

12-7-2022

Volunteering Engagement: The effects of COVID-19

Joshua Gillen
University of Wollongong, jgg998@uowmail.edu.au

Mark Freeman
University of Wollongong, mfreeman@uow.edu.au

Holly Tootell
University of Wollongong, holly@uow.edu.au

Follow this and additional works at: <https://aisel.aisnet.org/acis2022>

Recommended Citation

Gillen, Joshua; Freeman, Mark; and Tootell, Holly, "Volunteering Engagement: The effects of COVID-19" (2022). *ACIS 2022 Proceedings*. 74.
<https://aisel.aisnet.org/acis2022/74>

This material is brought to you by the Australasian (ACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ACIS 2022 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Volunteering Engagement: The effects of COVID-19

Research-in-progress

Joshua J. Gillen, Mark Freeman and Holly Tootell

School of Computing and Information Technology

University of Wollongong

Wollongong, Australia.

Email: jjg998@uowmail.edu.au; mfreeman@uow.edu.au; holly@uow.edu.au

Abstract

The COVID-19 pandemic has led to significant changes worldwide through lockdowns and social distancing measures; these changes have been felt heavily in the non-profit sector. For example, the pandemic has prevented the use of traditional methods of volunteering where work is carried out in person or on location. However, the non-profit sector has used virtual volunteering through online social networks and video conferencing (e.g. Zoom) to share knowledge and communicate with the community to maintain relationships. This research aims to understand the impact the COVID-19 pandemic has had on the non-profit sector and the role/benefit virtual volunteering can provide going forward. Using a case study covering the UCI Road World Championships in Wollongong 2022, this paper provides an example of the current state of traditional volunteering within Australia and the use of online social networks to help promote the event by finding traditional volunteers to assist with the event.

Keywords: Volunteering, Virtual Volunteering, Coronavirus, Digital Collaboration, Online Social Networks, Communication.

1 Background

Volunteering has played a significant role in developing and maintaining a society's social capital and trust. In 1996 Volunteering Australia defined formal volunteering as “an activity that takes place in non-profit organisations or projects and is of benefit to the community and undertaken of the volunteer's own free will and without coercion; for no financial payment; and in designated volunteer positions only” (Australian Bureau of Statistics 2018). The understanding of volunteering has been adapted over time, with the current Australian Bureau of Statistics definition being “The provision of unpaid help willingly undertaken in the form of time, service or skills, to an organisation or group, excluding work done overseas” (Australian Bureau of Statistics 2018). However, this definition is considered by Volunteering Australia to be too constrictive as it only covers formal volunteering. Formal volunteering occurs within non-profit organisations, while informal volunteering occurs outside the non-profit organisations. Volunteering Australia redefined volunteering as “time willingly given for the common good and without financial gain” (Volunteering Australia 2015) to include informal forms of volunteering. This current definition follows the United Nations' understanding that volunteering “should be for the common good. It should directly or indirectly benefit people outside the family or household or else benefit a cause, even though the person volunteering normally benefits as well” (United Nations 2011). Ackermann (2019) highlights that online volunteering (or virtual volunteering) has introduced new pathways for volunteering activities.

With the advent of the COVID-19 pandemic, a significant shift occurred when lockdowns halted most traditional volunteering activities. The halting of traditional volunteering led to non-profit organisations increasing dependence on online social networks and virtual volunteering to continue their volunteer efforts and maintain relationships within the community. This paper analyses the shift to virtual forms of volunteering in society during the pandemic and how this has impacted wellbeing. With the research question: To understand the impact that COVID-19 has had on the volunteering sector; and a sub-research question: Has an increasing use of virtual volunteering resulted from the Covid-19 pandemic?

1.1 Global Impacts of Covid-19

Coronavirus disease (COVID-19) has been affecting the world in several ways since the beginning of 2020; discovered in early January in Wuhan, Hubei Province, China, COVID-19 Spread quickly, with the first recorded case outside of china being confirmed on the 13th of January 2020 in Thailand and has since then spread globally. In response to the fast spread and severity of COVID-19, the World health organisation (WHO) classed COVID-19 as a pandemic on the 11th of March 2020 (World Health Organization 2020).

The fast spread and severity of COVID-19 also lead to the creation and introduction of restrictions to reduce human interaction to prevent the spread of the disease throughout the global population. These restrictions consisted of different physical distancing rules, including crowd size limits, keeping a distance from others of a least one meter and avoiding physical contact where possible such as shaking hands or hugging. The rapid spread of the pandemic led to some countries taking even further measures to protect the population. By April 2020, “over a third of the global population was under some form of movement restriction or Covid-19 lockdown” (Koh 2020). Due to the nature of lockdowns during the pandemic, the general public was found to have heightened levels of “anxiety, depression, stress, insomnia, and PTSD symptoms” (Wang et al. 2020b).

The lockdowns were also found to lead to increased loneliness among young members of the population, the use of information technology throughout lockdown periods was found to help people stay connected, but a number of the population found the use of online social networks for communication to be “isolating, draining, and an unsatisfactory substitute to real-life interactions” (Niedziedz et al. 2021). Furthermore, the use of online social networks for socialisation and communication during lockdowns has led to increased screen time which has been found to have adverse effects on mental health, “such as psychological problems, low emotional stability, and greater risk for depression or anxiety” (Pandya and Lodha 2021). In the case of anxiety and depression, the stress responses are predicted to continue for up to a decade, impacting long-term mental health (Charles et al. 2013; Gan et al. 2022; O'Neill et al. 2004; Parrish et al. 2011). In some areas of the world, stigmatisation was also seen to occur in those associated with COVID-19, resulting in further psychological distress based on inferiority, self-shame, and self-blame (Oexle et al. 2017). Along with mental effects, there were also concerns about unemployment and hunger in some areas of the world. In South Africa, the increased poverty level that resulted from lockdowns in the country led to the lack of the ability to buy food resulting in public unrest (Nyashanu et al. 2020).

The lockdowns that have occurred throughout the world to prevent the spread of COVID-19 have been shown to impact the global population negatively, psychologically and socially. To receive help in these areas, people often turn to leisure activities. Still, social distancing measures and lockdowns have prevented people from participating in leisure activities such as community events, sports and travel. However, one activity in particular that is needed for many of these activities to occur was also negatively affected by the COVID-19 pandemic, volunteering.

1.2 The effect of Covid-19 on Volunteering

They are two typical methods of volunteering that occur within society, traditional volunteering and virtual volunteering. Traditional volunteering, or face-to-face volunteering, is done on location, working and communicating with local community members to provide some form of assistance or service to make a change in society.

Given the presence of COVID-19 throughout the world, changes to the non-profit sector caused by Government legislation (e.g. social distancing, lockdowns) lead to the postponement or cancellation of current traditional volunteer activities or to reorganise safer methods of volunteering. Traditional volunteering methods were changed or replaced with alternatives such as virtual volunteering. Virtual volunteering has no consistent definition or term used to refer to the concept of virtual volunteering with multiple alternative terms, including online volunteering, digital volunteering, and cyber service (Nor, Othman & Bahari 2019). These terms all refer to the concept of applying the use of “information and communications technology to the process of volunteering.” (Murray and Harrison 2005), specifically in the case of Covid-19, to allow volunteers to continue work in some form while avoiding putting themselves and members of the community at heightened risk.

The changes introduced by Government legislation (e.g. social distancing, lockdowns) lead to the need to postpone or cancel current volunteer activities to reorganise safer methods of volunteering. The introduction of these changes during the early phases of the COVID-19 pandemic has led to non-profit organisations implementing measures based on “discouraging participation, tightening control, and centralizing decision-making” (Luksyte et al. 2021). Non-profit organisations typically aim to be inclusive, allowing volunteers to feel that their time spent is valued and appreciated, which results in a unique circumstance of trying to attract and retain volunteers while also having limits on numbers allowed to work together in the same location. One of the primary motives for becoming a volunteer is to give back to the community in some way, and it is understood to be a freely chosen leisure activity. However, volunteering is an integral activity for civic participation and the operations of organizations and events (Lachance 2021). The level of participation and the holding of these events help develop social capital and trust within society; therefore, creating and maintaining relationships with community members is still essential. However, social distancing measures have inhibited the efforts of non-profit organisations in maintaining these relationships, which has led to an increase in the use of online social networks for knowledge sharing, communication and organisation within non-profit organisations; this is known as virtual volunteering. Social Networks and video conferencing tools (e.g. Zoom) help maintain these relationships as meaningful connections and community are primary components of a volunteer’s well-being and retention (Luksyte et al. 2021).

2 Volunteering within Australia

To discover and understand how COVID-19 has affected the volunteer sector, an understanding of the pre-COVID-19 sector is required. Figures from the Australia Bureau of Statistics (ABS) General Social Survey suggest that the proportion of Australians who volunteer through an organisation or group has been declining steadily since 2010. In 2010 the ABS findings stated that 36.2% of people aged 18 years and over had undertaken some voluntary work within the previous 12 months, dropping to 28.8% in 2019 (Australian Bureau of Statistics 2019). The ABS conducted a General Social Survey in 2020 to further understand the impact Covid-19 had on the Australian population within the first year of the pandemic. The survey covers areas of community/social involvement and volunteering. The findings show that Australians had less face-to-face contact with family or friends from outside the household, with 42% having face-to-face contact with family or friends living outside their household compared to 68% in 2019 (Australian Bureau of Statistics 2020). Engagement in both social groups (51% in 2019 to 46% in 2020) and community support groups (25% in 2019 to 21% in 2020) has decreased. The hours contributed by volunteers in non-profit organisations to the community had reduced from 596.2 million to 489.5 million, when they were needed most with the toll put on the population due to Covid-19. These numbers illustrate the scale of the change in volunteering rates over the past decade and how the COVID-19 pandemic has accelerated this trend.

2.1 The impact of COVID-19 on Volunteerism in Australia

The first reported case of COVID-19 within Australia occurred on 25 January 2020, when a man who flew into Victoria from Wuhan, China, tested positive for the virus (Ministers Department of Health and Aged Care 2020). Following this event in March, as case numbers began to rise, the Australian Government closed international borders while implementing a quarantine system for returning residents. In addition, this period saw the introduction of measures to enforce social distancing and limit travel within the country as states and territories closed their borders in response to rising case numbers. In July 2020, non-essential services such as entertainment/recreational venues, clubs, hairdressers and places of public worship were forced to close to help prevent the spread of COVID-19.

Due to the changing environment and the risk of volunteers coming into contact with or spreading COVID-19, Volunteering Australia recommended changing the roles of volunteers in accordance with government measures. These changes include reducing in-person contact to under 15 minutes and, where possible substituting in-person contact with other communication methods such as telephone or online. In addition, the move to online volunteer activities, where possible, allowed volunteers to work from home. However, where this was impossible, new safety measures were required, such as increased hygiene awareness, maintaining a distance of 1.5 metres apart at all times and the use of protective equipment, such as facemasks, to prevent the spread of COVID-19.

Due to these changes impacting the volunteering sector, Volunteering Australia commissioned the Australian National University (ANU) Centre for Social Research to collect information on the impact that COVID-19 was having on volunteers and volunteering within Australia during this period. Their survey results indicated a significant decline in volunteering, with “65.9 per cent of volunteers estimated to have stopped volunteering between February and April 2020” (Biddle and Gray 2020).

At the end of the year, a second study was conducted (December 2020 - January 2021) to find out how volunteering had been affected by COVID-19 throughout the year, as COVID-19 restrictions in areas of the country had been lifted dependent on COVID-19 case numbers. The results showed that despite lifting restrictions, the percentage of active engagement in volunteering did not recover. “Nearly three quarters (72%) reported that their volunteer programs were either only partially operational (60%) or not operational (12%)” (Volunteering Australia 2021), with 42% believing that they could not return to pre-COVID-19 volunteering rates within the next six months. While the percentage of volunteers has lowered, the demand for volunteers and services has increased, “Four out of ten (43%) reported experiencing an increase in demand for services, with over half (56%) reporting that they need more volunteers” (Volunteering Australia 2021).

In December 2021, another study was undertaken, and it was discovered that slightly more than half (56.4%) (McDermott 2021) of the people who volunteered in April 2020 stated that they had stopped volunteering due to COVID-19, with many having not returned to traditional volunteering despite the easing of restrictions/lockdowns.

As of 2022, a lack of volunteers has led to changes in regional areas of the country where volunteer services support many essential services (Nursesey-Bray et al., 2022). However, census data in these areas shows “that while the numbers of young people volunteering is indeed small, over the last decade the proportion of youth volunteering per se has not in fact declined, but increased” (Nursesey-Bray et al., 2022). Therefore, it is more important now than ever to use online volunteering and social networks to establish connections within the community.

3 Methodology

This study aimed to explore how the volunteer sector within Australia has been affected by the lockdown measures implemented throughout the COVID-19 pandemic and how this has led to the increased use of online social networks to promote/continue volunteer efforts.

The main purpose of this research was to undertake a case study examining a non-profit organisation through the use of newspaper articles and Social Network posts to determine if there were any issues in the recruitment of volunteers in the post lockdown COVID-19 environment and to discuss the need for further research in this area. Mak and Fancourt (2021) identified that the predictors of volunteering were different during the pandemic, and this case was aimed to see if post-lockdown was demonstrating similar results. The study focuses on volunteer recruitment at the UCI Road World Championship held in Wollongong, New South Wales, Australia (18-25 September 2022). Using a case study in this research

allowed for the use of multi secondary data sources to present a view of the current issues present in volunteering and how currently Online Social Networks are being used.

3.1 Content Analysis

The collection of articles/posts for the case study was collected systematically from three sources, Factiva, Twitter and Facebook. Two separate searches occurred on August 1st 2022; the first search collected data from the Factiva Database targeting Illawarra Mercury news articles published within the last year. The search term used was 'UCI' and was limited to within the last year. The second search used the Twitter and Facebook Pages for the UCI Road World Championships under the username @Wollongong2022.

The use of a systematic review process allowed the collection of only relevant articles/posts to be obtained due to the search terms used (Budgen and Brereton 2006; Kitchenham and Charters 2007) and the use of inclusion and exclusion criteria to conduct a systematic review. Including an article/post in the review process required the article/post to meet the following criteria. Firstly, the article/post must be published on or after volunteer applications open on the 27th of April 2022. Secondly, the published article/post needs to be advertising for volunteers within the article/post. Articles/posts that did not meet these requirements were excluded from the case study, leaving only relevant articles/posts for further analysis.

3.2 Data Collection Process

The data collected during this study was second-hand or pre-existing data from news articles and online social network posts. The second-hand collected data was used to examine the communication methods and overall effectiveness of the volunteer application progress. In addition, the data was collected through Factiva, Twitter and Facebook to allow for a broader range of results.

3.3 Data Extraction

The number of Articles found from the Factiva search totalled 152. The articles were then reviewed using the inclusion and exclusion criteria to exclude irrelevant articles. Out of the 152 articles, only 73 were written on or after the 27th of April, and only seven of the 73 articles contained content advertising for volunteers. For example, there were 45 tweets found to be published from the 27th of April 2022 by searching the username @wollongong2022 on Twitter; from this number, only eight were found to advertise for volunteers. On Facebook, 56 Posts were published from the volunteer application open date under the username @wollongong2022; out of the 56, only 15 were found to advertise for volunteers.

4 Case study: UCI Road World Championships, Wollongong 2022

The UCI Road World Championships is an Olympic-scale road cycling event that occurs annually, where 70+ nations compete. This year's event will be held in Wollongong, New South Wales, Australia, from the 18-25 September 2022. The Union Cycliste Internationale (UCI) is looking to appoint around 1,500 volunteers to help with running the event, within which during the event in which 1,000+ cyclists will take part. Applications for volunteer positions such as course marshals and hosting personnel opened on April 27th 2022 and were set to close on Wednesday, May 25th 2022. During this period, three articles were published in the Illawarra Mercury, 6 tweets/posts were made on Twitter and ten posts on their Facebook page to gain volunteers' interest. At this stage, there was a heavy focus on Online Social Networks, with 16 posts compared to 3 published articles on traditional media platforms. The UCI extended the volunteer application closing date to July 10th 2022, when they had not gained the number of needed volunteers; during this extended period, two Illawarra Mercury articles and three Facebook posts were made to gain more interest from prospective volunteers. While there were still more online posts than traditional articles, there was no use of Twitter during this period to advertise volunteering positions. On June 28th UCI reached the 1000 mark of its 1500 volunteer goal. In July 2022, on the 2nd, 16th and 22nd, articles were published in the Illawarra Mercury to advertise that UCI still required 500 more event volunteers in September. One tweet was posted on Twitter, and two posts were made on the Facebook page stating that roles for volunteers were still available; these fell outside the extended cut-off date signifying it was extended again. As of the 1st of August 2022, the volunteer application page on the UCI Wollongong 2022 website was still open. With a little over a month until the event's start date and the needed training and preparation of volunteers for the event to occur. UCI were struggling to achieve its goal of 1500 volunteers.

When comparing the online posts made on Twitter and Facebook to the offline news articles there is a difference in the approach used by UCI to appeal to prospective volunteers. The Illawarra Mercury articles make use of statements from locals or the use of stories from local community members to establish connections with the Wollongong and surrounding community, there were references to events at the 2000 Olympic Games to display the rare nature and scale of the UCI Road World Championships event and how Wollongong can forge its own similar legacy. While the online posts are less focused on establishing a connection to the local community and more about promoting the event and the volunteer opportunities available, this may have also influenced volunteer requirement. A future research direction is what are the barriers to re-engaging with traditional volunteering in a post lockdown COVID-19 world.

5 Future Research

This study is being undertaken to examine the challenges facing non-profit organisations going forward in the current pandemic environment and how virtual volunteering will play a role. The discovery that more than half of the pre-existing volunteers who stopped during the early stages of the pandemic have not returned in some form shows that the ability to maintain connections with volunteers and community members was affected.

As a result, virtual engagement methods with volunteers have played a significant role in establishing and maintaining connections within the community and with potential volunteers, as shown in the case study. Future research needs to consider the role of COVID-19 in an aging volunteer population and the preferred traditional and virtual communication methods to maintain better/establish community ties. Although, the use of online posts was more prevalent during the study they are not connecting with the community effectively. Future research will need to consider possible improvements to how Online Social Networks are used.

The next phase of this study is conducting a questionnaire, which is currently in progress. The idea of this survey is to evaluate the Five-Factor Model of Personality (Big Five) on volunteering to assess if post-lockdown COVID-19 provides different insights into engagement compared to Ackermann (2019) and how Mak and Fancourt (2021) identified that the factors changed during COVID-19.

6 References

- Ackermann, K. 2019. "Predisposed to volunteer? Personality traits and different forms of volunteering." *Non-profit and Voluntary Sector Quarterly*, (48:6), pp. 1119-1142.
- Australian Bureau of Statistics. 2018. "Information Paper: Collection of Volunteering Data in the Abs." Retrieved 6 Sept, 2018, from <http://www.abs.gov.au/ausstats/abs@.nsf/7d12b0f6763c78caca257061001cc588/b23e1cea513878b7ca25825500odd750!OpenDocument>
- Australian Bureau of Statistics. 2019. "General Social Survey: Summary Results, Australia." Retrieved 14 April 2022, from <https://www.abs.gov.au/statistics/people/people-and-communities/general-social-survey-summary-results-australia/2019#social-experiences>
- Australian Bureau of Statistics. 2020. "General Social Survey: Summary Results, Australia." Retrieved 14 April 2022, from <https://www.abs.gov.au/statistics/people/people-and-communities/general-social-survey-summary-results-australia/latest-release>
- Biddle, N., and Gray, M. 2020. "The Experience of Volunteers During the Early Stages of the Covid-19 Pandemic," The Australian National University, Centre for Social Research and Methods.
- Budgen, D., and Brereton, P. 2006. "Performing Systematic Literature Reviews in Software Engineering," *Proceedings of the 28th international conference on Software engineering*, pp. 1051-1052.
- Charles, S. T., Piazza, J. R., Mogle, J., Sliwinski, M. J., and Almeida, D. M. 2013. "The Wear and Tear of Daily Stressors on Mental Health," *Psychological science* (24:5), pp. 733-741.
- Gan, Y., Ma, J., Wu, J., Chen, Y., Zhu, H., and Hall, B. J. 2022. "Immediate and Delayed Psychological Effects of Province-Wide Lockdown and Personal Quarantine During the Covid-19 Outbreak in China," *Psychological medicine* (52:7), pp. 1321-1332.
- Kitchenham, B., and Charters, S. 2007. "Guidelines for Performing Systematic Literature Reviews in Software Engineering."
- Koh, D. 2020. "Covid-19 Lockdowns Throughout the World," *Occupational Medicine* (70:5), pp. 322-322.
- Lachance, E. L. 2021. "Covid-19 and Its Impact on Volunteering: Moving Towards Virtual Volunteering," *Leisure Sciences* (43:1-2), pp. 104-110.

- Luksyte, A., Dunlop, P. D., Holtrop, D., Gagné, M., Kragt, D., and Farid, H. M. 2021. "The Challenges of Volunteering During the Covid-19 Pandemic," *Industrial and Organizational Psychology* (14:1-2), pp. 286-289.
- Mak, H. W., & Fancourt, D. 2021. Predictors of engaging in voluntary work during the Covid-19 pandemic: analyses of data from 31,890 adults in the UK. *Perspectives in Public Health*, doi:10.1177/1757913921994146
- McDermott, J. 2021. "Continuity and Change: Volunteering During the Covid-19 Pandemic," *Volunteering Australia*.
- Merriam-Webster. 2022. "Definition of Lockdown." Retrieved 14 April 2022, from <https://www.merriam-webster.com/dictionary/lockdown>
- Ministers Department of Health and Aged Care. 2020. "First Confirmed Case of Novel Coronavirus in Australia." Retrieved 14 April 2022, from <https://www.health.gov.au/ministers/the-hon-greg-hunt-mp/media/first-confirmed-case-of-novel-coronavirus-in-australia>
- Murray, V., and Harrison, Y. 2005. "Virtual Volunteering," in: *Emerging areas of volunteering*. pp. 33-50.
- Niedzwiedz, C. L., Green, M. J., Benzeval, M., Campbell, D., Craig, P., Demou, E., Leyland, A., Pearce, A., Thomson, R., and Whitley, E. 2021. "Mental Health and Health Behaviours before and During the Initial Phase of the Covid-19 Lockdown: Longitudinal Analyses of the Uk Household Longitudinal Study," *J Epidemiol Community Health* (75:3), pp. 224-231.
- Nor, N.M., Othman, N. and Bahari, A., 2019. From Traditional Volunteering to Online Volunteering: Moving Beyond Real Border. *International Journal Of Muamalat (IJM)*, p.26.
- Nurse-Bray, M., Masud-All-Kamal, M., di Giacomo, M. and Millcock, S., 2022. Building community resilience through youth volunteering: towards a new model. *Regional Studies, Regional Science*, 9(1), pp.242-263.
- Nyashanu, M., Simbanegavi, P., and Gibson, L. 2020. "Exploring the Impact of Covid-19 Pandemic Lockdown on Informal Settlements in Tshwane Gauteng Province, South Africa," *Global Public Health* (15:10), pp. 1443-1453.
- O'Neill, S. C., Cohen, L. H., Tolpin, L. H., and Gunthert, K. C. 2004. "Affective Reactivity to Daily Interpersonal Stressors as a Prospective Predictor of Depressive Symptoms," *Journal of Social and Clinical Psychology* (23:2), p. 172.
- Oexle, N., Rüschi, N., Viering, S., Wyss, C., Seifritz, E., Xu, Z., and Kawohl, W. 2017. "Self-Stigma and Suicidality: A Longitudinal Study," *European archives of psychiatry and clinical neuroscience* (267:4), pp. 359-361.
- Pandya, A., and Lodha, P. 2021. "Social Connectedness, Excessive Screen Time During Covid-19 and Mental Health: A Review of Current Evidence," *Frontiers in Human Dynamics* (3).
- Parrish, B. P., Cohen, L. H., and Laurenceau, J.-P. 2011. "Prospective Relationship between Negative Affective Reactivity to Daily Stress and Depressive Symptoms," *Journal of Social and Clinical Psychology* (30:3), p. 270.
- United Nations. 2011. "State of the World's Volunteerism Report, 2011: Universal Values for Global Well-Being," *United Nations Volunteers*, p. 4.
- Volunteering Australia. 2015. "Volunteering Australia Project: The Review of the Definition of Volunteering".
- Volunteering Australia. 2021. "Re-Engaging Volunteers and Covid-19" from <https://www.volunteeringaustralia.org/wp-content/uploads/2021.02.08-Re-engaging-Volunteers-and-COVID-19-Report.pdf>
- World Health Organization. 2020. "Archived: Who Timeline - Covid-19" Retrieved 14 April 2022, from <https://www.who.int/news/item/27-04-2020-who-timeline---covid-19>

Acknowledgements

This research has been conducted with the support of the Australian Government Research Training Program Scholarship.

Copyright

Copyright © 2022 Joshua J. Gillen, Mark Freeman and Holly Tootell. This is an open-access article licensed under a [Creative Commons Attribution-Non-Commercial 3.0 Australia License](https://creativecommons.org/licenses/by-nc/3.0/au/), which permits non-commercial use, distribution, and reproduction in any medium, provided the original author and ACIS are credited.