SPECIAL ISSUE ON SOCIOCULTURAL AND BEHAVIOURAL FACTORS AFFECTING COMMUNITIES' RESPONSES TO PUBLIC HEALTH MEASURES: IMPLICATIONS FOR THE COVID-19 PANDEMIC AND BEYOND: QUALITATIVE RESEARCH

Aunties, WhatsApp, and “haldi da doodh”: South Asian communities’ perspectives on improving COVID-19 public health communication in Ontario, Canada

Manvi Bhalla 1 · Helana Boutros 1 · Samantha B. Meyer 1

Received: 23 May 2022 / Accepted: 7 October 2022 / Published online: 30 November 2022
© The Author(s) under exclusive license to The Canadian Public Health Association 2022

Abstract
Objective To identify, from the perspective of South Asian communities, areas for improvement in public health communication.
Methods Focus groups were conducted with individuals (N=24) who could converse in English and self-identified as South Asian adults (18+) residing in Ontario. Participants were asked to share how, if at all, their identity as South Asian shaped their experiences during the pandemic and acceptance of public health measures put in place to mitigate the spread. Data were interpreted through the lens of intersectionality.
Results Participants perceived a lack of culturally relevant and linguistically accessible health messaging, leading to the proliferation of misinformation. Peer-to-peer knowledge sharing filled a critical gap but created opportunities for misinformation to spread.
Conclusion Improving equity in health communications should be informed by structural changes to the public health sector in Ontario.

Keywords COVID-19 · Health communication · South Asian · Qualitative research

Introduction

Within Ontario, areas with higher numbers of racially and ethnically minoritized residents reported three times higher rates of COVID-19 infection, four times higher rates of hospitalization...
and intensive care unit admissions, and a two-time higher rate of death as compared to those residing in neighbourhoods with higher proportions of white residents in 2020 (Public Health Ontario, 2020). The top three health units with the highest case-loads also consisted of Ontario’s greatest racially and ethnically diverse populations (Public Health Ontario, 2020; Al-Jaishi, 2021). For example, the Region of Peel reported that between April 2020 and January 2021, racially and ethnically minoritized peoples accounted for 63% of the population but 81% of COVID-19 cases, with South Asians being among the most overrepresented (Region of Peel, 2021).

This study is conceptually grounded in the theory of intersectionality (Crenshaw, 1990); an analytic framework that recognizes how layers of one’s identities (including but not limited to race, ethnicity, gender, sex, sexuality, class, religion, (dis)ability, and neurodiversity) intersect, intersect, and compound to manifest one’s unique lived experiences. Through an intersectional analytic lens, a white man’s experiences within the COVID-19 pandemic differ from those of a South Asian man, which then differ significantly from those of a South Asian woman, and so forth. Each of these identities intersects with multiple sources of societal and systemic oppressions alongside privileges. Aligned with this theory, existing data suggest the aforementioned inequities related to COVID-19 experienced by South Asians in Ontario may in part be explained by reports that racially and ethnically minoritized peoples—particularly new immigrants—often lack access to culturally safe and linguistically accessible risk communication materials, experience greater difficulty in navigating the healthcare system, and have higher rates of poverty and as such, greater predisposition to several risk factors for severe COVID-19 (Greenaway et al., 2020).

There remain gaps in the provision and accessibility of health promotion and risk communication materials for South Asian communities. Given this, investigating community-based perspectives and solutions that promote public health measures within these communities remains a critical role for public health—particularly in light of South Asians reporting greater COVID-19 vaccine hesitancy as compared to the general population in Canada (Arora, 2021). As such, the aim of the present work was to identify, from the perspective of South Asian communities, areas for improvement in public health communication. Through the use of intersectionality, we identify the unique lived experiences of subpopulations within the South Asian community.

Methods

Study population and recruitment

Individuals who could converse in English and self-identified as South Asian adults (18+) residing in Ontario, Canada, were recruited using posters shared on Instagram and Twitter and shared with community groups with South Asian audiences. Interested parties emailed the study email address and a demographic survey was administered to screen for eligibility. Socio-demographic information was also collected to identify contextual factors that might shape COVID-19 experiences and perceptions of public health measures.

Study design

Semi-structured focus groups were facilitated by a young South Asian woman researcher residing in Ontario fluent in Hindi, Punjabi, Urdu, and English. Participants were asked to share how, if at all, their identity as South Asian shaped their experiences during the pandemic and acceptance of public health measures put in place to mitigate spread. Individuals were intentionally allotted into certain focus groups, aiming for diversity across gender and age in two of three focus groups (Table 1); however, for one of the focus groups, we centred upon creating a safe space for only youth (under 30 years old). This decision was informed by work we were concurrently doing for a larger study centred upon youth experiences/perspectives with COVID-19.

Study sample

Individuals were aged 19–64 and identified as South Asian, with noted representation from Sri Lankan, Tamil, Pakistani, Punjabi, Indian, and mixed-East African/Indian and Pakistani communities. There were a total of 19 women, 5 men, and no non-binary individuals. Thirteen of 24 (54%) of focus group participants reside directly within the jurisdiction of the public health units reporting the greatest number of cases in Ontario.

Data collection

In April 2020, 1-hour-long focus groups were facilitated (via WebEx or Zoom) using a semi-structured interview guide. Participants were encouraged to utilize the chat feature, especially if it felt more comfortable than responding verbally, with the moderator reminding participants to engage

| Focus group | Mean age | Gendera | Sample size (n) |
|-------------|----------|---------|----------------|
| 1           | 21.7     | 6 women, 2 men | 8             |
| 2           | 36.7     | 5 women, 2 men | 7             |
| 3           | 31.7     | 8 women, 1 man  | 9             |
| Total       |          |         | 24             |

*aThere was no non-binary/third gender representation
throughout. After audio files were auto-transcribed using Otter.ai, the transcripts were anonymized with pseudonyms, verbatim checked, and revised by a research assistant and then checked/edited for accuracy again by the focus group facilitator, particularly for any language translation needs. During transcription, we aligned transcribed audio with the real-time chat text which we saved after each focus group. We analyzed data (written and verbal) together as one continuous transcript.

Data analysis

Borrowing from a grounded theory approach, transcripts were coded using inductive, bottom-up line-by-line initial coding, followed by focused coding (Miles et al., 2014). Two analysts independently coded the same transcript for rigour. Differences, additional or ambiguous coding, were discussed independently coded the same transcript for rigour. Interrater reliability was 84%, exceeding the recommended standard by Miles and Huberman (1994). Data were interpreted through the lens of intersectionality (Crenshaw, 1990).

Results

Findings speak to perceptions regarding public health failing to reach South Asian communities and consequences of poor access to health information. Data also speak to how intersecting identities shape experiences with COVID-19 and in turn, engagement/involvement with health information.

South Asian communities underserved by public health messaging

Most participants expressed that South Asian-led education efforts were necessary due to a lack of trust in government and health officials, and/or accessibility to what official, mostly Anglo-centric health messaging was communicating. As such, participants who identified as community leaders, those fluent in English, those working in health-related or public sector jobs, and youth often said that they felt they had no choice but to fill that gap and become messengers navigating the health directives to be relayed back to their family and community. For example, Keerat (23) expressed, “the way that these changes are being communicated is pretty ineffective and especially in the case of language barriers – people who might not have family members to share this information with them.” All youth in our study—who are all fluent in English—uniformly expressed that given the severity of COVID-19, they felt they must advocate for the health of their parents and elders, because they perceived the system as failing to do so.

Commonly, due to the language and cultural barriers, newer immigrants and elderly individuals were cited as using news sources from South Asia to inform themselves on the latest news regarding the pandemic and best public health measures to take, even if the information was not Canada-specific. This put an onus on younger South Asians, particularly elder daughters, to be fact-checking actively for their loved ones. Shreya (28) shared, “My parents and family love listening to Punjabi media for news. I made sure to vet these sources. I know there a channel called ‘Y Channel’ that does programming in Punjabi and they have physicians come in and talk so I trust this source and let them watch this channel for news.”

Along these lines, Mohammad summarized the importance and efficacy of the practice of peer-to-peer knowledge-sharing, as it is common in South Asian communities, and how it addressed the issue of mistrust as the information was then being filtered through someone from their community.

One of the things that I wanted to ensure in my own circle was that if it comes to me, or if it’s going through me, it has to be verified. So, at the start of the pandemic for about 6 months, the daily conferences that Trudeau would do… I listen to that conference every single day and summarize in notes with citations, and then circulate through the WhatsApp groups and be like: ‘this is it; this is straight from the horse’s mouth- here are the sources.’ Because that would give me a level of control and also address a certain level of like, anxiety that I had with the fact that elders– people in my own circle that are disseminating this information. But like this is where it stops, you know.

Proliferation of misinformation in the absence of culturally relevant, accessible health messaging

Although many reported that they felt there is an increased likelihood of adherence to public health measures if advised/recommended by a trusted South Asian person (e.g., family, respected community leader, or South Asian medical authority), these engagements were also identified as an opportunistic means to perpetuate misinformation. The most cited platform used for spreading information (but also proliferating misinformation) across all focus groups was WhatsApp.

Deepika (20) to Everyone (9:02 PM) my mom uses whatsapp for everything, but it gives a basis for information and it makes it easier to communicate with her (even if half of it is fake news) information she finds

Iqbal (21) to Everyone (9:03 PM) honest my dad using WhatsApp too

Bhavna (19) to Everyone (9:04 PM) lool my brother calls it WhatsApp University
Participants felt that WhatsApp was most popular with middle-aged and older individuals and was in many cases one of the only places where elderly individuals were getting their news over Anglo-European health experts.

Participants felt that members of the community with misconceptions surrounding public health countermeasures or misunderstandings surrounding COVID-19 were also more likely to make health decisions that centered or aligned with their spirituality, religion, intergenerational ancestral and cultural knowledge systems, and/or lived experiences. Many felt that these individuals often also strongly factored in perspectives, experiences, and opinions from peers and community leaders within their community with whom they expressed a greater sense of trust for their holistic well-being. Geeta explains that this unfortunately meant their sometimes buying into misinformation surrounding home remedies for preventing or treating COVID-19.

My mom is addicted to Facebook and WhatsApp, so she’s the one who forwards anything and everything like, “here is a cure for COVID; I will forward it to you and your entire family”. That’s where I feel like a lot of the fake news is coming from and where a lot of the South Asian community has failed. There has just been so much of spreading complete misinformation like drinking ‘haldi da doodh’ (Translation from Punjabi to English: milk with turmeric in it) is not gonna cure COVID, I promise (laughs). I feel like there’s no actual like, “I’m not gonna think before I send this, I’m just gonna send it.” If it’s forwarded many times, there are definitely mistakes. I promise you—and I mean a lot. It’s a misinformation, but they see it, they read it and they believe it, which sucks, but that’s just what it is now.

In the chat during this focus group of mostly youths, there was wide support for this statement, with murmurs of people expressing similar experiences, laughing and nodding in agreement.

Keerat (23) to Everyone (9:04 PM)

Geeta every auntie across ontario is screaming rn

In a different focus group, WhatsApp and turmeric came up again organically. Amina (21) said, “I know a lot of WhatsApp group chats had that message going around that ‘COVID isn’t real - all you need is a couple of things like, turmeric and home remedies… [to] prevent getting it or [it is] what to do if you do get it’, which is really not the case.”

**Intersecting identities and experiences of COVID-19 health messaging**

From an intersectional perspective, we identified added responsibilities and expectations—and as a result, added stress—upon young South Asian women due to gender roles. Leila (19) expressed, “me being the only girl in my house, I’m the only advocate. I’m like, ‘okay guys, everyone mask up; we’re going outside, okay. we’re getting our vaccine.’ I had to sign up my parents with the vaccine.” Others in different groups mentioned that the eldest girl in the family often takes on a lot of added responsibility and care work in South Asian households.

In addition, many newer South Asian immigrant participants also recognized the lack of job safety parameters and COVID-19 harm reduction measures (e.g., PPE) within the type of work that is more readily accessible to this population. There were multiple mentions of the intersectional experiences of new immigrant racialized women, and the lack of support offered to them despite working precarious jobs often associated with caregiving which increased their risk of exposure. Devi (43) shared, “I have been working in long term care home since the outbreak. [A] majority of caregivers are immigrant racialized women. Socio-economic background is a determinant that contributes to this disproportionate representation [in case load]. Non-paid sick days prompt [us] to neglect or not reveal initial symptoms if any, and also [encourage us to] get back to work immediately post-COVID.”

Beyond the individual level, participants mentioned community-led health communication and advocacy initiatives created by South Asians to advocate for their own health. For example, Aliyah (23) explained the critical need for such initiatives.

I work for a nonprofit in Peel with South Asians... We’ve been asking the provincial government for months, like since even before June to give us the funding to send out community health ambassadors to hot spot areas in Brampton. If you went to a grocery store there [at the time], the language or the poster would be completely in English. There were no South Asian languages, like there wasn’t that messaging that needed to go out. The funding itself came so late—there was a high-priority initiative that funded our nonprofit in addition to some other ones, like the Punjabi Community Health Services and [so] we launched this program and [its name] says (laughs) that the government didn’t do it and you know, individual like, grassroots and other initiatives have... Basically, what we created was a hotline that people can call into to get culturally appropriate information... (emphasizes) the biggest issue that we felt was that international students...
over here are basically being scammed because they’re living in basement apartments, some of their passports have been taken, they have no access to supports, they cannot go back to their countries, their colleges or educational institutions haven’t really supported them, a lot of them are working at Amazon right now and other warehouses where they’re being terribly exposed to the virus... The big Canada-wide distribution centre was shut for 2 weeks because the cases there were astounding and because there’s like 10 people in a house and the landlords are not paying attention. So, there’s just so many systemic issues that we discovered along the way and through this program, we were able to help people with grocery supports, food supports—if they needed transport to a vaccine clinic or a testing clinic or, if they needed information in their language if they didn’t speak English. So, there were a lot of definitely gaps that nonprofits had to step in and fill that the government didn’t. They just didn’t even translate documents correctly; we had to get people to do that.

In a different focus group, Geeta (23) described another initiative, Apna Health, a website designed to specifically serve the South Asian community by centring the communities’ collectivist values.

Apna Health teamed up with a bunch of other nonprofit organizations - the ones that usually are associated with like the Punjabi community, the Hindu community and the Muslim community... they’re actually handing out [COVID-19 PPE] for free at Mosques, Gurdwaras and... they’re also teaching the elderly [and] international students— that may not know enough English—to understand the impacts of COVID... Their website is also multilingual, they have it in every single language. If you contact them, they will actually give you money either for groceries or if your whole family is isolating with COVID, they will literally drop off groceries to your house like every single day.

Discussion

Our findings demonstrate the limits of public health communications in reaching South Asian communities in Ontario, and the impacts of underservice upon this population. Identified as a systemic issue at its core, a key recommendation emerging from this work is that improving health communications to better serve communities such as these will require structural changes to the Ontario public health sector. This underscores the parallel necessity for individual actors to challenge the public health sector’s intentional and/or unintentional discriminatory practices—at minimum, surrounding cultural competence—to set forth a “new normal” that centres upon equity.

As a microcosm of the larger problem of white, western-centric worldviews and practices dominating public health and policy-making environments, it was only after race-based data began to be collected, and the dire realities of the pandemic as expressed by the lived experiences of racialized communities in Ontario (Thompson et al., 2021) that equity-centred approaches began to take centre stage in the public health response. Our data too suggest that discrimination was experienced by this community as they reported consistent underservice by government and public health officials, forcing the fostering of a culture of self-advocacy among South Asian community members to help protect their disproportionately vulnerable community and mitigate their risk of COVID-19 transmission. Participants in our study cited initiatives created by South Asian community members, including one called “Apna Health,” meaning “our health” when translated to English. A community-led research report focused on Brampton, one of the hardest hit regions within Ontario, was produced by Social Planning Council of Peel (SPCP) and Punjabi Community Health Services (PCHS) (2021) which offered major recommendations that are well aligned with perspectives and suggestions offered by our study’s participants. In brief, there is a need for increased culturally and linguistically accessible risk communication resources, actively working towards clearing misinformation using a culturally sensitive approach, culturally responsive mental health support with a particular focus on women and the elderly, community-led support for health services, and increased translation services.

Our data regarding the disproportionate burden of care assigned to young, racialized women lend further support for considering intersectionality in the design and implementation of public health policies and practices (Bowleg, 2020). Interestingly, many young participants mentioned “aunties” as being the people who frequently share information out of concern for others in the community, commonly through WhatsApp. Culturally, this refers to any woman who is older than you regardless of having a direct relation. Within a collectivist community, overlapping with the intersectional implications concerning gender roles, this presents an opportunity for further exploration of aunties as a subgroup within the South Asian population who might be beneficial to target for health promotion and risk communication to minimize the spread of misinformation within the community.

Our data also demonstrate the importance of developing and disseminating culturally compatible, linguistically accessible health promotion and risk messaging, an approach said
to respect and promote health equity (Sabatello et al., 2021). To operationalize culturally competent community engagement, Sabatello et al. (2021) recommend increasing meaningful involvement of diverse peoples inclusive of race, ethnicity, (dis)ability, gender, and other dimensions of identity who can help steer decisions towards the best interests of their respective communities. Accordingly, our data suggest the need for public health to engage with, understand, and include the perspectives of South Asian community members with various intersecting identities—in our case, class, ethnicity, age, and sex. Increasing the cultural competence of health professionals regarding more appropriate communication and explanatory styles would also facilitate health promotion efforts (Miconi et al., 2021). For example, the framing of messages should also be given express consideration to ensure that communication materials are inclusive and promote solidarity instead of perpetuating isolation (Miconi et al., 2021). However, while the above recommendations are important, our findings and the broader literature underscore the critical role of addressing upstream systemic issues above all else. To this effect, the reactive work of improving the cultural competency of public health professionals will need to be usurped by minimizing disparities in health created by broader, systemic factors such as discrimination and stigma. Shahi et al. (2019) suggest that we might begin by addressing the presently inadequate consideration for and practice of equity, diversity, and inclusion within the internal structures of the public health sector in Ontario. Sabatello et al. (2021) also postulate that meaningful engagement with truth and reconciliation commissions (TRCs) to recognize the harm inadvertently inflicted by way of systemic inequities and discriminatory policies upon communities of colour is important to help invest in genuine relationship building with communities where trust has been lost as a result of continued underservice.

In terms of limitations, our study sample consisted of a greater proportion of young adults with a majority of the sample being under the age of 29. This is likely due to the study being advertised and primarily conducted in English as well as it being advertised primarily on social media platforms. Given the necessity of having access to a computer and Internet to be able to participate in this study, there is the potential for an overrepresentation of participants with class privileges. However, our data do reflect perspectives beyond those present in the focus groups. For example, all the participants could at very least speak to a wider range of experiences of the South Asian community beyond their own. Participants often acknowledged relevant privileges afforded to them (e.g., being employed in a remote job) while sharing stories of family members, neighbours, and community members who did not have the same privileges. Importantly however, given the intersectional implications, it would be beneficial to capture more diverse perspectives with regard to class, as well as non-binary and gender-fluid peoples.

Beyond the empirical data, we offer a novel contribution to a methodological approach in conducting online focus groups. Through this work, we developed a novel method to facilitate semi-structured focus groups that relied on dual data collection from both verbal responses and simultaneous engagement in the online chat of the video call. This allowed us to capture more data than would have otherwise been possible during a 1-h focus group, online or in-person. We found that individuals were sharing perspectives in the chat in response to those answering interview questions verbally out loud in real time and vice versa, allowing for an increased sense of engagement. It also promoted accessibility for introverted individuals, those with social anxieties, those with weaker Internet connections, and those who could not speak as freely or distraction-free as they would like to in response to the questions verbally (e.g., due to computer access being in a shared space). It was observed that even if only one participant vocalized their response, often four to six other participants would indicate in the chat whether they agreed or disagreed, stating their rationale in the chat. This fostered a sense of group camaraderie and made it less intimidating to participate and share one’s opinions and experiences. Individuals would also have concurrent conversations about related points, and prompt each other with follow-up questions which led to the emergence of more inductive themes than what we would have found otherwise. For example, the exchange that took place involving “haldi da doodh” and WhatsApp in the youth focus group led us to ask meaningful follow-up questions surrounding misinformation and helped elicit our third key theme of how underservice by public health creates opportunities for misinformation to spread through trusted channels, such as peer-to-peer discussion (between the “Aunties”) via WhatsApp.

**Conclusion**

Participants perceived a lack of culturally relevant and linguistically accessible health messaging, leading to the proliferation of misinformation. The practice of peer-to-peer knowledge sharing and self-advocacy filled a critical gap, but certain contexts, particularly as it concerns the use of unregulated messaging platforms such as WhatsApp, created opportunities for misinformation to spread. Importantly, it was identified that the design and implementation of public health messaging and countermeasures need to be more aware and considerate of intersectional experiences given our finding that South Asian women were disproportionately underserved and dually tasked with a greater responsibility for ensuring the health and safety of their loved ones.
Contributions to knowledge

What does this study add to existing knowledge?

- Health messaging in Canada is largely informed by western science and Anglo-European norms—which can make it incompatible with other cultural/ancestral ways of knowing and foster mistrust.
- In the absence of effective public health messaging, South Asians in Ontario commonly employed peer-to-peer learning to promote acceptance, confidence, and uptake of countermeasures designed to mitigate COVID-19 transmission for their communities.

What are the key implications for public health interventions, practice, or policy?

- There is a need to acknowledge the inequitable harms experienced by these communities as a result of underservice by health officials, but also the toll on those proficient in English who have had to be hypervigilant in screening information to promote evidence-informed health information for those who are underserved.
- Public health officials can and should work on building trust with, and follow the guidance of, community leaders, grassroots initiatives, and local non-profit organizations to ensure the creation of culturally safe, linguistically accessible health communication materials, alongside effective dissemination strategies.

Acknowledgements We would like to thank the members of the South Asian community who chose to participate in this research and share their stories, experiences, thoughts, and expertise to better inform public health practices. We are grateful for your emotional labour in engaging with this conversation during these trying times.

Author contributions Manvi Bhalla led the data collection and analysis and conceptualized the study, obtained study funding, contributed to data collection and analysis, and provided mentorship in writing this manuscript. Samantha Meyer conceptualized the study, obtained study funding, contributed to data collection and analysis, and provided mentorship in writing this manuscript. Helana Boutros aided with transcription and second coder analysis. All authors read and approved the final manuscript.

Funding This study was funded by the Canadian Institutes of Health Research (grant #420096).

Availability of data and material All data required to make the conclusions reached in this manuscript are included here.

Code availability Not applicable.

Declarations

Ethics approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the University of Waterloo’s Research Ethics Office (#42160) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Consent to participate Informed consent was obtained from all individual participants included in the study.

Consent for publication Participants signed informed consent regarding publishing de-identified excerpts from the interview data.

Conflict of interest The authors declare no competing interests.

References

Al-Jaishi, A. A. (2021). COVID-19 in Ontario. https://www.covid19ontario.com

Arora, A. (2021). COVID-19 in Canada: A one-year update on social and economic impacts - Delivering insights through data for a better Canada (March 2021). Statistics Canada. https://www150.statcan.gc.ca/n1/pub/11-631-x/11-631-x2021001-eng.htm. Accessed Nov 2022.

Bogleg, L. (2020). We’re not all in this together: On COVID-19, intersectionality, and structural inequality. American Public Health Association, 110, 917.

Crenshaw, K. (1990). Mapping the margins: Intersectionality, identity politics, and violence against women of color. Stanford Law Review, 43, 1241.

Greenaway, C., Hargreaves, S., Barkati, S., Coyle, C. M., Gobbi, F., Veizis, A., et al. (2020). COVID-19: Exposing and addressing health disparities among ethnic minorities and migrants. Journal of Travel Medicine, 27(7). https://doi.org/10.1093/jtm/taaa113

Miconi, D., Li, Z. Y., Frounfelker, R. L., Venkatesh, V., & Rousseau, C. (2021). Socio-cultural correlates of self-reported experiences of discrimination related to COVID-19 in a culturally diverse sample of Canadian adults. International Journal of Intercultural Relations, 87, 176–192. https://doi.org/10.1016/j.ijintrel.2021.01.013

Miles, M. B., & Huberman, A. M. (1994). Qualitative data analysis: An expanded sourcebook. Sage Publications, Inc.

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). Qualitative data analysis: A methods sourcebook. Sage Publications, Inc.

Public Health Ontario. (2020). COVID-19 in Ontario – A focus on diversity: January 15, 2020 to May 14, 2020. Queen’s Printer for Ontario.

Region of Peel. (2021). COVID-19 in Peel dashboard: Social determinants of health. https://www.peelregion.ca/coronavirus/case-status/. Accessed Nov 2022.

Sabatello, M., Jackson Scroggins, M., Goto, G., Santiago, A., McCormick, A., Morris, K. J., et al. (2021). Structural racism in the COVID-19 pandemic: Moving forward. The American Journal
