


“How Long Will Covid-19 Last?” And Other Questions Youth Ask Physicians about COVID-19

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Objective: In this investigation, we identify the questions youth in a low-income urban community asked healthcare providers about COVID-19. **Methods:** This formative qualitative study consisted of analyzing data collected using Poll Everywhere as part of 3 phone town halls with a pulmonary and critical care medicine physician and youth. **Results:** During the 3 town halls, there were 143 participants who asked 43 questions that were divided into 4 codes: Healthcare, Cure, General COVID-19, and Prevention. **Conclusion:** Youth have questions about healthy behaviors and treatment that can be answered in a low technology forum engagement with health professionals. These results also underscore the need to continue health education discussions either through traditional school-based or alternate formats, especially as we anticipate COVID-19 to last during the next academic year.

Key words: COVID-19; digital information; health literacy; adolescent health; healthcare providers; patient-provider communication
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Research suggests that Internet access is associated with health literacy;¹ however, access to and the quality of information, including COVID-19-specific health information varies.² The availability of credible information, especially for families that access the Internet mostly through smartphones³ underscores the digital divide. This digital divide is a potential factor exacerbating the increased burden of the COVID-19 infection among low income minority communities in the United States (US).⁴

Adolescents and young adults who have grown

up with technology, social media, and the Internet are generally regarded as technologically savvy.^{5,6} Whereas youth may have a higher baseline understanding of technology when compared to their parents or grandparents, these assumptions do not take into consideration that there is still unevenness among their peers in connectivity to information due to type of device (eg, tablet, computer, game system, cell phone) and type of Internet access (cellular service, public Wi-Fi, home service).⁷ Hargittai⁸ suggests that for using technology, the quality of the device and its software, autonomy

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of use of the device and Internet access, technology support (including social media platforms and Web-based apps), and overall experience with the rapid changing landscape of technology impacts the ability to obtain useful and credible information. These issues impact how young people, especially those who live in low-income communities, are able to access credible digital information, and have serious implications for obtaining accurate information about COVID-19.⁹⁻¹²

Prior to COVID-19, the Internet was a source of communication, social interaction, and transfer of information emphasizing that those who have reliable access can seek out the rapidly growing and vast array of online services, programs, and information, including ones from the government.¹³ Experience with COVID-19 has stressed the importance of digital media, electronic technology, and the Internet on the ability to mitigate the devastating impact that social distancing can have on access to services, information, and social connection.¹⁴ Consideration should be made for those in communities with limited access to technology.¹⁴

In addition to access to reliable information, health literacy has been associated with improved health outcomes in children and adolescents.¹⁵ Research suggests that more information is needed between knowledge and behaviors to improve programs for health behavior change.¹⁵ The first step in improving health literacy for children and adolescents is to identify opportunities to engage in discussions about health and healthy behavior. Winkelman et al¹⁶ suggest that we have healthcare or medical professionals talk with youth via partnerships with schools for health education classes and interventions. However, school-based interventions taught by non-school staff are increasingly difficult for schools to implement and for researchers to evaluate given the high rate of turnover in school administration, high rates of chronic student absenteeism, large class sizes, and the need to focus on academic instruction that is responsive to school- and district-level testing.^{17,18} Furthermore, during the start of the COVID-19 pandemic, many K-12 schools across the US had to implement distance learning protocols quickly to respond to the shelter-in-place mandate. The combination of existing challenges and the COVID-19

emerging challenges for school-healthcare partnerships provide limited school-based opportunities for disseminating accurate health education to youth. This presented healthcare experts with an opportunity to create novel approaches to health communication for youth living in communities experiencing high rates of COVID-19.

Poll Everywhere is a Web-based audience response system (ARS) that allows participants, students, or audience members to text questions and comments to presenters to foster a dialogue.¹⁹ Poll Everywhere requires a cellphone with texting capabilities to use the service. Poll Everywhere collects the last 4 numbers of the responder's telephone number, allowing for anonymous comments. Evaluations of Poll Everywhere mostly have been in educational settings, and show that students enjoy using Poll Everywhere and report that they are more involved.^{20,21}

As part of an academic medical center's efforts to support low income residents in their city during the COVID-19 pandemic, a series of youth town hall phone calls led by a physician with subject matter expertise was hosted. In this investigation, we identify the questions that youth in a low-income urban community asked healthcare providers about COVID-19.

METHODS

This formative qualitative study consisted of analyzing data collected using Poll Everywhere as part of 3 phone town halls with a pulmonary and critical care medicine physician (PG) and youth. Participants were asked: "*What questions do you have about the Coronavirus/COVID-19 pandemic?*" A Poll Everywhere text line was provided and participants were encouraged to text questions. The telephone conference line (muted for all but the presenters) was used for convening the town hall. There were a total of 143 participants who called in (April 8, 2020, N = 52; April 15, 2020, N = 44; and April 22, 2020, N = 47). All questions texted to Poll Everywhere were compiled into an Excel spreadsheet. An investigator (VJ) coded the questions and created a coding dictionary based on an initial data review. A second coder (AJ) read the questions and reviewed the codes to assess consistency of the primary coder. The 2 coders then double-coded the questions and discussed discordant codes until they reached consensus.

Table 1
Youth Questions about COVID-19 by Code and Sub-Code

Code	Sub-Code	Questions youth submitted during 3 virtual town halls
Health care	Access	-What should I do if I think my mom has COVID but she doesn't have a doctor?
	Getting Tested	- How can I get a tested if I am feeling sick? - Are there any drive through testing stations in Baltimore?
Cure	Creating	- What's the process of those drug trials getting started? - Are people getting put in danger during those drug trials? - Is they really working as hard to find a cure for the coronavirus? - How well is a cure being funded by the US gov't? - When are they going to find a cure? - Is cures for other diseases on hold due to COVID? - When and how will they find a cure without testing them inappropriately on Africans?
COVID-19 General	Timeline	-What is your estimate of the end? - Are we looking forward on dealing with coronavirus in the future and will it affect our schools? - Are we close to the peak yet? - How long is coronavirus going last? - How long will COVID-19 last? - How is COVID-19 going to affect the country moving forward after quarantine is over? - When will it be over? - When is estimated to be over? - When is this going end? Like it shut everything down! - When will it be over? - Are we ever going to be able to go back to school? And will this ever end? - When do you think it will be over? - When will it be over? - Will this go on forever? - When will it be over?
	Testing	- How could we increase the amounts of tests available? - Why is there a shortage in testing? - Why didn't we prepare for testing earlier?
	Virus specific	- They say diseases die off in the heat - Are you basically saying that scientists and doctors don't know enough about COVID-19 yet? - Does heat & coldness really kill viruses? - Did it REALLY originate from Chinese people? Or the 5G towers?
Prevention	Social distancing	- When will all of this not be as bad and when will this social distancing be over? - How does isolation affect older people? - I was told you can't get it if you meeting [sic] with people outside. Is that true? - If we quarantine will it actually work and if we can end it quicker?
	Hand Washing	-Are things being done to correctly inform people how to wash their hands?
	General	-What can we do to prevent get infected besides social distancing? - What are the best ways to protect family and myself! - I work at the supermarket. How can I protect my family?

RESULTS

The final list of questions from the 3 youth town halls yielded 43 questions that were divided into 4 codes: Healthcare, Cure, General COVID-19, and Prevention. Table 1 provides details about these codes and their sub-codes. The most common questions were classified in the General COVID-19 (N

= 23) code, specifically about the timeline for social isolation (N = 16). Youth expressed concern about the timeline of the pandemic by asking: “*What is your estimate of the end?*” Other sub-codes under General COVID-19 were test (N = 3) and virus specific (N = 5). Coder interrater reliability was assessed (k = .718; SE = .068; 95% CI .58 - .85).²²

The second most common code was prevention (N = 8), with 3 sub-codes of social distancing (N = 4): “*When will all of this not be as bad and when will this social distancing be over?*” handwashing (N = 1), and overall prevention (N = 3). Cure was the third main code (N = 7), with no sub-codes. An example of a cure questions was: “*When are they going to find a cure?*” The final code was healthcare (N = 3), with getting healthcare (N = 1) and getting tested (N = 2) as the sub-codes.

DISCUSSION

The COVID-19 pandemic underscores the importance of accessible quality information to inform decisions for prevention and healthcare-seeking behaviors.⁵ Our study provides questions to consider for a population at increased risk for infection and death.⁴ Most of the questions were about the timeline of the pandemic, emphasizing that health education messages should highlight how prevention behaviors (handwashing and social isolation) reduce the timeline of the pandemic.

Some authorities suggest that work to improve health literacy would be more impactful if information was provided prior to infection or during chronic disease progression, and during childhood and adolescence when healthy behaviors and habits are forming.¹⁶ This research demonstrates that youth have questions about healthy behaviors and treatment that can be answered in a low technology forum. Whereas our results are promising, limitations of these findings are based on youth participating in the town hall and texting questions to a Poll Everywhere link. However, the questions asked by youth indicate that they were engaged and thinking about the COVID-19 pandemic.

IMPLICATIONS FOR HEALTH BEHAVIOR OR POLICY

Health Literacy is a key issue in the Health and Healthcare domain of *Healthy People 2020*.²³ The impact of the digital divide and low health literacy has the potential to exacerbate health inequalities among low income communities during the COVID-19 pandemic. Youth engagement with health professionals using low technology formats, like telephone conferencing, is an approach to improve youth health literacy during and beyond the COVID-19 pandemic. Many of the questions in this

investigation with youth were about the duration of COVID-19 and how it will impact their future. During this global crisis and in the future, health-care and public health professionals must make efforts to communicate the importance of health behaviors clearly and consistently. For COVID-19, direct messaging about wearing a face mask and washing hands need to be tied to the goals of phasing the de-escalations of social restrictions that are being implemented to mitigate the pandemic.

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Human Subjects Approval Statement

This study was determined to be exempt as human subjects research by the Johns Hopkins Bloomberg School of Public Health institutional review board, IRB number 00012498.

Conflict of Interest Disclosure Statement

All authors of this article declare they have no conflicts of interest.

References

1. Eysenbach G, Powell J, Kuss O, Sa E. Empirical studies assessing the quality of health information for consumers on the world wide web: a systematic review. *JAMA*. 2002;287(20):2691-2700.
2. Zhang Y, Sun Y, Xie B. Quality of health information for consumers on the web: a systematic review of indicators, criteria, tools, and evaluation results. *J Assoc Inf Sci Technol*. 2015;66(10):2071-2084.
3. Pew Research Center. About three-in-ten U.S adults say they are ‘almost constantly’ online. 2019. Available at: <https://www.pewresearch.org/fact-tank/2019/07/25/americans-going-online-almost-constantly/>. Accessed April 23, 2020.
4. Richardson S, Hirsch J, Narasimhan M, et al. Presenting characteristics, comorbidities, and outcomes among 5700 patients hospitalized with covid-19 in the New York City area. *JAMA*. 2020;323(20):2052-2059.
5. Prensky, M. Digital natives, digital immigrants. *On the Horizon*. 2001;9(5):1-6. Available at: <https://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf>. Accessed August 1, 2020.

6. Zillien N, Hargittai E. Digital distinction: status-specific types of internet usage. *Soc Sci Q*. 2009;90(2):274-291.
7. Bennett S, Maton K, Kervin L. The “digital natives” debate: a critical review of evidence. *Br J Educ Technol*. 2008;39(5):775-786.
8. Hargittai E. An update on survey measures of web-oriented digital literacy. *Soc Sci Comput Rev*. 2008;27(1):130-137.
9. Barzilai-Nahon K. Gaps and bits: conceptualizing measurements for digital divide/s. *Inform Soc*. 2006;22(5):269-278.
10. van Dijk J. *The Deepening Divide: Inequality in the Information Society*. Thousand Oaks, CA: SAGE Publications; 2005.
11. DiMaggio P, Hargittai E, Celeste C, Shafer S. From unequal access to differentiated use: a literature review and agenda for research on digital inequality. In Neckerman K, ed. *Social Inequality*. New York, NY: Russell Sage Foundation; 2004:355-400.
12. Palfrey J, Gasser U. *Born Digital: Understanding the First Generation of Digital Natives*. New York, NY: Basic Books; 2008.
13. West D. E-government and the transformation of service delivery and citizen attitudes. *Public Adm Rev*. 2004;64(1):15-27.
14. Guitton MJ, Dupéré S, Beauoyer E. Covid-19 and digital inequalities: reciprocal impacts and mitigation strategies. *Comput Human Behav*. 2020;111:106424.
15. DeWalt D, Hink A. Health literacy and child health outcomes: a systematic review of the literature. *Pediatrics*. 2009;124(Suppl 3):S265-S274.
16. Winkelman T, Caldwell M, Bertram B, Davis M. Promoting health literacy for children and adolescents. *Pediatrics*. 2016;138(6):e20161937.
17. Crowder K, South S. Neighborhood distress and school dropout: the variable significance of community context. *Soc Sci Res*. 2003;32(4):659-698.
18. Raffaele L, Knoff H. Improving home-school collaboration with disadvantaged families: organizational principles, perspectives, and approaches. *School Psych Rev*. 1999;28(3):448-466.
19. Shon H, Smith L. A review of poll everywhere audience response system. *J Technol Hum Serv*. 2011;29(3):236-245.
20. Beekes W. The “millionaire” method for encouraging participation. *Active Learn High Educ*. 2006;7(1):25-36.
21. Kappers W, Cutler S. Poll everywhere! even in the classroom: an investigation into the impact of using polleverywhere in a large-lecture classroom. *Computers in Education Journal*. 2015;6(20):140-145. Available at: <https://commons.erau.edu/cgi/viewcontent.cgi?article=1378&context=publication>. Accessed August 1, 2020.
22. Landis J.R, Koch G. The measurement of observer agreement for categorical data. *Biometrics*. 1977;33(1):159-174.
23. HealthyPeople.gov. Health Literacy. Published July 31, 2020. Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/health-literacy>. Accessed August 1, 2020.