



RESEARCH ARTICLE

Climate Change and Health: Health Academics Could Do More to Build Upon the Success of Virtual Conferences During the Covid-19 Pandemic

Luciana Pelosi¹, Hannah P Blumhardt²

¹ Departments of Neurology and Neurophysiology, Bay Of Plenty District Health Board, Tauranga Hospital, Tauranga, New Zealand

² Te Herenga Waka – Victoria University of Wellington, Wellington, New Zealand



OPEN ACCESS

PUBLISHED

31 July 2024

CITATION

Pelosi, and Blumhardt, HP., 2024. Climate Change and Health: Health Academics Could Do More to Build Upon the Success of Virtual Conferences During the Covid-19 Pandemic. Medical Research Archives, [online] 12(7). <https://doi.org/10.18103/mra.v12i7.5538>

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DOI

<https://doi.org/10.18103/mra.v12i7.5538>

ISSN

2375-1924

ABSTRACT

Climate change is the greatest global health threat of the 21st century. Urgent mitigating interventions are needed to stop the current trend and prevent catastrophic irreversible damage to human health.

Health practitioners and scientists have a special responsibility to reduce carbon emissions from all health sectors, and to lead by example by minimizing their own contribution. For the health academic community this contribution mainly comes from long-distance global travel to attend scientific and educational meetings.

The COVID-19 pandemic travel restrictions and social distancing requirements offered an invaluable opportunity to assess the feasibility and effectiveness of virtual conferences. This experience showed that the virtual approach was not only as feasible as in-person, but significantly more effective in reducing carbon emissions while also increasing accessibility and inclusion for attendees across the world.

However, once the restrictions were lifted, in-person attendance was rapidly reinstated as the sole method for most events or, in a hybrid format with virtual attendance. This could be due to lack of awareness or even misinformation amongst the health community about the connection between climate change and human health outcomes. Climate change and its impact on health should have greater consideration in the education of health professionals, and effective mitigating measures should receive more focus and normalisation through positive messaging in current affairs, medical publications and social media.

Introduction

In 2009, the *Lancet* and University College London Institute for Global Health Commission identified climate change as “the biggest global health threat of the 21st century”, urging immediate mitigating action to prevent its progression to catastrophic, irreversible damage.¹ In the intervening period, subsequent reports of the *Lancet* Countdown commission have documented how a lack of effective mitigating measures has allowed climate change to continue to progress, with increasing human health repercussions. Current trajectories indicate 2.7° C of global heating by 2100, with disastrous impacts on health that exceed the adaptive capacity of the human system.²

The health sector itself contributes 4-6% of global greenhouse gas (GHG) emissions. Health practitioners and scientists have a special role and responsibility to act with specific interventions to minimize carbon emissions from health procedures. For the health academic community, long-distance global travel by thousands of individuals each year to attend conferences and other educational and scientific meetings is the main source of emissions.³⁻⁵ In fact, “academic researchers are among the highest emitters, primarily as a result of emissions from flying to conferences, project meetings and fieldwork”.³ A carbon-reduction strategy specifically created for research institutes recommended that “scientists monitor the carbon output of their professional activities, avoid travelling to meetings unnecessarily and prioritize events with only small carbon footprints.”^{3,6} So, ‘health academics’ should lead by example, by reducing their own contribution to carbon emissions and limiting their travelling to those exceptional circumstances that require in-person interaction.

This article aims to raise awareness on the lack of action by the health academia, despite the invaluable experience gained during the era of strict COVID-19 restrictions on travel and gatherings. This experience clearly demonstrated that the virtual approach to conferences and training can be an effective response to the environmental demands and social equity barriers imposed by the in-person approach to the dissemination and sharing of scientific knowledge.

Virtual Conferences During the Covid-19 Pandemic Restrictions

Conferences are a great way to share and update knowledge, inspire and be inspired to do more and better. However, in the last couple of decades, the traditional method of conducting conferences in-person has been questioned on the grounds of equity and environmental impact, highlighting the need for an approach that is more inclusive and less costly to the environment.⁶⁻⁸ In-person attendance imposes barriers for delegates who cannot afford the cost of registration, travel and accommodation, who cannot spare the time to travel and/or who are concerned about the carbon footprint created by their long-distance travel.

Despite these controversies, in-person attendance remained the method of choice until the COVID-19 health crisis. The pandemic travel restrictions and social distancing requirements offered an invaluable

opportunity to assess the feasibility and effectiveness of alternative methods that allow interactions through widely available online technologies. Virtual conferences and courses on various medical and non-medical disciplines were conducted.⁹⁻¹² Comparisons with the in-person counterparts showed that virtual conferences had a larger number of registrations from a wider geographical and socio-economic platform across all levels of participant seniority. The virtual method not only effectively achieved the primary purpose of sharing and attaining knowledge, but was preferred by a majority over the in-person attendance because of three key elements: “reduced cost, reduced time travelling and more flexible approach to accessing the conference content”^{11,9-12}

As expected, virtual meetings also resulted in significant attendee emission reductions. The authors of one study calculated that the overall carbon emissions of a virtual international meeting was just 1.1 tonnes of CO₂, compared to the 234.7 tonnes that would have been emitted had the 417 delegates from 35 countries attended in-person.¹¹

The perceived limitation of online meetings is that they are less effective for socialising or creating personal links and inspiring ideas.¹⁰⁻¹² However, this can be overcome too, by organizing socialising events and breakout rooms for small group discussions on-line⁹ or, by running regional hubs, so attendees can socialise in-person at their closest hub, each of which streams into the same plenaries, key notes and training sessions.

Conferences After the Lifting of Covid-19 Pandemic Restrictions

After this success, one might have predicted that the virtual method was here to stay and that it would eventually become the preferred way of conducting conferences. In fact, once COVID-19 travel and gathering restrictions were lifted, the in-person method was quickly reinstated as either the sole method for most events or as the main method in a hybrid format that also allows for virtual attendance. The hybrid method is undoubtedly an improvement with respect to inclusiveness, although it could be perceived as a ‘class B’ option in the current system that does not effectively remove the existing barriers to the dissemination of research and learning. Clearly, the hybrid method is no answer to the compelling issue of the responsibility of the medical community towards climate change mitigation. An additional issue worthy of further consideration is that the online method still has an environmental impact. Therefore, unless the virtual element is clearly displacing travel that would have otherwise occurred, the hybrid approach could have the unintended consequence of adding to the event’s overall environmental impact.

Discussion

The strong link between climate change and health is undisputed. Extensive literature exists on both the direct and indirect impact of climate change on human health with over 3000 scientific articles covering this topic just in 2022.²

The experience of COVID19 pandemic restrictions on travel and social distancing has shown that medical

academics can achieve significant greenhouse gas emission savings by replacing international in-person events with virtual meetings as the norm, and reserving in-person events for exceptional circumstances.

Why has this transition not been embraced? Should academia be exempt from responsibility towards climate change? Le Quéré et al.³ state “we find no clear obstacles to justify an exemption for the research community from the emission reduction targets applied elsewhere”. Health practitioners and scientists obviously care about health; it seems unlikely the current levels of inaction stem from deliberate efforts to ignore the current and progressing disastrous effects of climate change on human health. However, perhaps there is a lack of awareness, or even misinformation, amongst the health community, about the connection between climate change and disastrous human health outcomes. This would support the conclusion that climate change and its health impacts should have “greater consideration in the education and training of health professionals”,¹³ along with more evidence-based information about effective mitigating measures. The latter could also receive more positive advertising and normalisation in current affairs, social media and medical publications.

Conclusion

We are living in a climate change crisis, which is causing the greatest health threat of the 21st century. Without

swift and appropriate action, this crisis will evolve to cause catastrophic irreversible effects on human health. The medical community has a special responsibility to act by reducing carbon emissions from all health sectors. The health academia should lead by example by reducing its own emissions from long-distance global travel by thousands of delegates to attend conferences and other scientific events. The experience during the period of strict COVID-19 pandemic travel restrictions and social distancing requirements showed that a switch to virtual conferences can effectively reduce carbon emissions, without compromising on academic goals. However, the medical community is ignoring this successful lesson. Once the pandemic restrictions were lifted, the habitual method of in-person attendance to conferences promptly resumed. To change this behaviour, more effective education of health professionals (and the population in general) about the disastrous toll of climate change on human health may be urgently needed. This should be accompanied by increased messaging in social media, current affairs and medical publications about the mitigating measures needed across society to combat climate change, including from the health sector, and implementation of appropriate systems and frameworks to facilitate these measures in practice, of which virtual conferencing to displace long-distance travel is one.

Conflict of Interest: The author has no potential conflicts of interest to be disclosed

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