## Giving the climate policy ratchet a healthy turn

We began 2020 talking about the potential for "a super year for the environment". With major international meetings scheduled on climate change and biodiversity, it was set to be a pivotal time for both agendas. Little did we know that an emerging infectious disease would quickly spread to global pandemic proportions, pushing other considerations down the political agenda. Suffice to say both meetings were postponed until 2021, and so we are once again talking about the coming year as a pivotal moment for the environment. But this time with the ongoing pandemic and the politics of a post COVID-19 recovery hanging over proceedings. In this issue we focus on the upcoming climate negotiations and links with health.

The Paris Agreement set a goal to keep global average temperatures well below 2°C above preindustrial temperatures. Countries then submitted nationally determined contributions (NDC's) which embody national efforts to reduce greenhouse gas (GHG) emissions and adapt to the impacts of climate change. The first set of NDC's were insufficient. However, nations are asked to revise their NDC commitments at regular intervals and should, in principal, submit increasingly ambitious commitments over the coming years, something known as the "ratchet mechanism". The upcoming Glasgow climate summit (COP 26, November, 2021) is expected to be a key moment in this cycle because it is the firsttime countries are being asked to increase their level of ambition. Given the small time window we have left to keep climate warming well below 2°C, a failure to significantly ratchet up collective GHG mitigation commitments will make keeping climate change within relatively safe limits increasingly unlikely. If there is a need for a deadline to motivate action, we have it and it's November, 2021.

A modelling study in this issue by Ian Hamilton and colleagues explores the potential GHG and population health effects that would be likely to result in 2040 from the NDCs in place at the end of 2020 (current pathway scenario) and for two more ambitious scenarios. The study focuses on energy, food system, and transport sectors for nine representative countries and also explores the potential benefits of more ambitious interventions consistent with the Paris Agreement and the SDG's (the sustainable pathways scenario). They go on to investigate

the potential for additional health benefits if countries were to more explicitly address health in their revised NDCs (health in all climate policies scenario). They find that the sustainable pathway scenario would avoid many millions of deaths per year through mitigation of direct greenhouse gas emissions and associated actions that reduce air pollution, improve diets, and increase physical activity compared with our current pathway. Even greater benefits are possible if health is considered explicitly in all policies. As Margaret Chan puts it in her linked Comment "achieving net zero emissions is the most important global health intervention now and for decades to come".

In a related Article in this issue Niheer Dasandi and colleagues use content analysis and natural language processing methods to examine the diverse ways in which public health is incorporated in NDCs. They find that high income countries tend not to mention health in their NDCs, while relatively greater engagement with health was found in LMICs and small island developing states. There was also an association between NDC health coverage and population exposure to temperature change and air pollution. This follows broader patterns of global inequalities. These findings are supported by a linked Comment by Collin Tukuitong and Paula Vivili on climate impacts on health in small island developing states.

A final Article in this issue by Imogen Tennison and colleagues explores health care's response to climate change focussing on NHS England. They model emissions (1990 to 2019) including direct and indirect emissions through NHS assets and the wider supply chain, as well as patient and visitor travel. In 2019, the NHS's emissions totalled 25 megatonnes of carbon dioxide equivalent, a reduction of 26% since 1990, and a decrease of 64% in the emissions per inpatient admission episode. In a related Comment Andrea MacNeill and colleagues outline principals for sustainable health systems.

There are already some promising NDC revisions submitted ahead of Glasgow. We hope the research and comment herein will contribute to the evidence supporting more ambitious NDCs in the coming months and help pave the way for health care that operates within planetary boundaries. 

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