

Telehealth virtual visits can be a tool to fight climate change

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Andis Robeznieks

Senior News Writer

During the COVID-19 pandemic, telehealth has been shown to be a safe and effective way to deliver care. There is now also data showing that it's good for the health of the planet.

One large health system linked its 2020 growth in telehealth virtual visits to a reduction in the emissions of greenhouse gasses (GHG) equal to the emissions created annually by 1,200 homes.

Researchers with Northwest Permanente (NWP), a member of the AMA Health System Program, calculated telehealth's impact on reducing patients' vehicle traffic and the corresponding reduction in GHG emissions to 10.5 tonnes of carbon dioxide or equivalent GHG emissions (CO₂-eq) in 2020 from 19.6 tonnes CO₂-eq in 2019.



“It’s a win-win situation: We increase patients’ access to quality care while, literally, improving the air that they breathe when they step outside,” said Colin R. Cave, MD, NWP’s medical director of external affairs, government relations and community health.

A former president of the Oregon Medical Association, Dr. Cave also leads NWP's efforts to address climate change by enacting NWP's Climate Action Plan.

He, his colleague Cory Ogden, MD, and former NWP President and CEO Imelda Dacones, MD, along with researchers from Harvard Medical School and Massachusetts General Hospital, co-wrote "Patient transport greenhouse gas emissions from outpatient care at an integrated health care system in the Northwestern United States, 2015-20," which was published by *The Journal of Climate Change and Health*.

The Kaiser Permanente Northwest (KNWP) integrated health system serves 600,000 members in Oregon and Southwest Washington where wild fires rage and temperatures reached 115 degrees this year, making climate change research particularly relevant.

"One hundred fifteen degrees in Oregon isn't normal," Dr. Cave said.

From 2015 to 2020, the medical group completed 15.6 million outpatient visits, averaging 2.6 million a year. In-person visits declined by 46.2% in 2020 while telehealth visits jumped 108.5% in 2020.

The average distance travelled for an inpatient visit was just over 17.4 miles, and the researchers used Oregon Department of Transportation estimates that 93% of "personal errand" travel in the state is done by auto while the rest is a mix of walking, bicycling and using public transit.

"The rapid and widespread adoption of telehealth during the COVID-19 pandemic has had significant environmental health benefits, primarily through reduction in transportation-associated emissions," the authors wrote. "If the U.S. health care system were to maintain or expand upon current levels of telehealth utilization, additional reductions in GHG emissions would potentially be achieved through impacts on practice design."

More than just miles driven

The proper ratio of virtual to in-person care has not been determined, but Dr. Cave said telehealth is here to stay.

"Make no mistake, we're not going back," he said, adding that the impact "is much more than just miles driven," as there are other results from policy and environmental points of view.

Fewer miles driven, for example, also mean less wear and tear on public streets and fewer in-person patient visits allows for a reduction in health care's footprint.

“We realized that, by increasing our virtual visits, we have been able to close two small primary care clinics, one mental health clinic and one renal clinic, and consolidate these services in other clinics, because so many of those visits were then provided by virtual care,” Dr. Cave said.

The study also developed a new term—“ambulatory visit carbon intensity”—which is defined as the average GHG emission per outpatient visit and permits comparison of environmental performance across all scopes of ambulatory care. Dr. Cave envisions it being used as a tool to measure and reduce GHG emissions.

“Those who understand the premise of this paper, know that this was not just to look at mileage only,” he said. “If you’re able to remove the carbon emissions from a couple of clinics, you can then apply that emissions savings to this ambulatory visit-intensity measurement and you can make that measurement even lower.

“If you are having the same number of outpatient visits, but more of them are virtual and it allows you to close physical plants, then you should get credit environmentally for reducing your carbon footprint,” Dr. Cave added. “That’s the next iteration of this research, and I’m pleased to see that there are a number of people in organizations that get it.”

Sustainability measures needed

The research by Dr. Cave and colleagues appears to answer a call for such efforts that was issued by researchers from Yale and other institutions in a 2019 *JAMA* Viewpoints column “Reducing Pollution From the Health Care Industry.”

The column noted that “development of robust, standardized metrics to define environmental performance and gauge progress is required” if the industry was going to reduce its resource use and its environmental footprint.

“Minimizing health care pollution requires addressing excessive or inappropriate resource use, and optimizing the environmental footprint of health care could contribute to improved population health,” the authors wrote. “Environmental sustainability is an underappreciated dimension of health care quality.”