Patient Satisfaction With Telehealth and Experiences During the COVID-19 Pandemic Among Uninsured Free Clinic Patients

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Abstract

The COVID-19 pandemic is a significant public health issue especially for underserved populations. Little is known about patient satisfaction with telehealth among free clinic patients or other underserved populations. The purpose of this study is to examine factors associated with patient satisfaction with in-person services and telehealth during the pandemic and describe the experiences during the pandemic among free clinic patients. Data were collected from 628 uninsured English- and Spanish-speaking patients of a free clinic using an online survey from June to August in 2020. Free clinic patients are satisfied both with in-person services and telehealth. Factors associated with satisfaction were slightly different for in-person services and telehealth. The major experiences during the pandemic were related to food/diet and physical inactivity. This study examined a new trend in patient satisfaction and is important because telehealth may be a stepping-stone on how to handle future doctor visits for underserved populations. Furthermore, as the pandemic rapidly develops and changes daily life experiences, the uninsured population faces imminent impacts in various aspects of their life experiences.

Keywords

patient satisfaction, telehealth, medically uninsured, free clinics, COVID-19 pandemic

Introduction

COVID-19 is a communicable disease caused by the novel coronavirus (2019-nCoV) that emerged worldwide in early 2020 (1,2). The COVID-19 pandemic is a significant public health issue especially for underserved populations which includes individuals living in poverty (3). Living in poverty is associated with an increased risk of death from COVID-19 (4,5). In addition, individuals with preexisting conditions have higher risks of severe illness and increased deaths from COVID-19 (4,6). Uninsured patients of a free clinic are one of the vulnerable populations during the pandemic because of preexisting chronic conditions and poverty (7,8). Free clinics provide free or reduced-fee services to underserved populations who live in poverty with varying chronic conditions (7). In addition to poverty and chronic conditions, free clinic patients experience barriers to access health care resources other than free clinic services (9).

Moreover, the COVID-19 pandemic has changed the way health care services are rendered—for example, the increased use of telehealth (10). In response to the pandemic and reducing the spread of infection, free clinics are increasingly transitioning in-person appointments to telehealth (11,12). Previous studies examined the satisfaction of free clinic patients at an in-person setting (13,14). Overall, free clinic patients are highly satisfied with in-person services settings (13,14). However, little is known about patient satisfaction with telehealth among free clinic patients or other underserved populations. There are few studies on the experiences during the COVID-19 pandemic among free clinic patients.

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The purpose of this study is to examine factors associated with patient satisfaction with in-person services before or during the pandemic and telehealth during the pandemic and describe the experiences during the COVID-19 pandemic among free clinic patients. The experiences during the COVID-19 pandemic were included because the patients received telehealth only due to the pandemic and were in unique circumstances. Having information about their experiences during the pandemic helps better understand the situations that patients had to receive telehealth. The findings of this study aim to provide critical information to better serve underserved populations who face difficulties to ensure their health during the pandemic. Since COVID-19 is a newly emerged public health issue, there are a number of issues related to the disease that is not yet well known. This study will contribute to increased knowledge about health care and life circumstances among underserved populations, in particular uninsured free clinic patients, during the pandemic.

Methods

Setting

This study was approved by the institutional review board and was conducted at a free clinic located in the Intermountain West from June to August 2020. The free clinic has been providing free primary care services to uninsured individuals who live at or below 150% of the federal poverty level since 2005. The clinic is operated by 12 paid staff and over 800 volunteers. The clinic is primarily funded by nongovernmental grants and donations and is not affiliated with any religious organizations. Although patients of the clinic are from more than 50 countries, more than half of them are Spanish speakers. The clinic primarily provides in-person services. However, during the COVID-19 pandemic, the clinic switched its main services to telehealth to ensure safety and health of the patients, volunteers, and staff of the clinic. The clinic does not provide COVID-19 testing but refers patients who have symptoms of COVID-19 or potentially exposed patients to test sites.

Data Collection and Participants

Participants were patients of the free clinic who were aged 18 or older and spoke English or Spanish. Data were collected using an online survey. All patients of the clinic, who spoke English or Spanish, received an email or text message in English or Spanish that included the information about the study and the link to the survey (1806 English speakers and 2500 Spanish speakers). Consent was obtained from each participant through a consent cover letter at the beginning of the survey. The consent cover letter and survey were available in English and Spanish. There was no participant incentive. The total number of the completed surveys was 628 (US-born English speakers = 107, Non-US-born English speakers = 105, and Spanish speakers = 416). The response rate was 11.7% for English speakers and 16.6% for Spanish speakers).

Measures

Patient satisfaction. Patient satisfaction was measured using the Short Assessment of Patient Satisfaction (SAPS) (15). The SAPS consists of 7 item (eg, "How satisfied are you with the effect of your treatment/care") and asks satisfaction using a 5-point Likert scale (eg, Very satisfied = 4, Very dissatisfied = 0). Scoring was based on the sum of the scores of the 7 item. Satisfaction was asked separately for in-person services and telehealth. Scores can be interpreted as follows: 0 to 10 very dissatisfied, 11 to 18 dissatisfied, 19 to 26 satisfied, and 27 to 28 very satisfied.

Patient experience. Four items regarding patient experience were from CAHPS® Clinician & Group Survey version 3 (16). The following 5 item were included: "How often did providers of the clinic explain things in a way that was easy to understand?;" "How often did providers of the clinic listen carefully to you?;" "How often did providers of the clinic seem to know the important information about your medical history?;" "How often did providers of the clinic show respect for what you had to say?;" and "How often did providers of the clinic spend enough time with you?" A 4-point Likert scale was used (1 = never, 4 = always). Scoring was based on the mean. Patient experience was asked separately for in-person services and telehealth. Cronbach α was .85 for in-person services and .929 for telehealth.

Experiences during the COVID-19 pandemic. The research team brainstormed to identify potential experiences during the COVID-19 pandemic in 8 categories: (1) Health care–related experiences (4 items); (2) Obtaining/ understanding information (4 items); (3) Job-related experiences (4 items); (4) Financial concerns (3 items); (5) Daily life (3 items); (6) Physical activity and diet (2 items); (7) Transportation (1 item); and (8) Child's education/care (3 items).

Sociodemographic information. The following sociodemographic information was asked: age, gender, nativity, country of origin (if not US born), years living in the US (if not US born), self-identified race/ethnicity, educational attainment, marital status, and employment status. In addition, participants were asked to self-rate their general health status (5-point scale: 1 = excellent, 5 = poor), accessibility to a computer, interest in accessing own health information online, and if they were a patient of the clinic for 2 years or longer.

Data Analysis

Data were analyzed using IBM SPSS Statistics for Windows, Version 25.0 (IBM Corp). Participants were compared by 3 groups: US-born English speakers, non-US-born English

Table 1. Sociodemographic Characteristics of Participants and Descriptive Statistics.[a]

Variables	Total (N = 628)	US-born English speakers (n = 107)	Non-US-born English speakers (n = 105)	Spanish speakers (n = 416)	P value	
Frequency (%)						
Female	429 (68.3)	59 (55.1)	72 (68.6)	298 (71.6)	<.01	
Race/Ethnicity						
White-Non-Hispanic	90 (14.3)	76 (71.0)	14 (13.3)	0		
Hispanic/Latino/Latina	447 (71.2)	14 (13.1)	35 (33.3)	398 (95.7)		
Asian or Pacific Islander	32 (5.1)	5 (4.7)	26 (24.8)	1 (0.2)		
Some college or higher	287 (45.7)	65 (60.7)	50 (47.6)	172 (41.3)	<.01	
Currently employed	261 (41.6)	31 (29.0)	39 (37.1)	191 (45.9)	<.01	
Currently married	261 (41.6)	21 (19.6)	51 (48.6)	189 (45.4)	<.01	
US born	112 (17.8)	107 (100)	0	5 (1.2)		
Patient of the clinic—2 years or longer	338 (53.8)	47 (43.9)	67 (63.8)	224 (53.8)	<.05	
Have access to a computer	387 (61.6)	79 (73.8)	75 (71.4)	233 (56.0)	<.01	
Interested in accessing own health information online	372 (59.2)	60 (56.1)	64 (61.0)	248 (59.6)	NS	
Mean (SD)						F
Age	50.77 (12.94)	46.50 (13.21)	53.24 (13.64)	51.27 (12.44)	<.01	7.92
Years in the US (non-US-born only)	14.01 (11.06)					
Self-reported general health[b]	2.96 (0.93)	3.13 (0.97)	2.90 (1.04)	2.94 (0.89)	NS	1.95
Satisfaction with in-person services[c]	23.94 (3.12)	22.47 (3.78)	23.59 (3.57)	24.42 (3.12)	<.01	15.16
Satisfaction with telehealth[c]	22.66 (4.82)	19.61 (5.22)	22.22 (4.65)	23.57 (4.46)	<.01	14.83
Experience in in-person services[d]	3.65 (0.49)	3.63 (0.48)	3.66 (0.53)	3.66 (0.48)	NS	0.14
Experience in telehealth[d]	3.61 (0.59)	3.45 (0.67)	3.59 (0.58)	3.65 (0.56)	NS	2.72

Abbreviations: ANOVA, analysis of variance; NA, not applicable; NS, not significant.
[a]No. (%) or Mean (SD). P value denotes significance from Pearson χ^2 tests between categorical variables (for cell size ≥ 5 only), and ANOVA tests for continuous variables comparing US-born English speakers, non-US-born English speakers, and Spanish speakers.
[b]Lower scores indicate better health. Range 1 to 5.
[c]Higher scores indicate higher levels of satisfaction. Range 0 to 28.
[d]Higher scores indicate better patient experience. Range 1 to 4.

speakers, and Spanish speakers. These divisions are because previous studies on free clinic patients suggest that the 3 groups being markedly different in terms of sociodemographics, health, and patient satisfaction (7,14). Descriptive statistics were performed to describe the characteristics of the participants and variables (frequency and percentage for categorical variables; mean and standard deviation for continuous variables). Canonical correlation was used to determine correlations between patient satisfaction and each item of patient experience. Multiple regression analysis was conducted to examine the association between patient satisfaction (a dependent variable) and sociodemographic characteristics, self-rated general health, and patient experience (independent variables). Multicollinearity was tested using the variance inflation factor. There was no significant multicollinearity. Only completed surveys were used for analysis.

Results

Table 1 summarizes sociodemographic characteristics of participants and descriptive statistics. Approximately 70% of participants were female. Forty-six percent of participants had some college or higher educational attainment. US-born English speakers had the highest percentage of having some college or higher educational attainment (60.7%), while Spanish speakers had the lowest percentage (41.3%; P < .01). Spanish speakers had the highest percentage of being employed (45.9%), whereas US-born English speakers had the lowest percentage (20.0%; P < .01). Non-US-born English speakers (48.6%) and Spanish speakers (45.4%) were more likely to be married compared to US-born English speakers (19.6%; P < .01). Non-US-born English speakers had the highest percentage of being a patient for 2 years or longer (63.8%; P < .05). Spanish speakers (56.0%) had a lower percentage of having access to a computer than non-US-born English speakers (71.4%) and US-born English speakers (73.8%; P < .01). US-born English speakers (mean = 46.50) were younger than Spanish speakers (mean = 51.27) and non-US-born English speakers (mean = 53.24; P < .01). Overall, the average score for satisfaction with in-person services (23.94) was slightly higher than that for telehealth (22.66). However, both average scores were in the range of satisfied. Spanish speakers were more likely to be satisfied with in-person services and telehealth, while US-born English speakers were least satisfied (P < .01).

Table 2 presents the results of canonical correlations between patient satisfaction and patient experience. The patient experience of "providers explained things in a way that was easy to understand" was significantly associated

Table 2. Results of Canonical Correlations Between Patient Experience and Patient Experience.

Patient experience	Patient satisfaction in-person				Patient satisfaction telehealth			
	Correlation	Wilks statistics	F	Significance	Correlation	Wilks statistics	F	Significance
1	0.58	0.60	8.43	<.01	0.66	0.53	5.17	<.01
2	0.22	0.90	2.52	<.01	0.19	0.93	0.80	NS
3	0.21	0.94	2.26	<.01	0.16	0.96	0.66	NS
4	0.11	0.99	1.03	NS	0.10	0.99	0.34	NS
5	0.06	1.00	0.59	NS	0.02	1.00	0.04	NS

Abbreviation: NS, not significant.
Patient experience: 1: How often did providers of the clinic explain things in a way that was easy to understand?; 2: How often did providers of the clinic listen carefully to you?; 3: How often did providers of the clinic seem to know the important information about your medical history?; 4: How often did providers of the clinic show respect for what you had to say?; and 5: How often did providers of the clinic spend enough time with you?

with better patient satisfaction for both in-person services and telehealth ($P < .01$). Two patient experience items "providers listened carefully to you" and "providers knew the important information about your medical history" were significantly related to better patient satisfaction only for in-person services.

Table 3 describes experiences during the pandemic. Top 5 common experiences include "unable to buy something that I wanted or needed during grocery shopping" (40.8%), "the time for physical activity was reduced" (31.8%), "difficult to find a good time to go grocery shopping" (27.1%), "diet became unhealthy" (26.8%), and "had a hard time to pay bills other than rent/mortgage" (25.3%). US-born English speakers were more likely to have reported the experiences during the pandemic than non-US-born English speakers and Spanish speakers.

Table 4 shows the results of regression analysis. Higher levels of positive experience both in in-person services and telehealth were associated with higher levels of satisfaction with in-person services and telehealth ($P < .05$ for in-person services, $P < .01$ for telehealth). Higher levels of positive experience in in-person services and better self-rated general health were related to higher levels of satisfaction with in-person services ($P < .01$). Being a US-born English speaker was associated with lower levels of satisfaction both with in-person services and telehealth ($P < .01$).

Discussion

This study examined factors associated with patient satisfaction with in-person services and telehealth and described the experiences of uninsured free clinic patients during the COVID-19 pandemic. There are 3 main findings. First, free clinic patients are satisfied both with in-person services and telehealth while US-born English speakers are less likely to be satisfied than non-US-born English speakers and Spanish speakers. Second, factors associated with satisfaction were slightly different for in-person services and telehealth. Third, the most major experiences during the pandemic were related to food/diet and physical inactivity.

The results demonstrate that US-born English patients were less likely to be satisfied with in-person services than non-US-born English speakers and Spanish speakers were consistent with previous studies (14). Previous studies reported that patient satisfaction with telemedicine is high during the COVID-19 pandemic (17,18). The findings from previous studies could be relevant to underserved populations. Given that participants were satisfied with both in-person services and telehealth, how services are delivered, in-person or telehealth, may not be as important for patient satisfaction.

However, the finding regarding factors associated with satisfaction with in-person services and/or telehealth suggests an interesting practice implication. Previous research that examined patient satisfaction with both in-persons services and telehealth did not examine how experiences with in-person services are potentially associated with that telehealth or vice versa (19). In fact, the results of the current study suggest patient experiences associated with patient satisfaction are not exactly the same. In telehealth which does not have in-person face-to-face interactions, it is important for providers to explain things so patients can understand easily. How many patients had engaged in electronic communications in the past is a significant predictor of patient–provider communication in the COVID-19-induced transition to telehealth (20). Free clinic patients had barriers to access to electronic communication tools before the pandemic. In telehealth, it is imperative for providers to develop methods to explain medical information better to patients who are not familiar with receiving health information electronically. It may be worthwhile to note that self-rated health status was associated with satisfaction with in-person services but not with telehealth. This may be because for some patients, visiting a clinic may be physically demanding and time-consuming. Seeing a provider via telehealth can eliminate such a burden.

Regarding experiences during the COVID-19 pandemic, the majority of main experiences were related to food/diet and physical inactivity. The COVID-19 pandemic negatively affected the food system in North America (21). Individuals in poverty were highly impacted by the problems in the food

Table 3. Experiences During Pandemic.

Variables	Total (N = 628)	US-born English speakers (n = 107)	Non-US-born English speakers (n = 105)	Spanish speakers (n = 416)	P value
Frequency (%)					
Physical health became worse	111 (11.7)	23 (21.5)	24 (22.9)	64 (15.4)	NS
Mental health became worse	113 (18.0)	38 (35.5)	25 (23.8)	50 (12.0)	<.01
Had a hard time to buy nonprescription drug	65 (10.4)	15 (14.0)	9 (8.6)	41 (9.9)	NS
Had technological difficulties (related to health care)	36 (5.7)	8 (7.5)	7 (6.7)	21 (5.0)	NS
Difficult to obtain accurate information about COVID-19/corona virus	54 (8.6)	20 (18.7)	6 (5.7)	28 (6.7)	<.01
Very confusing because the government's directives/order changed frequently	103 (16.4)	33 (30.8)	18 (17.1)	52 (12.5)	<.01
Heard rumors about COVID-19/corona virus that may not be accurate	144 (22.9)	41 (38.3)	24 (22.9)	79 (19.0)	<.01
Not have Internet access from which I could get more information about COVID-19	32 (5.1)	10 (9.3)	2 (1.9)	20 (4.8)	
Lost a job	125 (19.9)	31 (29.0)	20 (19.0)	74 (17.8)	<.05
Work hours reduced	151 (24.0)	33 (30.8)	20 (19.0)	98 (23.6)	NS
Had fear that I may contract corona virus during work	146 (23.2)	24 (22.4)	19 (18.1)	103 (24.8)	NS
Worked from home (teleworking)	27 (4.3)	11 (10.3)	4 (3.8)	12 (2.9)	<.05
Applied for unemployment	47 (7.5)	18 (16.8)	7 (6.9)	22 (5.3)	<.01
Had a hard time to pay for rent/mortgage	144 (22.9)	42 (39.3)	19 (18.1)	83 (20.0)	<.01
Had a hard time to pay bills other than rent/mortgage	159 (25.3)	42 (39.3)	23 (21.9)	94 (22.6)	<.01
Unable to buy something that I wanted or needed during grocery shopping	256 (40.8)	62 (57.9)	38 (36.2)	156 (37.5)	<.01
Difficult to find the good time to go grocery shopping	170 (27.1)	39 (36.4)	21 (20.0)	110 (26.4)	<.05
Had a hard time to keep social distancing	97 (15.4)	19 (17.8)	14 (13.3)	64 (15.4)	NS
Time for physical activity was reduced	200 (31.8)	56 (52.3)	29 (27.6)	115 (27.6)	<.01
Diet became unhealthy	168 (26.8)	38 (35.5)	24 (22.9)	106 (25.5)	NS
Hard to use public transportation due to the reduced services	87 (13.9)	15 (14.0)	15 (14.3)	57 (13.7)	NS
Difficult to find childcare	36 (5.7)	4 (3.7)	5 (4.8)	27 (6.5)	
My child(ren) did not study enough during the school closure	105 (16.7)	22 (20.6)	11 (10.5)	72 (17.3)	NS
My child(ren) did not have sufficient technology to study from home	45 (7.2)	8 (7.5)	4 (3.8)	33 (7.9)	

Abbreviation: NS, not significant.

Table 4. Predictors of Patient Satisfaction.[a]

Variables	In-person β	P value	Telehealth β	P value
Age	−0.01	NS	0.01	NS
Female	−0.03	NS	−0.04	NS
US-born English speakers	−2.39	<.01	−3.57	<.01
Non-US-born English speakers	−0.45	NS	−0.60	NS
Some college or higher	−0.40	NS	0.50	NS
Employed	0.11	NS	0.43	NS
Married	−0.27	NS	−0.81	NS
Clinic patient 2+ years	0.23	NS	−0.02	NS
Self-reported general health	−0.60	<.01	0.18	NS
Have access to a computer	−0.55	NS	−0.57	NS
Interest in accessing own health information online	−0.08	NS	.05	NS
Experience in in-person services	2.63	<.01	−0.48	NS
Experience in telehealth	0.90	<.05	4.70	<.01
(Constant)	14.56	<.01	7.15	<.01
R^2	0.35		0.41	
F	13.87		13.93	
P value	<.01		<.01	

Abbreviation: NS, not significant.
[a] Multiple regression. *P* value denotes significance from multivariate regression analysis.

system (21). Populations with obesity tend to eat even more unhealthy food during pandemic (22). In addition to food/diet-related issues, physical inactivity is a significant problem during the pandemic due to safety measures (23). Physical inactivity could increase cardiovascular disease and mortality in the future (23). The majority of free clinic patients have chronic conditions (8,24). Poor diet and physical activity could affect their health negatively even after the pandemic ends. COVID-19-induced telehealth should focus not only on the continuity of in-person services but also on lifestyle changes from the pandemic.

Limitations

The response rate was relatively low similar to other online surveys. However, the total number of participants is comparable to previous studies using a paper survey at the same free clinic. Only the patients who had the skills and access to the necessary technology were able to participate in the survey. This may have skewed the results. For example, patients who do not use the internet or technology may have lower satisfaction with telehealth. Patients who did not speak English or Spanish or did not use email/test messaging did not receive the link to the online survey. This study was conducted at one free clinic. The results from this study would be generalizable to other free clinics which have similar patient characteristics but not to those whose patient characteristics are not similar.

Conclusion

The COVID-19 pandemic has changed the way health care services are delivered. This study examined a new trend in patient satisfaction and is important because, with times changing, telehealth may be here to stay or a stepping-stone on how to handle future doctor visits for underserved populations. Explaining things so patients can easily understand is key in telehealth with underserved populations. Furthermore, as the pandemic rapidly develops and changes daily life experience, in addition to financial concerns, the uninsured population faces imminent impacts in various aspects of their life experiences. Particularly, the issues relating to inadequate diet and physical inactivity are significant. It is clear that life normalcy still lies much ahead, indicating pandemic-induced changes and impacts may last for months and possibly years even after an effective vaccine has been developed. COVID-19-induced telehealth should include health education that targets lifestyle changes, in particular diet and physical activity, to ensure their health during the pandemic situation.

Further research is necessary to examine the impacts of pandemic-induced lifestyle on health and wellness, in addition to strategic interventions for maintaining good health even during this pandemic. Patient satisfaction during this rapid change in care delivery—diagnosis of a condition and diagnosis of treatment—is also essential to further examine.

For example, if a treatment has been delayed because of COVID-19, what would be the impact on patient satisfaction? Finally, future research on both patient and provider experience and satisfaction with telehealth to see whether their perspective toward telehealth has change over time as they become more comfortable and familiar with the system.

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References

1. Sohrabi C, Alsafi Z, O'neill N, Khan M, Kerwan A, Al-Jabir A, et al. World health organization declares global emergency: a review of the 2019 novel coronavirus (COVID-19) (vol 76, pg 71, 2020). Int J Surg. 2020;77:217-7.
2. World Health Organization. Q&A on coronaviruses (COVID-19). 2020. Updated October 12, 2020. Accessed October 15, 2020. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/q-a-coronaviruses
3. Gray DM, Anyane-Yeboa A, Balzora S, Issaka RB, May FP. COVID-19 and the other pandemic: populations made vulnerable by systemic inequity. Nat Rev Gastroenterol Hepatol. 2020;17:520-2.
4. Centers for Disease Control and Prevention. People with certain medical conditions: health equity considerations and racial and ethnic minority groups. 2020. Updated April 19, 2021. Accessed November 10, 2020. https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html
5. Kim SJ, Bostwick W. Social vulnerability and racial inequality in COVID-19 deaths in Chicago. Health Educ Behav. 2020;47:509-13.
6. Ssentongo P, Ssentongo AE, Heilbrunn ES, Ba DM, Chinchilli VM. Association of cardiovascular disease and 10 other pre-existing comorbidities with COVID-19 mortality: a systematic review and meta-analysis. PLoS One. 2020;15:16.
7. Kamimura A, Christensen N, Tabler J, Ashby J, Olson LM. Patients utilizing a free clinic: physical and mental health, health literacy, and social support. J Community Health. 2013;38:716-23.

8. Kamimura A, Nourian MM, Chernenko A, Rathi N, Oslund MA, Ashby J.Beliefs and knowledge of cardiovascular-related disease among uninsured primary care patients: a cross-sectional study. Chronic Illn. 2019;15:38-50.

9. Geller S, Taylor BM, Scott HD. Free clinics helping to patch the safety net. J Health Care Poor Underserved. 2004;15:42-51.

10. Bashshur R, Doarn CR, Frenk JM, Kvedar JC, Woolliscroft JO. Telemedicine and the COVID-19 pandemic, lessons for the future. Telemed e-Health. 2020;26:571-3.

11. Falicov CJ. Working with transnational immigrants: expanding meanings of family, community, and culture. Fam Process. 2007;46:157-71.

12. Ramsetty A, Adams C. Impact of the digital divide in the age of COVID-19. J Am Med Inform Assoc. 2020;27:1147-8.

13. Asanad K, Zheng J, Chan-Golston A, Tam E, Bhetraratana M, Lan CW, et al. Assessing quality of care through client satisfaction at an interprofessional student-run free clinic. J Interprof Care. 2018;32:203-10.

14. Kamimura A, Ashby J, Myers K, Nourian MM, Christensen N. Satisfaction with healthcare services among free clinic patients. J Community Health. 2015;40:62-72.

15. Hawthorne G, Sansoni J, Hayes L, Marosszeky N, Sansoni E. Measuring patient satisfaction with health care treatment using the Short Assessment of Patient Satisfaction measure delivered superior and robust satisfaction estimates. J Clin Epidemiol. 2014;67:527-37.

16. Consumer Assessment of Healthcare Providers and Systems. CAHPS® clinician & group survey. 2015. Updated July 1, 2015. Accessed October 15, 2020. https://www.ahrq.gov/sites/default/files/wysiwyg/cahps/surveys-guidance/cg/survey3.0/adult-eng-cg30-2351a.pdf

17. Layfield E, Triantafillou V, Prasad A, Deng J, Shanti RM, Newman JG, et al. Telemedicine for head and neck ambulatory visits during COVID-19: evaluating usability and patient satisfaction. Head Neck. 2020;42:1681-9.

18. Rahman N, Nathwani S, Kandiah T. Teledentistry from a patient perspective during the coronavirus pandemic. Br Dent J [published online ahead of print August 14, 2020]. doi:10.1038/s41415-020-1919-6

19. Ratanjee-Vanmali H, Swanepoel D, Laplante-Levesque A. Patient uptake, experience, and satisfaction using web-based and face-to-face hearing health services: process evaluation study. J Med Internet Res. 2020;22:13.

20. Wu QWL, Street RL. Factors affecting cancer patients' electronic communication with providers: Implications for COVID-19 induced transitions to telehealth. Patient Educ Couns. 2020;103:2583-7.

21. Cable J, Jaykus LA, Hoelzer K, Newton J, Torero M. The impact of COVID-19 on food systems, safety, and security—a symposium report. Ann N Y Acad Sci. 2020;1484:6.

22. Ashby NJS. Impact of the COVID-19 pandemic on unhealthy eating in populations with obesity. Obesity. 2020;28:1802-5.

23. Schwendinger F, Pocecco E.Counteracting physical inactivity during the COVID-19 pandemic: evidence-based recommendations for home-based exercise. Int J Environ Res Public Health. 2020;17:5.

24. Kamimura A, Tabler J, Nourian MM, Assasnik N, Wright L, Ashby J. Prevention and management of hypertension and diabetes using social capital and physical activity among socioeconomically disadvantaged populations. Fam Community Health. 2017;40:205-11.