Characterizing the Digital Divide in the Latinx Community of Central Virginia

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ABSTRACT

Historically, Latinx communities in the United States (US) have had some of the lowest levels of internet access and use in comparison to other minority groups. In order to develop a better understanding of how the digital divide impacts the Latinx community of Central Virginia, we conducted a telephone survey of 39 Latinx participants. Survey questions were related to both technology access and technology use. We found that older participants were significantly less likely to have home internet connection than younger participants and significantly less likely to use email. In addition to providing insight on technology-related needs of the Latinx community of Central Virginia, we hope our research may serve as a foundation for advocacy efforts to increase technology access as well as technology education resources for Latinx communities nationwide.

1. Introduction

The digital divide, or the gap between those with access to the internet and those without, has been a sociological issue for members of low income and underserved communities throughout the last two decades[1,2]. The COVID-19 pandemic exacerbated the effects of the digital divide because many in-person services moved to virtual formats in order to control the spread of disease[3]. In response to this, broadband internet access has been increasingly considered a new social determinant of health[4]. This is because it impacts each of the six previously conceived social determinants of health (economic stability, the health care system, neighborhood and physical environment, education, food, and community and social context) as well as a newly conceived domain: access to credible information[5]. For this reason, it has become increasingly important to characterize the digital divide at the national and local levels.

Among Latinx nationwide, a lack of access to technology has been clearly demonstrated. A 2016 analysis of US Census data revealed that 32.5% of Latinx Americans do not have a desktop or laptop computer at home compared to only 19.1% of white Americans. Additionally, it was reported that 22.7% of Latinx do not have an internet subscription, compared to 16.1% of whites[6]. The Pew Center has reported even more severe disparities in internet access, with 35% of Latinx compared to 20% of whites lacking home broadband internet[7]. Among Latinx Americans, certain demographic factors have been found to impact internet use such as age, birthplace, and English language proficiency[8,9].

It is important to recognize that technology and internet *access*, which can be considered the first-level digital divide, does not encompass the full depth of the disparities that exist. There is growing awareness of a second-level digital divide, which encompasses the different ways in which individuals take advantage of, or use, technology. The second-level digital divide is relevant because it suggests that even if every individual in the US had access to technology, there would still be disparities in the benefit gained from the internet.

The second-level digital divide can be evaluated through engagement with "capital enhancing" activities, or using the internet to increase "human, financial, political, social, and cultural capital"[10,11]. Examples of capital enhancing activities include searching for employment opportunities, consulting informational health resources, and becoming more informed politically. These activities are distinguished from entertainment, because they are more likely to provide upward mobility opportunities. It has been shown that individuals with higher education and more advanced technology skills are more likely to visit capital enhancing websites[10]. This suggests that investments in improving access to technology for underserved populations may not be sufficient without adequate investment in education.

Telemedicine, or "the use of electronic information and communications technologies to provide and support health care when distance separates the participants"[12], became increasingly relevant during the COVID-19 pandemic, and involves both the first and second levels of the digital divide. This is because for a patient to engage in telemedicine, they must not

only have access to technology and reliable internet, but they must also possess a sufficient level of digital literacy. It is likely that during the pandemic, with the suspension of the majority of in-person medical visits, many members of the Latinx community and other underserved populations were unable to access health care[13]. This is supported by an analysis of medical records of almost 3,000 patients needing cardiovascular care during the pandemic, which found that non-English-speaking patients were associated with an over 50% lower use of telemedicine[14].

The COVID-19 pandemic, and the heightened importance of online connection during this time, motivated our current study, which aims to evaluate both the first and second levels of the digital divide in the Latinx community of Central Virginia, specifically within the Blue Ridge Health District. This health district includes the counties of Albemarle, Fluvanna, Greene, Louisa, and Nelson as well as the City of Charlottesville. There are approximately 13,400 Latinx individuals in the health district, making up 5.1% of the population[15]. By characterizing the local digital divide, there can be specific resource allocation to narrow the divide as well as minimize its negative impacts on health and wellbeing for the local Latinx population.

2. Methods

IRB approval for this study was obtained by the University of Virginia Institutional Review Board for Social and Behavioral Sciences before recruitment began (IRB-SBS Protocol 3848). A total of 39 participants, who self-identify as Latinx or Hispanic and live in the Blue Ridge Health District, were recruited from phone calls by investigators. The investigators randomly called numbers gathered from a prior study completed by LHI (Latino Health Initiative) at the University of Virginia. Additionally, interest flyers for the study were displayed in restaurants and stores frequented by Latinx patrons as well as on LHI social media. These flyers did not end up recruiting many participants but may have advertised the legitimacy of the study throughout the community.

We created a telephone-based questionnaire to collect data about the local digital divide. The questionnaire was available in both English and Spanish, and the Spanish version underwent multiple stages of cultural validation and adaptation with Spanish speaking community health workers, who work with LHI, to ensure the accuracy and clarity of the translation. Investigators were instructed to read survey questions verbatim, however could provide further explanation of any given question at the request of the participant.

All of the calls were completed in Spanish between February and April 2021. Participants were informed of the goals of the study and of benefits and risks to participating. They provided oral consent over the phone, which was documented by our investigators. The questionnaire typically lasted between 30 and 45 minutes and was completed entirely over the phone. If any amount of the survey was completed, participants were sent a $15 gift card and a study information sheet in the mail.

The survey instrument consisted of 51 questions, both quantitative and qualitative, in five sections (see Appendix for full questionnaire). The first section consisted of demographic questions including age, gender, country of birth, educational attainment, occupation, and English language proficiency. English language proficiency was based on a scale of one to five, where one represents no knowledge of English, two represents “limited” English proficiency, three was explained as, “I understand what is said to me but have trouble communicating back”, four was explained as, “I can communicate and understand most things but lack fluidity when speaking English”, and five represents English fluency.

The second section asked questions relating to technology access, such as smartphone and computer access for each member of an individual’s household and whether or not they have Wi-Fi in the home. The third section asked questions about technology use, such as social media use and experience with video telemedicine. The fourth section asked about community resource utilization and the fifth section asked about additional social determinants of health, like insurance coverage and annual income.

After data collection was completed, quantitative data analysis was performed with Fischer’s exact test. Qualitative data was also reviewed.

3. Results

Demographics

Our sample of Latinx in the Blue Ridge Health District was 59% female and 41% male, with the majority between 30 and 64 years of age. The entire sample was born outside of the US. There was a wide range in the number of years lived in the

US. The majority of participants reported between 7 and 12 years of schooling, while about a third reported only 6 or less years of schooling. The most common professions among participants were housekeeping and construction and maintenance. Over a third of our sample was not employed at the time of the survey, which may have been higher than expected due to job loss during the pandemic. Only 17.9% of our sample reported having health insurance.

Only 7.7% of participants self-reported an advanced level of English language proficiency, meaning they can communicate most things in English but lack fluidity. The rest of our participants reported either no English proficiency, limited proficiency, or an intermediate level, defined as that they can understand most things but have some difficulty communicating responses. No one in our sample self-reported being fluent in English. All demographic data can be found in Table 1.

Technology Access

Almost every participant (97%) owned a personal smartphone with internet connectivity, while only about a quarter owned a home computer. Of the participants with a smartphone, over half were "smartphone only" users, meaning they had no other device with internet connectivity besides their phone. The majority of participants had internet connection in their home, but some relied exclusively on their cell phone data plan for internet access, and one participant had no internet access at all. These results can be found in Table 2.

There were no statistically significant differences in access to a home computer across demographic factors due to the small sample size, however there were a few trends. Younger participants as well as those who immigrated to the US longer ago and reported higher levels of English proficiency were more likely to own a home computer. Additionally, males were more likely to report having access to a computer than females. This is presented in Table 3.

Younger participants were statistically more likely to have home internet access compared to participants 50 and older (p=0.0057, Fischer's exact test).

Additionally, females were significantly more likely to have home internet connection than males (p=0.0332, Fischer's exact test). No significant differences in home internet access were found based on years lived in the US, English proficiency, or years of schooling. This can be found in Table 4.

In response to the question, "How much difficulty, in terms of cost, have you had in maintaining active cell phone services and Wi-Fi?", which measures the cost burden and cost prioritization of technological services, over half of participants with a Wi-Fi or phone plan (60.5%) reported that they always make all payments on time for these services, and therefore have had consistent access to their phone and the internet. The other participants (39.5%), however, reported they have had to at least temporarily delay payments or cancel their plan.

After dividing respondents into "high cost burden" and "low cost burden" groups, based on those that have ever delayed payments or canceled their plan vs. those that have always maintained active technology services, there were no statistically significant differences based on age, gender, English proficiency, or years of schooling, but there were some trends. Of participants that have lived in the US for 10 or fewer years, 50% were in the "high cost burden" group, while only 36% of participants that have lived in the US for 11 or more years fell into the "high cost burden" group. Over half (52.4%) of participants under 50 years of age fell into the "high cost burden" group vs. only 27.8% of those 50 years and older. More males (56.3%) than females (30.4%) fell into the "high cost burden" group.

Technology Use

The most interesting finding in relation to our sample's use of technology was that over half of participants did not have an email address or do not use their email. Refer to Table 5 for these results. When asked, "If you do not use email, explain why not," most replied simply that they had no reason to use email, while a few said that they did not know how to set it up. A larger number of participants reported using WhatsApp and Facebook.

There was a significant difference in email use based on age. **Two thirds of participants between 18 and 49 (66.7%) used email compared to less than a third (27.8%) of those 50 and older (p=0.0248, Fischer's exact test).** There were no other statistically significant differences in email use between groups, however in our sample females were more likely to use email along with participants who had immigrated more recently, reported less English proficiency, and had more years of schooling. This is presented in Table 6.

All but one participant reported being able to "communicate with another person over video" via either their cell phone or computer. This would be a prerequisite for the ability to engage with video telemedicine. It was found that 20.5% of participants have had experience with video telemedicine, and of those with telemedicine experience, most had a positive experience (62.5%), and none had a negative experience. By narrowing the sample to include only participants with a primary care physician (53.8%), the telemedicine experience rate increases to 38.1%.

Out of the participants that have a primary care doctor from the University of Virginia, less than half (46.7%) said that they are familiar with UVA MyChart and have used it before. For reference, UVA MyChart is "a personalized, secure way to access portions of your medical information and to communicate with your physician online."

Over half of the participants (61.5%) reported engaging in some form of online health education (including any website from a google search, trusted websites, and social media). There were no statistically significant differences in engagement in online health education between demographic groups, however there were some trends. Of participants 18 to 49, 71% engaged in online health education compared to only 50% of participants ages 50 and older. Only 46% of participants with 0 to 6 years of education reported using online health resources compared to 72% of participants with 7 or more years of education.

4. Discussion

On the most fundamental aspect of the digital divide, internet access, our data revealed that a large majority of our sample, about 85%, have home Wi-Fi connections. This is extremely promising, and is 24% higher than what was found among Latinx in a national study by the Pew Center[7]. This suggests that the digital divide in the Blue Ridge Health District, specifically in terms of access to internet, may be smaller than in other parts of the country. Another promising statistic is that 97% of our sample owns a smartphone. Smartphones have significantly contributed to narrowing the digital divide in the US, as it has been shown nationally that rates of smartphone usage are nearly equal among Latinx, Black, and white Americans[7].

On the other hand, our sample was found to have much lower rates of home computer access than Latinx nationally: 23% versus 57%. This implies that the majority of Latinx in this district may not be able to take advantage of the more advanced technological services that function better on computers than smartphones.

Interestingly, one participant commented during her interview that her home Wi-Fi connection and her child's computer are provided by a school program. Since this information was provided voluntarily, and was not specifically asked as a survey question, it is possible other participants also have internet or computer access through their child's school system. It is important to recognize that as these children age out of the school system, these families may lose internet and computer access.

The theory of technology maintenance relates to this idea, and describes how even though low-income individuals may own technological devices, their ability to maintain connected to the internet may be tenuous. This can be due to a variety of reasons, such as cost barriers of continuing to pay for a data service plan or problems with broken hardware. In our sample, 39.5% of participants reported they have had to at least temporarily delay payments or cancel their phone or internet plan at some point. Nationally, it was found that Blacks and Latinx are approximately twice as likely to have canceled or paused their smartphone services in comparison to whites[16]. Therefore, focusing on technology access, without considering the financial burdens of sustaining a connection to the internet, may miss an important aspect of the digital divide[17].

Overall, the most significant finding from this study was that older individuals, those 50 and over, were less likely to have home internet connection than younger individuals. These findings are similar to previous research done on internet access among Latinx Americans[8,18]. Another striking discovery was the low rate of email use among participants, especially among participants over 50, which relates to the second-level digital divide. This is noteworthy because email is an important tool to communicate with schools, employers, and healthcare professionals. We found limited outside research on email access and the digital divide with which to compare this finding.

Older participants were also less likely to use the internet for health education than younger participants. This further suggests that the digital divide most intensely impacts older community members. Among Latinx nationally, English literacy has been found to be a positive predictor of internet use and health information seeking online, while speaking Spanish at

home was found to be negatively correlated with online health information seeking[19,20]. Higher educational attainment has also been associated with increased online health information seeking[21].

Only 20% of our sample has ever engaged in telemedicine, likely affected by the fact that only about half of our sample has a primary care physician. When isolating participants with a primary care physician, over a third have had experience with telemedicine. It is challenging to compare these statistics to national data because the in 2021 the Department of Health and Human Services asked about telemedicine usage "in the previous four weeks", which was between 20 and 25% among most demographic groups including Latinx[22].

In the context of the limited English language proficiency of our sample, an interesting comment from a participant that has engaged with telemedicine as a Spanish speaker was that, while his overall experience was fine, speaking with medical specialists was particularly challenging because of a lack of medical knowledge on the part of the interpreter and the potential for miscommunication of important information. This is an example of a language barrier to healthcare for non-English speakers. The negative impact of this type of miscommunication between the interpreter and the patient has been shown to be detrimental to patient care. In addition to the errors in explaining complex medical terminology, interpreter services may also contribute to miscommunication via misplaced cultural sensitivity, general translation problems, and failure to create trust in the doctor-patient relationship[23].

Overall, the most significant findings of our study suggest that older Latinx have less access to technology and lower information technology skills than younger Latinx community members, which may limit their opportunity improve their socioeconomic status, health and wellbeing. This suggests that the greatest benefit for the Latinx community may be achieved by focusing technology access and education resources towards older individuals.

Limitations

A significant limitation of this study was that we were unable to conduct in-person interviews due to the COVID-19 pandemic and IRB requirements for research during this time. This means that every participant we interviewed had to have a functioning phone, thus selecting a potentially more resourceful sample out of the greater population. Another possible area of selection bias was that individuals with the least knowledge about technology may have declined to participate in the study due to discomfort in answering these types of questions.

Additionally, the small sample size of 39 does limit the generalizability of the data for the entire Blue Ridge Health District, which was the goal of the study. The data may be more generalizable for the Latinx population in the city of Charlottesville specifically, as this is where most participants reported living.

Of the recorded demographic data, the numbers of years lived in the US stood out the most from expected results. There were no US-born participants in our sample, compared to the 56% of Latinx in Virginia that are US-born[24]. The lack of US-born Latinx in our sample probably relates to the fact that the recruitment process was via LHI networks, which works with a large number of underserved Latinx immigrants. There were also only a limited number of participants reporting that they have lived in the US for five or less years, which may be due to the fact that more established residents are more willing to participate in community engagement work and less established residents are either less motivated or more fearful to engage. Therefore, while our data may be representative of Latinx immigrants with the potential to have experienced greater levels of acculturation, our data may be limited in capturing the technological challenges of Latinx immigrants of most recent arrival who are less assimilated to US culture, as well as US-born Latinx.

It is also important to note that our population of Latinx in the Blue Ridge Health District may be unique from other Latinx populations throughout the US. The presence of the University of Virginia (UVA), and more specifically the UVA School of Medicine, has contributed to a consistent stream of resources and student volunteers in the community. For example, in part due to the significant effort of organizations such as the UVA Latino Health Initiative (LHI), over 93% of eligible Latinx in the health district, compared to only 71% of white individuals, received at least one dose of the COVID-19 vaccine[25]. This impressive statistic demonstrates the connectedness of the Latinx community to health resources, which may potentially counteract some of the isolating effects of the digital divide. Even within the district, our data may be affected by participation bias, as recruitment calls were made using a phone list from a previously conducted cardiovascular health program by LHI.

Future Directions

Our study has generated important findings that should be examined in a larger sample with in person surveys and with geographic representation of the population in question.

Moving forward, the results of our survey do suggest that the greatest efforts should be made towards improving technology access and education for older Latinx individuals, as they were found to be the least likely to have access to home internet and be least likely to use email. Providing training in how to set-up and use email, specifically tailored to older Latinx individuals, would be of great benefit. This may allow them to communicate better with health professionals and other services. While these advances are being made, however, it is likely that text messages and Facebook posts would be the ideal methods of communication for many Latinx individuals. It is important for healthcare professionals and for school systems to be aware of the low rates of email usage, and that these types of messages may not be able to reach Latinx individuals in the area.

Additionally, efforts should be made to help improve the English language proficiency of Latinx Americans. This would allow for better communication with healthcare professionals and would also help to close the digital divide.

Overall, these types of surveys can help community and governmental organizations most appropriately allocate resources to address not only disparities in technology access but also in the use of technology. As the first-level of the digital divide continues to narrow in this country, more efforts will need to be made towards expanding technology education, such as email training. Narrowing the first and second levels of the digital divide will improve the health of underserved groups both directly, through improving their ability to access health information and communicate with healthcare professionals, as well as indirectly, through reducing the impact on other social determinants of health.

Table 1: Description of Sample

Gender	**n**	**%**
Male	16	41.0
Female	23	59.0
Country of Birth		
Mexico	24	61.5
El Salvador	8	20.5
Other	7	17.9
United States	0	0
English Language	***n***	***%***
None	5	12.8
Limited	13	33.3
Intermediate	18	46.2
Advanced	3	7.7
Fluent	0	0
Age	***n***	***%***
18-29	2	5.1
30-49	19	48.7
50-64	13	33.3
65+	5	12.8
Years Lived in US	***n***	***%***
0-5	4	10.5
6-10	6	15.8
11-15	10	26.3
16-20	8	21.1
21+	10	26.3
Years of Schooling	***n***	***%***
0	3	7.89
1-6	10	26.3
7-12	22	57.9
13+	3	7.89
Employment	***n***	***%***
Housekeeping	10	25.6
Construction & Maintenance	6	15.4
Food service	2	5.1
Automotive service	2	5.1
Other	5	12.8
Unemployed	14	35.9

Table 2: Technology and Internet Access

Personal Smartphone	%
Yes	97.4
No	2.56
Home Computer	%
Yes	23.1
No	76.9
Personal Tablet	%
Yes	17.9
No	82.1
Home Internet	%
Yes	84.6
No	15.4

Table 3: Computer Access Stratified by Demographic Data

Computer Access	***(%)***
Gender	
Male	31.3
Female	17.4
Age	
18-49	23.8
50+	16.7
Years Lived in U.S.	
0-10	10.0
11+	25.0
English Proficiency	
None to Limited	11.1
Intermediate to Advanced	33.3
Years of Schooling	
0-6	23.1
7+	24.0

Table 4: Internet Access Stratified by Demographic Data

Home Internet Access	***(%)***
Gender	
Male	68.8
Female	95.7
Age	
18-49	100.0
50+	66.7
Years Lived in U.S.	
0-10	90.0
11-20	100.0
>20	50.0
English Proficiency	
None to Limited	88.9
Intermediate to Advanced	81.0
Years of Schooling	
0-6	84.6
7+	88.0

Table 5: Communication and Social Media Platforms

Email Address	%
Yes	48.7
No	51.3
WhatsApp	%
Yes	74.4
No	25.6
Facebook	%
Yes	79.5
No	20.5

Table 6: Email Use Stratified by Demographic Data

Email Use	***(%)***
Gender	
Male	31.3
Female	60.9
Age	
18-49	66.7
50+	27.8
Years Lived in U.S.	
0-10	70.0
11+	39.3
English Proficiency	
None to Limited	66.7
Intermediate to Advanced	33.3
Years of Schooling	
0-6	38.5
7+	56.0

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Appendix

(Survey Questionnaire)

Digital Divide in the Latino Community

Part I: Demographic and Epidemiological Information

Instructions: This section has questions about yourself. This information is useful so we can understand the population that participates in the digital divide survey. Please answer the questions to the best of your ability.

Interview performed via: phone_____ video call ___

Just to confirm, are you, yourself of Hispanic or Latino origin or descent?

(If necessary: such as Mexican, Puerto Rican, Cuban, Dominican, Central or South American, Caribbean or some other Latin American background.) Yes No

1. Participant's name: ___
2. Phone number:
3. Email: _____
4. Mailing address: _____

(For mailing monetary compensation)

5. Gender identity (circle one): Male Female Other (specify, optional): ___
6. Age: _____
7. Country of birth: ___
8. What is the highest level of education that you have completed (here or in another country)? _____
9. Current job: _____

(For example: in an office, work from home)

10. How well do you speak and/or understand English (on a scale of 1 to 5):
    1. None
    2. Limited
    3. I understand what is said to me but have trouble communicating back
    4. I can communicate and understand most things but lack fluidity when speaking English
    5. I understand/speak English as well as I understand Spanish

11a. What language(s) do you speak in the home? Spanish English Both Other

11b. Are you interested in improving your English? Yes No

11c. Do you rely on someone in your life (ex: family member) to help you communicate in English? Yes/No

12. From this list of illnesses, which ones apply to you currently?

Diabetes
Heart disease
Kidney disease
Cancer
High blood pressure
High cholesterol
Respiratory disease
Major physical injury
Liver disease/cirrhosis
Asthma

13. What are the three health-related problems that you worry about most or that you want to learn more about?

Examples: Dental Care, Access to Medications, Reproductive Health, Injury, Cost of Medical Care, Chronic Illness, Trusting Doctors, COVID-19, Other Infectious Diseases, Mental Health

14. How many days during the past month have you felt:

Depressed _____
Anxious _____
Stressed _____

Or other comment about mental health:

Part II: Technology Access

15. Fill out the following table in reference to the members of the participant's household, including themselves:

How many people live in your home, and how old are they?

Age	Gender (M/F/Other, indicate)	Do they have a personal computer with internet access? (Sí/No)	Do they have a cell phone with internet connection? (Sí/No)	Do they have a tablet with internet connection? (Sí/No)

(Indicate if the technology is provided by the school for their child)

16a. Do you have access to Wi-Fi at home? Yes No

16b. If you have Wi-Fi, does it come from a company or is it connected to your cell phone plan? Company Cell phone plan

17. What is the quality of your Wi-Fi connection at home? Poor Fair Good Excellent

18. Are you able to communicate with another person over video from your computer?

Yes No

19. Are you able to communicate with another person over video from your smartphone?

Yes No

20a. How much do you pay each month for phone services for your family? _____

20b. How do you pay for your cell phone services?

Pay as you go / Contract Other

21. How much difficulty, in terms of cost, have you had in maintaining active cell phone services and Wi-Fi?

From the four options, indicate which applies to you:

- I always have cell phone services and Wi-Fi coverage
- I've had to delay some payments occasionally
- I've had to cancel my plan or stop making payments
- I don't have a cell phone or Wi-Fi plan

Part III: Technology Use

22. Which, if any, social media platform(s) do you use on a regular basis (select all that apply)?

- Facebook
- WhatsApp
- Twitter
- Instagram
- Snapchat
- Other: _____
- None
- Which one do you prefer? ____

23. What resource(s) do you use for health education (select all that apply)?

- Trusted websites (ex: UVA Health, CDC, NIH, Mayo Clinic, etc.)
- Any website from a Google search
- Social Media
- Print materials from the clinic or health system
- Family and friends
- Your doctor/nurse
- Other: _____
- None

24. What electronic means do you use to communicate with others (select all that apply)?

- Text messages or phone calls
- WhatsApp messages or calls
- Social media platform (direct messaging, like FB messenger)
    - If yes, which one(s)?
- Video calls (ex: Facetime, Skype, Zoom, WhatsApp)
    - If yes, which one(s)?
- Email
- Other:
- None
- Which one do you prefer?

25a. Do you have access to your email on your cell phone? Yes No
25b. If you do not use email, explain why not:
26. When you have a technology-related problem or question, what do you do?

- Ask child for help
- Ask other relative for help
- Search for answers online
- Wait until someone else addresses the problem
- Call the company or another professional
- Other: _____

27a. If you have or have had a child in school virtually, do you feel that the school has supported you adequately in setting up for your children's remote learning? Yes No N/A
27b. Do you have sufficient time and resources to support your child with remote learning? Yes No N/A
27c. Additional comments on virtual learning (challenges, helpful resources, etc.):
28a. Have you, yourself, participated in online learning? Yes No
28b. If you have not participated in online learning, why not (select one or more)?

- I am too busy with work
- I am too busy with taking care of home and/or children
- My home environment would not be good for online learning (ex: too loud)
- I am unsure how to use the technology needed for online learning
- I do not have interest in online learning
- Other: _____

29a. Do you have access to UVA MyChart (MyChart is an online storage platform for medical information with the ability to communicate with physicians)? Yes No
29b. If you have access to UVA MyChart, have you used it? Yes No
If you haven't used it, why not?
29c. Have you ever tried calling the UVA Medical Center? Yes No
29d. If yes, how was your experience communicating with them as a Spanish speaker?
Excellent / Good / Adequate / Bad
29e. Additional comments about calling UVA Medical Center:
30a. Do you have any experience with video telemedicine? Yes No
30b. If you have used telemedicine, what has been your experience with it? Excellent /Good/Adequate/Bad
30c. Additional video telemedicine comments:
31. What is the longest video you would watch about an important health-related topic?

- I would not watch a health-related video
- 0 - 2 minutes
- 2 - 5 minutes
- 5 - 10 minutes

- 10 - 15 minutes
- 15 - 20 minutes
- 20 + minutes

32. Do you listen to the radio on a regular basis? Yes No
33. Would you listen to a 30 minute Spanish radio program once per week?
Yes No Depends on the topic
34. Would you watch a 30 minute Spanish program on Facebook Live once per week?
Yes No Depends on the topic

Part IV: Community Resource Us
35. Are you aware of the UVA Latino Health Initiative (LHI)? Yes No
If Yes, how do you interact with the LHI?
36. Are you aware of Sin Barreras? Yes No
If Yes, how do you interact with Sin Barreras?
37. Are you aware of Creciendo Juntos? Yes No
If Yes, how do you interact with Creciendo Juntos?
38. Are you aware of the Women's Initiative? Yes No
If Yes, how do you interact with the Women's Initiative?
39. What community resources do you need most right now?
40. What community resources have been most helpful to you and your family recently?

Part V: Social Determinants of Health Questions
Check the box next to any statement that is true:
41. Do you have a primary care doctor? _

- If you have one,
  - Is it from UVA?YesNo
  - The Free Clinic? Yes No
  - Other _____

If you don't have a regular doctor or clinic, where do you go when you are sick?

42. How many times have you visited your primary care provider in the past 12 months?

43. Do you have health insurance? (note: UVA Financial Screening does not count as health insurance for this question) Yes No

44. How many times have you been hospitalized in the past 12 months?

45. How many times have you been to the emergency room in the past 12 months? __
COVID-19 Experience:
46. What is your opinion about the COVID-19 testing in the community?
47. What do you think about the experience of the Latino community with COVID-19?
48. Did you lose employment or have a reduction of income during the pandemic? Yes No
49. This question is optional: What was your total family income in 2019?

- Under $10,000
- $10,000 - $20,000
- $20,000 - $30,000
- $30,000 - $40,000
- $40,000 - $50,000
- $50,000 - $75,000
- $75,000 - $100,000
- More than $100,000
- Prefer not to answer

50. For how many years have you lived in the United States? _____
51. Would you be willing to be reached in the future to answer additional questions that can help us better serve your community? Yes No
For interviewer only -
Any additional notes or interesting comments that came up:_