



Flattening the Curve

COVID, Climate Change, and Carbon-Neutral Medical Conferences

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For several years now, there have been calls for “net zero” medical society meetings. Until only recently, the suggestion to hold major conference events virtually and cut down on travel-related greenhouse gas emissions was considered too radical or burdensome for many organizations to adopt (*BMJ* 2007;334:324-5). With physical distancing and travel restrictions due to the COVID-19 pandemic, however, zooming has become a necessary part of our everyday lives. While no one wants to do away with face-to-face meetings, virtual options are here to stay.

The bulk of conference pollution stems from travel – especially air. The transportation sector is the top source of greenhouse gas emissions in the United States, accounting for nearly 30% in 2017 (asamonitor.pub/3leGqHP; *Environ Health Perspect* 2020;128:14501-1-14501-3). While the literature is scant, average medical society conference attendee emissions just from flying have ranged be-



tween 4,000 (one European meeting) to 11,000 (one U.S. meeting) tons of carbon dioxide equivalents (*BMJ* 2007;334:324-5). This per-attendee average is more than the total annual per capita emissions in most countries (asamonitor.pub/3les4yd).

Of course, flying isn't the only source of conference pollution. Convention centers and hotels are carbon and energy intensive

buildings to construct and operate. Food services are also significant sources of environmental emissions. While people would otherwise eat at home, the environmental footprint of travel-related meals should not be ignored. Conference meals tend to be highly processed, are often meat and dairy

laden, and half of catered foods frequently end up in the waste bin. Disposable single-use containers, bottles, cups, and service ware are also substantial at meetings (*Lancet Planet Health* 2020;4:e48-e50).

The ASA organizers accomplished an astounding feat by rapidly converting the 2020 annual meeting to an online platform during the midst of the COVID-19 pandemic. While attendance was down



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this year by roughly one-third compared to the last time the meeting was held in Washington, DC in 2012 (roughly 10,000 vs. 15,000 participants), this was an enormous success. The pandemic continues to rage in the U.S. and globally, many schools remain closed, personal finances are strained, and it is understandable that attendance is not the priority for many.

It's easy to imagine that in the near future, virtual attendance could be even higher than pre-pandemic times. While many anesthesiologists would like to attend in-person events, some simply do not have the option to take time away from work or families. Many may not be able to afford travel and lodging fees, especially

Sustainable Event Checklist*

Event planner

- Designate an individual on the convention planning team to oversee sustainability initiatives. No prior sustainability experience is required.

Raising awareness

- Inform attendees of the eco-friendly event planning and operations measures implemented for the event, and their rationale.
- Advertise potential actions attendees can take to reduce their own ecological footprint.

Carbon neutrality

- Make net zero emissions a goal of the event. Reduce greenhouse gas emissions through avoiding unnecessary carbon-intensive travel, venues and accommodations, catering, materials, and waste. Benchmark life cycle of emissions to track performance.
- Maximize virtual planning and event participation.
- Enable purchase of carbon credits to offset unavoidable emissions from flights and other event components:
 - Include access to an emissions calculator and carbon offset fees as a registration opt-out choice.
 - Carefully vet carbon offset projects, e.g., using Clean Development Mechanism or Gold Standard certification.

Transportation

- Ensure that venues are accessible by active (walking and city bikes) and public transport.
- Provide attendees with low-emitting public transportation options such as electric shuttles.

Venue and accommodation

- Prioritize Leadership in Energy and Environmental Design-certified event venues (operations in addition to buildings).
- Prioritize hotels implementing the Eco-Management and Audit Scheme or performing well in the Hotel Carbon Measurement Initiative.

Catering

- Increase ratio of vegetarian and vegan to meat and dairy options for catered and purchased meals and snacks.
- Reduce plate size to diminish food waste.
- Donate all surplus food to local food redistribution organizations.

Materials

- Discourage disposable bottles, cans, cups, plates, and cutlery. Select venues and caterers that provide washable plates and cutlery on site. Encourage attendees to bring their own reusable travel cups and utensils and offer reusables for sale (but do not give away).
- Prioritize suppliers that minimize packaging overall and maximize certified compostable packaging, service ware, and badge holders.
- Minimize print materials and maximize electronic materials.
- Reuse materials from previous conferences.

Waste management

- Require venues to provide waste sorting bins (including recycling and compost) with clear sorting instructions and staff/volunteers to assist in sorting at highly attended sessions.
- Require venue staff to record the amount of solid waste generated.

coming from far away, including those from low- and middle-income nations. Like telehealth has done for our patients, virtual meetings provide an opportunity to increase access, in this case to affordable and convenient continuing education. This improved accessibility can help elevate the safety and quality of our profession globally. ASA should capitalize on their investment in this transition by continuing to offer live and on-demand virtual registration opportunities from now on.

On the far side of the pandemic, for those who do meet in person, paying for carbon offsets should become the norm. Such charges are affordable and can be made convenient. However, purchasing offsets should never replace the duty to make every effort possible to prevent environmental emissions in the first place. ASA has several options to help support more environmentally friendly events. (See Sustainable Event Checklist on page 22.)

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In 2018, the Intergovernmental Panel on Climate Change Special Report warned of the need to limit average surface temperature rise to no more than 1.5°C above pre-industrial levels to avoid collapse of civilization as we know it by the end of this century. This requires a dramatic transformation of our economy to achieve emissions reduction of 45% of 2010 baseline by 2030 and to achieve net zero emissions by 2050. This means that worldwide greenhouse gas emissions must fall by 7.5% each and every year for this decade. By comparison, the economic shutdown from the COVID-19 pandemic resulted in a reduction in global greenhouse gas emissions by nearly 9% for the first half of 2020 as compared with 2019 (*Nature Comm* 2020;11:1-12). We must transition to a thriving, greener economy now, and COVID-19 gave ASA a jumpstart.

Virtual meetings can never replace the value of in-person networking, that epiphenomenon that occurs through human interactions in between formal educational spaces and times. However, there are many good reasons they are here to stay. ■

* Adapted from Zotova, et al. (*Lancet Planet Health* 2020;4:e48-e50). For more information, refer to the UN Sustainable Events Guide (asamonitor.pub/35ewP5i).

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