



Commentary

Indigenous Australians at increased risk of COVID-19 due to existing health and socioeconomic inequities

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The rapid spread of the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and the associated coronavirus disease (COVID-19) has placed extreme pressure on health systems, governments, and economies. Heightened risk of COVID-19 severity and mortality among Indigenous and ethnic minority communities in the United States (U.S), the United Kingdom, and Brazil, emphasises existing and pervasive global health inequities. Aboriginal and Torres Strait Islander (hereafter Indigenous) Australians experience some of the worst health outcomes worldwide. Due to a range of existing health and socioeconomic inequities that increase vulnerabilities, Indigenous Australians are at heightened risk of mortality if infected with SARS-CoV-2, when compared to non-Indigenous Australians. The subsequent impact of the pandemic on mental health, and exposure to racism, among Indigenous Australians must also be carefully considered.

Early evidence from China show that severe and fatal COVID-19 case rates are elevated among older people, and those with pre-existing conditions including cardiovascular disease, diabetes, chronic respiratory disease, hypertension, and cancer [1]. Rates of these chronic conditions are higher among Indigenous compared to non-Indigenous Australians (Table 1), increasing risk of COVID-19 severity and fatality. Multimorbidity adds further risk, with 15.6% of Indigenous Australians having three or more chronic conditions (including those listed in Table 1), which is more than double the rate in non-Indigenous Australians (7.6%) [2]. Higher rates of smoking (41.9% of Indigenous compared to 15.4% of non-Indigenous)

should also be considered [2], as early evidence suggests increased COVID-19 severity and fatality among smokers [3]. The 2009 H1N1 influenza pandemic in Australia highlighted risks of serious disease that may relate also to COVID-19 among Indigenous Australians [4]. Where Indigenous status was recorded (3688/5085, 72%), Indigenous Australians constituted 15.9% of hospitalised cases of H1N1, 16.8% of Intensive Care Unit (ICU) admissions, and 12.2% of H1N1 deaths despite making up only 3% of the Australian population [4].

Chronic disease rates are higher among Indigenous Australians living in remote areas, particularly hypertension and diabetes [5]. Marginalisation from health services, food insecurity, and poor access to water, sanitation, and adequate housing that accommodates larger family groups, amplify COVID-19 risk. Social distancing and self-isolation are unrealistic where more than one third of Indigenous Australians (41.4%) in remote areas live in inadequate housing conditions, compared to just 1.9% of non-Indigenous Australians [5]. Similar inequities persist in major cities with 15.5% of urban Indigenous Australians living in inadequate housing conditions, compared to 6.1% of non-Indigenous [5]. Predicted increases in already disproportionate rates of mental ill health and suicide among Indigenous Australians, have also been highlighted as a flow on effect of COVID-19, in which immediate action has been recommended [6].

The socioeconomic, and physical, mental, and environmental health inequities discussed, are reflective of the cultural marginalisation faced by Indigenous Australians, all of which culminate as key factors in COVID-19 susceptibility. Cultural and linguistic marginalisation from health information and services, directly affect health care accessibility and outcomes among Indigenous Australians [7]. The impact of racism, which has been named by Indigenous Australian leaders as a public health emergency, and in-

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Table 1

Chronic conditions known to impact COVID-19 severity and fatality prevalence among Aboriginal & Torres Strait Islander Australians. Table compiled from publicly available data from the Aboriginal & Torres Strait Islander Health Performance Framework 2017 published online by the Australian Institute of Health & Welfare [5]. (I=Indigenous NI=Non-Indigenous).

	Age group (years)			45–54			55+		
	35–44								
Chronic conditions known to impact COVID-19 fatality	I	NI	Rate ratio (I/NI)	I	NI	Rate ratio (I/NI)	I	NI	Rate ratio (I/NI)
Respiratory diseases ^a	39.8	34.2	1.16	42.6	30.9	1.38	40.7	30.0	1.35
Diabetes ^a	10.8	2.7	4	20.7	5.3	3.9	37.9	11.6	3.26
Cardiovascular diseases ^a	18.0	10.2	1.76	28.3	19.0	1.49	44.9	46.1	0.97
	Age group (years)			65–74			75+		
	55–64								
Cancer ^b	1023	962	1.06	1926	1717	1.12	2625	2321	1.13
Lung cancer ^b	175.4	81.3	2.16	369.0	196.0	1.88	517.7	283.7	1.82

^a Rate per 100 persons.

^b Rate per 100,000 persons.

ternationally as the 'second pandemic', is a central factor in health and social outcomes. Rapidly changing laws enforcing social distancing, have granted Australian police the discretion to deliver exorbitant fines and potential imprisonment. We emphasise concerns as to how this will disproportionately impact Indigenous Australians, given existing over-policing, and a poor understanding of Indigenous family systems among law enforcement. Indigenous cultural identity is a two-fold determinant, as its maintenance and expression can lead to discrimination in the context of health and social systems that reflect the values of the dominant culture [7], yet it is also evidenced as a protective factor against the health harming impact of racism [8].

The Australian government's Emergency Response Plan for COVID-19 and the management and operational plans for Indigenous communities [9], places considerable responsibility on Indigenous run health services known as Aboriginal Community Controlled Health Organisations (ACCHOs) including whole-of-community preparedness, provision of COVID-19 clinics, and communication of cases to government health departments. Government policy and funding (or a lack thereof), are political determinants that directly impact the ability of ACCHOs to provide services that are accessible and attentive to the needs of their communities, which in turn shapes health outcomes. Given the short-term government funding modalities placed upon ACCHOs, and their restricted health infrastructure, and workforce capacity [10], it is imperative that additional government resources to support the control of COVID-19 be made rapidly and easily accessible to deal with increasing cases.

Comparatively, in the U.S, health, socioeconomic, and cultural inequities among Native Americans have contributed to their overrepresentation among COVID-19 cases [11]. Similar concerns have been expressed by Native American leaders, emphasising the limited capacity of the U.S Indian Health Service to respond to the pandemic due to a chronic lack of government funding, and restricted health infrastructure [12]. Exclusion of Native Americans from COVID-19 racial demographic data published by government health departments, has also been highlighted by Native American leaders as discriminatory and misleading, meanwhile restricting the ability of Indian Health Services to prepare and respond appropriately [12]. Elsewhere, little concern has been shown by Latin American governments in developing strategies to prevent COVID-19 in remote Indigenous peoples in Bolivia, Guatemala, Mexico and Peru [13], which is likely to result in unnecessary morbidity and mortality.

In response to the pandemic, the National Aboriginal Community Controlled Health organisation, have called for protection and support in restricting access to rural and remote Indigenous Australian communities from the risks of contact with non-residents.

A clear strategic plan led and informed by the local needs and requirements of Indigenous Australian communities, including an assessment of the need for rapid employment of additional health workers, and access to physical infrastructure to enable quarantine of COVID-19 patients, is needed. Information directed to communities should be produced with, and led by respected community members and trusted leaders if the advice is to be followed.

The COVID-19 pandemic has highlighted the need for a renewed focus to ensure that health and privilege should not be mutually exclusive. The political, social and cultural determinants of health are stacked against Indigenous Australians and Indigenous peoples globally; this multiplies the risks to, and vulnerabilities of these communities to infection and mortality from COVID-19. Historic inequities, trauma and distrust of services, alongside inadequate funding, and support to Indigenous health services, render these communities highly susceptible to the most severe consequences of the pandemic. Swift action to ensure implementation of nuanced context-appropriate prevention, treatment, and management measures are crucial.

Author contributions

AY and AZ conceptualised the initial idea for the article. AY compiled the relevant literature and publicly available data presented in Table 1, wrote the first draft of the article, and edited subsequent versions to incorporate revisions. NPW, BB and AZ provided further intellectual and literary contributions, and provided revisions on each draft.

Declaration of Competing Interest

The authors have no conflicts of interest to declare.

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References

- [1] Wu Z, McGoogan JM. Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. *JAMA* 2020;323(13):1239–42. doi:10.1001/jama.2020.2648.
- [2] Australian Bureau of Statistics. National Aboriginal and Torres Strait Islander Health Survey 2018–2019, Canberra: ABS; 2019. <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4715.0Main+Features12018-19?OpenDocument>.
- [3] Vardavas CI, Nikitara K. COVID-19 and smoking: a systematic review of the evidence. *Tob Induc Dis* 2020;18(20). doi:10.18332/tid/119324.

- [4] Australian Government Department of Health. Annual Report of the National Influenza Surveillance Scheme, 2009, 2017. <https://www1.health.gov.au/internet/main/publishing.nsf/Content/cdi4104-j>
- [5] Australian Institute of Health Welfare. Aboriginal and Torres Strait Islander Health Performance Framework 2017: Supplementary Online Tables. 2017. <https://www.aihw.gov.au/reports/indigenous-australians/health-performance-framework/contents/overview>.
- [6] Dudgeon P., Derry K.L., Wright M.A. A National COVID-19 Pandemic Issues Paper on Mental Health and Wellbeing For Aboriginal and Torres Strait Islander Peoples. Centre of Best Practice in Aboriginal and Torres Strait Islander Suicide Prevention (CBPATSSIP): The University of Western Australia Poche Centre for Indigenous Health, 2020. <https://www.cbpatssp.com.au/wp-content/uploads/2020/06/COVID-19-Mental-Health-Response-Final.pdf>
- [7] Yashadhana A, Fields T, Blitner G, Stanley R, Zwi AB. Trust, culture and communication: determinants of eye health and care among Indigenous people with diabetes in Australia. *BMJ Global Health* 2020;5(1). doi:10.1136/bmjgh-2019-001999.
- [8] Kelly K, Dudgeon P, Gee G, Glaskin B. Living on the edge: social and emotional wellbeing and risk and protective factors for serious psychological distress among Aboriginal and Torres Strait Islander people, Darwin: Cooperative Research Centre for Aboriginal Health; 2009. <http://www.indigenouspsychology.com.au/Assets/Files/AIPA-Living-on-the-Edge-web.pdf>.
- [9] Australian Government Department of Health. Australian Health Sector Emergency Response Plan for Novel Coronavirus (COVID-19): Management plan for Aboriginal & Torres Strait Islander communities, 2020. <https://www.health.gov.au/resources/publications/management-plan-for-aboriginal-and-torres-strait-islander-populations>
- [10] Moran M, Porter D, Curth-Bibb J. The impact of funding modalities on the performance of indigenous organisations. *Aust J Public Adm* 2016;75(3):359–72.
- [11] Rodriguez-Lonebear D, Barceló NE, Akee R, Carroll SR. American Indian reservations and COVID-19: correlates of early infection rates in the pandemic. *J Public Health Manag Pract* 2020;26(4):371–7.
- [12] Nagle R. Native Americans being left out of US coronavirus data and labelled as 'Other'. *The Guardian* 2020. <https://www.theguardian.com/us-news/2020/apr/24/us-native-americans-left-out-coronavirus-data>. Date accessed 6th July 2020.
- [13] Meneses-Navarro S, Freyermuth-Enciso MG, Pelcastre-Villafuerte BE, Campos-Navarro R, Melendez-Navarro DM, Gomez-Flores-Ramos L. The challenges facing indigenous communities in Latin America as they confront the COVID-19 pandemic. *Int J Equity Health* 2020;19(1):63.