for developing the role of the "digital navigator" in health care practices [46]. However low utilization of telemedicine may stem from broader, socioeconomic challenges faced by LEP patients including limited digital literacy, low education and insufficient internet speed and bandwidth to accommodate telemedicine visits [21]. While these challenges seen insurmountable for individual patients, health systems in the US have made strides in mitigating

barriers to telemedicine engagement, spurred by the need for rapid telemedicine expansion during the pandemic. For example, UCSF General Internal Medicine Practice developed a patient education and outreach program to contact patients prior to their visit and work with them to set up the telemedicine platform [47]. While this was made possible during the pandemic due to other health system members having newly available time (e.g., clinic research coordinators, nursing/medical students), cost-savings brought on by expanded telemedicine could be leveraged to provide support for this type of outreach. Additional strategies implemented by the UCSF practices included helping patients obtain used/refurbished devices through the Lifeline program run through the Federal Communications Commission [48] and making patients aware of low-cost broadband and internet plans, which have been expanding in many parts of the country [49]. More broadly, additional barriers to telemedicine are created by health systems, such as requiring patients' enrollment in the electronic patient portal to schedule telemedicine visits and failing to identify logistical challenges in video visit scheduling. While not universal, there are health systems that require patient portal activation in order for patients to be offered a video visit. Vulnerable patients are less likely to use the patient portal, and these policies contribute to inequitable telemedicine access [50]. In this study, less than half of all refugee encounters (telemedicine and non-telemedicine) were with patients who had activated patient portals, indicative of the low number of refugee patients with active MyChart. In contrast, 65% of non-refugee patients seen at encounters during the study period had an active patient portal. Further, having an activated patient portal was a significant predictor of a visit being conducted via telemedicine. Offering all patients the option of telemedicine, regardless of patient portal status, and informing patients that they can receive telemedicine without having an active portal may mitigate this barrier. Previous research shows that patients are generally willing to do video visits with clinicians they have previously worked with [51]. Anecdotal evidence during the pandemic suggests patients without an active patient portal are interested in, and have successfully used telemedicine [47]. This has also been observed in the IFMC.

Finally, logistical issues and planning for telemedicine visits can be a barrier for underserved populations. While the present study did not examine these factors, it is important to acknowledge their role in telemedicine use, as many are relevant to refugee populations. Challenges include access to a private location, shared devices and inadequate internet bandwidth due to multiple users. Patients may share devices with children engaged in virtual learning (the school system in Charlottesville provided laptop computers to students) or with a spouse. While re-opening schools and workplaces will mitigate challenges more specific to the pandemic, health systems may still consider screening patients for logistical/scheduling issues to help overcome these barriers [47]. For example, if practices offer after-hours appointments, patients who share devices or internet access during work hours may benefit from having provider visits during off-hours. Alternatively, practices can offer an option for a telephone visit instead of a video visit. This is a common practice in the IFMC if patients are having issues connecting their device or lack internet bandwidth.

## Limitations

There are limitations to this study worth noting. First, we only examined encounters from a single primary care center. Refugee patients seen during primary care encounters during the study period were primarily from Afghanistan, and therefore, may differ from the composition of other refugee populations in the US limiting generalizability. Additionally, many other factors may influence telemedicine for which information is not available in the EMR. This includes access to a device supporting telemedicine, internet access and bandwidth in patients' area of residence [47] and other determinants of health and health care utilization that are not easily captured in the EMR.

## New Contribution to the Literature

This is one of the first studies to systematically examine refugees' use of telemedicine in primary care. The results suggest, while use of telemedicine is significantly lower in refugee patients compared to non-refugee patients, and there are barriers to overcome with uptake of telemedicine in refugee patient populations, patients with chronic diseases may be accepting of telemedicine. This could help with complex care management, which is more common in refugee populations given multiple comorbidities. The COVID-19 pandemic offered an opportunity to expand telemedicine to patients who may not otherwise have engaged in these types of visits. This study leveraged data from this time to demonstrate that telemedicine expansion to refugee patient populations can feasibly be done in primary care settings. This information can guide health systems and public health institutions in developing and expanding telemedicine for refugee patients.

**Author Contributions** Both authors contributed to study conception and design. SB performed data collection and analysis and wrote the first draft of the manuscript. FH commented on all versions of the manuscript. Both authors have reviewed and approved the manuscript as submitted.

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## Declarations

**Conflict of interest** The authors have no relevant financial or non-financial interests to disclose. The authors have no conflicts of interest to declare that are relevant to the content of this article. All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript. The authors have no financial or proprietary interest in any material discussed in this article.

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