

# Harmonizing Climate Change Adaptation and Mitigation in the Health Sector

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Our planet is getting warmer and this has severe consequences, whether we acknowledge them or not. Sea levels are rising, the amount of snow and ice is declining and the concentration of greenhouse gases is still increasing. The latest report from the International Panel of Climate Change released in September 2013 (see <http://www.ipcc.ch/report/ar5/wg1/>), makes it harder than ever to ignore that climate change can be attributed to human activities. As a consequence, extreme weather or climatic events will change in frequency, intensity, spatial distribution and duration, which combined with human factors, can lead to increased risk for serious health impacts, or even disasters.

Human health has not been central in the climate change debate but is slowly gaining more attention. Health impacts are already evident in certain parts of the world and are expected to increase as a result of direct exposures to heat waves, hurricanes or floods or through indirect effects, such as increase in infectious diseases or famine due to reduced crop yields [1-5]. The health sector has a responsibility to launch effective risk management and adaptation strategies to help people cope with these consequences. Examples of such strategies could be public health campaigns, implementation of heat warning systems and improvement of hospital emergency departments to more efficiently manage large casualties in disaster prone areas. Ironically, if one ignores the cause of climate change when designing such strategies, they may actually increase carbon emissions and contribute to the underlying problem. One such example is installing air conditioning to prevent heat-related illness, which will actually increase emissions due to increases in energy consumption. Moreover, by encouraging people to stay inside in air conditioned facilities during hot weather, their physical activity level will decrease. This behaviour might indeed protect lives, but reduced level of physical activity as a way to adapt to changing environmental conditions might have even more serious health consequences in the long run. Even worse is of course to disregard the need for adaptation entirely. The best way to combat these potentially negative health impacts would be to harmonize the climate change mitigation and adaptation agendas, and to invest in strategies that yield benefits even in absence of climate change. This might be easier said than done so let me give you a few examples of this way of thinking where the health sector is concerned.

Telemedicine, defined as the use of information and communications technology (ICT) to provide health care at a distance, is considered a valuable solution for serving the needs of those who lack access to health care due to geography, isolation or other constraints. Telemedicine is routinely used in countries, such as Canada, Sweden, Scotland and Australia, which have in common a sparse and scattered population. Telemedicine has been shown to improve access to and even quality of care, and in some cases to cut costs [6-8]. What most people don't even reflect upon is that telemedicine services also has a great carbon reduction potential by reducing the need for travelling [9-12] and the positive effects remains when accounting for the carbon costs of manufacturing, using and disposing of the technology used to facilitate such virtual meetings (Holmner et al., submitted for

publication). Travel represents as much as 18% of the carbon emissions of the UK health sector [13] and telemedicine could theoretically make a notable contribution to climate change mitigation, at least in developed countries. Telemedicine has in addition proven to be a promising strategy for providing health services to areas affected by disasters, such as earth quakes, hurricanes and tsunamis [14]. Access to health care is invaluable for disaster recovery and telemedicine might in some cases be the only way to provide medical support in the acute phase. Telemedicine thus directly classifies as an adaptation strategy in this respect by increasing resilience and helping people cope with the negative impacts of the disaster. Owing to the rapid development of the technology and growing number of disasters that have occurred in recent decades, there is a lot of experiences that we can utilize to improve our adaptive capacity using telemedicine in similar scenarios [14]. Investing in telemedicine can of course be a costly challenge, particularly for low- and middle income countries, and requires major efforts by stakeholders at the local, regional, national and even international level. However, the technological development is moving at a furious pace and in a near future the whole globe will be connected. So why not use this development for the planets advantage?

Another striking example of mitigation and adaptation in harmony is public health campaigns aiming to encourage the use of active transport, i.e. walking or taking the bike instead of travelling by car or bus. Active transport is a crystal clear mitigation strategy, which directly leads to a reduction in tailpipe emissions. However, this mitigation strategy also comes with a very important co-benefit; improved physical health [15]. Strategies aiming to improve public health can be classified as climate adaptation since improved health will make the individual more resistant to exposures, such as heat stress and infectious diseases.

Decision makers and policy makers in the health sector should be cautious when designing climate change adaptation strategies to make sure that these strategies do not further increase carbon emissions. However, it is equally important not to compromise with human health in the pursuit of a carbon-neutral society. The two examples discussed in this editorial actually manage to maintain this delicate balance and improve public health, also in the absence of climate change. So, next

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time someone poses the conundrum; should we focus on climate change adaptation or mitigation? What will your answer be?

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