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national and international levels for predicting future disease outbreaks and pandemics, analogous to the US National Weather Service and the European Centre for Medium Range Weather Forecasts, which use extensive data from multiple sensors and supercomputing.

So far during the COVID-19 pandemic in the USA, there has been inadequate central coordination and command in public health surveillance, response, and innovation. Although ACTIV and RADx have been established, it is unclear how such efforts work together. Furthermore, there are challenges for the coordinated implementation of innovations. A lack of coordination between US state and local public health departments, for example, led to difficulties in delivery of contact tracing programmes.¹⁶

Globally, there is inadequate financing to sustain a coordinated strategy for COVID-19 innovations. The ACT-Accelerator, for example, brings together governments, health organisations, scientists, businesses, civil society, and foundations to accelerate development, ensure equitable allocation, and scale up delivery of new COVID-19 tools. But the ACT-Accelerator is principally dependent on funding from donor countries and foundations, which is an insufficient and unsustainable way to finance a global public good. The ACT-Accelerator will require long-term, predictable, and sustained financing based on global solidarity. Innovation to tackle COVID-19 must be centred within strategy, command, coordination, and sustainable financing.

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A pledge for planetary health to unite health professionals in the Anthropocene



In 1948, the Declaration of Geneva¹ was passed as one of the first official acts of the World Medical Association. The Declaration updated the ancient Hippocratic oath and defined ethical principles applicable to the medical profession worldwide.² Other health professions have similar pledges and oaths that guide their practice,

generally based on the four bioethical principles of justice, autonomy, non-maleficence, and beneficence. Over time, these pledges have been updated to account for evolving societal norms, expectations, and challenges,³ and many students and health education institutions use adaptations of the original oath.^{4,5}

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The public commitment to take responsibility for other people's lives and health at the transition from student to professional is an act of great personal and professional significance.⁴

Current and future generations of health professionals, and the populations they serve, face the challenges of the Anthropocene epoch in which human activity is the main driver of global environmental changes.⁶ The climate crisis, ocean acidification, and biodiversity loss, among others, are major threats to human health.⁷ In response to these challenges, the

transdisciplinary field of planetary health has emerged centred on the interconnectedness of human health with the state of all natural systems.⁸ Planetary health seeks to safeguard the health of present and future generations and promote intergenerational and intra-generational equity and justice.⁹ A core objective is to transform human values, behaviours, and societal structures to maintain the "safe and just operating space for humanity" we depend on to thrive.¹⁰

Health professionals are among the most trusted members of society.¹¹ We believe that to sustain this trust in the Anthropocene, health professionals need to expand the interpretation of *primum non nocere* (first do no harm) and beneficence and consider the vitality of the planet as a bedrock for human wellbeing. This approach requires striving for planetary health to truly do no harm. As mediators between science, policy, and practice, and as trained communicators, health professionals are well placed to become agents of individual and systemic transformative changes to increase resilience to environmental changes and reduce the ecological footprint of societies.

Rooting planetary health principles in the professional ethos, education, and practice of all health professionals is imperative.¹² A life-course and intergenerational approach, drawing on interventions that yield multiple co-benefits, should become a defining feature of medical, nursing, and other health professions in the Anthropocene.¹³⁻¹⁵ Faced with multiple environmental threats to health and the COVID-19 pandemic, we believe a strong argument can be made to adopt an updated pledge that recognises health professionals' roles and responsibilities in the Anthropocene. We propose this new pledge to encompass the diverse challenges that are impeding progress towards the health of people and planet. These include, but are not limited to, the health impacts of structural inequalities and any form of discrimination, including that involving gender, race, and ethnicity. Since the world's population encompasses diverse worldviews and cultural practices, greater effort in prioritising inclusive language in updated pledges is needed. For example, many Indigenous communities orient towards planetary health within their worldviews as well as their traditional healing practices, and these should be respected.¹⁶ A revised pledge could also have unifying potential across the health and related professions and

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I solemnly pledge to dedicate my life to the service of humanity, and to the protection of natural systems on which human health depends.

The health of people, their communities, and the planet will be my first consideration and I will maintain the utmost respect for human life, as well as reverence for the diversity of life on Earth.

I will practise my profession with conscience and dignity and in accordance with good practice, taking into account planetary health values and principles.

To do no harm, I will respect the autonomy and dignity of all persons in adopting an approach to maintaining and creating health which focuses on prevention of harm to people and planet.

I will respect and honour the trust that is placed in me and leverage this trust to promote knowledge, values, and behaviours that support the health of humans and the planet.

I will actively strive to understand the impact that direct, unconscious, and structural bias may have on my patients, communities, and the planet, and for cultural self-awareness in my duty to serve.

I will advocate for equity and justice by actively addressing environmental, social, and structural determinants of health while protecting the natural systems that underpin a viable planet for future generations.

I will acknowledge and respect diverse sources of knowledge and knowing regarding individual, community, and planetary health such as from Indigenous traditional knowledge systems while challenging attempts at spreading disinformation that can undermine planetary health.

I will share and expand my knowledge for the benefit of society and the planet; I will also actively promote transdisciplinary, inclusive action to achieve individual, community, and planetary health.

I will attend to my own health, wellbeing, and abilities in order to provide care and serve the community to the highest standards.

I will strive to be a role model for my patients and society by embodying planetary health principles in my own life, acknowledging that this requires maintaining the vitality of our common home.

I will not use my knowledge to violate human rights and civil liberties, even under threat; recognising that the human right to health necessitates maintaining planetary health.

I make these promises solemnly, freely, and upon my honour. By taking this pledge, I am committing to a vision of personal, community, and planetary health that will enable the diversity of life on our planet to thrive now and in the future.

respond to recent calls for transdisciplinary action for planetary health.^{17,18}

We propose an interprofessional planetary health pledge that is based on the Declaration of Geneva¹ (panel). Recognising that we are not representative of the health professional community worldwide, we hope this proposed draft pledge stimulates discussion. Diverse and globally representative perspectives will be important in this discussion to develop a pledge on the basis of a wider consensus that can nevertheless be adapted to local contexts and for other professions. A single unifying statement as the basis for planetary health pledges by different professions could help to avoid conflating health with health systems. This approach foregrounds the contributions of the many occupations involved in addressing the ecological, structural, and social determinants of health and emphasises the responsibility and the honour involved in a commitment to working for planetary health with the potential to catalyse transformative change.

To this end, we welcome feedback from health professionals and others about this proposed pledge for planetary health. We urge all professional bodies and health education institutions to incorporate planetary health values and principles in their mission statements. Furthermore, we encourage interprofessional graduation ceremonies to pledge commitment to planetary health with the aim of forging collaboration between professions to address the growing challenges of the Anthropocene epoch.

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