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**on the occasion of**

**WORLD HEALTH DAY**

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We are living through one of the most extraordinary threats to global health experienced in the past century, and it is only fitting that World Health Day this year celebrates the central role played by nurses and midwives in the provision of health care services in all countries worldwide.

I want to begin by sending warm thanks to all the dedicated, courageous health workers at the forefront of our responses to the crisis. These women and men are all heroes of our time, and they deserve our uncompromised support and admiration. Nurses attend to the sick, help develop preventive strategies, and contribute to emergency preparedness and response, patient safety and many other areas. Midwives take on the enormous responsibility of assisting the women giving birth to our future generations.

These women and men are animated today, by a vision of a better, fairer health future for all, one in which they will not have to make the sacrifices they are making today. That is why thinking about prevention, sustainability and inter-generational equity is so important, even the midst of this crisis.

The continuing loss of biodiversity on a global scale represents both direct and indirect threats to our health and wellbeing. Biodiversity loss and ecosystem change, including through land use change, habitat fragmentation and loss, and climate change, can increase the risk of disease emergence and spread among people, animals and other living species.

Nature and the diversity of microorganisms, flora, and fauna is the source of medicine and antibiotics and biodiversity loss thus limits the discovery of potential treatments for many diseases and health problems. Biodiversity loss can also disrupt community traditions and livelihoods centred on traditional medicinal practices that use wild animals and plants, including by many of the world's poor, indigenous peoples and local communities.

The One Health approach, which recognizes the intrinsic connection between human health, animal health and the health and resilience of nature, can help guide us towards an effective post-2020 Global Biodiversity Framework and help achieve the Sustainable Development Goals.

It is my greatest hope that the fight against COVID-19 will soon be won; and that, as we recover, we can pursue the opportunity to re-imagine and transform our relationship with nature while promoting community and global health.



Let us all work together to bring this crisis to an end and prevent similar catastrophic events in the future. We owe our brave nurses, midwives and other health workers nothing less. Together we will get through this and begin to build back better, with sustainability and resilience at the forefront of our work for transformative change.

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## Appendix

### COVID-19, zoonotic disease, biodiversity and human health

- 1) Approximately two-thirds of known human infectious diseases are zoonotic (ie diseases that have normally exist in animals but that can infect humans) and thus can be transmitted from animals to humans.
- 2) There is a rapidly emerging body of scientific evidence to suggest that COVID-19, like several other strains of coronavirus, including MERS and SARS, is likely to have a zoonotic *origin*; i.e. originating in an animal host before spilling over to human populations. Once spillover occurs, some coronaviruses, such as COVID-19, are then *transmitted* from person to person. Our globalized, increasingly interconnected world makes them more likely to spread faster and farther, increasing their pandemic potential.
- 3) Disease spillover from animals to humans is on the rise worldwide, largely as a result of our growing ecological footprint. Over the last 60 years, the majority of new zoonotic pathogens have emerged, largely as a result of human activity including changes to land-use (eg deforestation) and the way we manage agricultural and food production systems.
- 4) As a global pandemic, COVID-19 demands immediate, short-term action. In that sense, it may be necessary to seek targeted, emergency measures in the short-term as an immediate response to this large-scale global crisis. However, the lessons learned from COVID 19 and other epidemics also point to the need for concerted action supported by a long-term vision; one that enables us to fundamentally transform our collective understanding of, and relationship with, the natural world, to prevent, insofar as possible, future pandemic outbreaks.
- 5) Live animal markets (also known as “wet markets” in parts of Asia, such as the Huanan Seafood Market in Wuhan China, in which live fish, meat and wild animals are sold) are an important risk factor for disease spread as is the global wildlife trade. Measures taken by countries to reduce the number of live animals in food markets have the potential to significantly reduce the risk of future disease outbreaks and stricter controls on the sale and consumption of wild species must be scaled up globally.
- 6) However, these markets also sustain the livelihoods of millions of people and many others rely on wild meat as a critical source of food security and nutrition, including in low-income rural areas. Moreover, a ban of the trade, farming and consumption of wild species or a “clamp-down” of wet markets, does not, altogether eliminate the risk of future zoonotic spillover, and may even, under some conditions, generate new opportunities for diseases to emerge. For example, a blanket ban may inadvertently increase the risk of illegal trade of species used as food and medicine, particularly among some communities that may attach strong cultural and societal referents to some wild species used and traded as foods, medicines, or for other purposes.

### COMMON DRIVERS

- 7) Human health is intimately interconnected with the health of our planet and how we manage the life-sustaining resources biodiversity and ecosystems provide.
- 1) Human activities are disturbing both the structure and functions of ecosystems. Such disturbances reduce the abundance of some organisms, cause alterations in the composition of others, modify the interactions among organisms, and alter the interactions between organisms and their environments. Patterns of infectious diseases are sensitive to these disturbances.
- 2) Many of the underlying drivers of disease emergence cut across a large range of environmentally and socially destructive practices, amplifying disease risk time and time again: large-scale deforestation, habitat conversion and fragmentation, agricultural and livestock intensification, the way we produce, trade and regulate species used as food and medicines, the hunting of wild animal and plant species to the brink of extinction, anthropogenic climate change, these and others are all significant drivers of biodiversity loss but also drive the potential for new diseases to emerge and spread, whether they are zoonotic or vector-borne.
- 3) *For example, in the particular case of the 1998 Nipah virus outbreak in Malaysia, a combination of deforestation, forest fires, and a drought in 1998 are believed to have forced fruit bats, as natural carrier of the virus, to concentrate in fruit orchards. The close proximity of the orchards to pig farms allowed for the spillover of Nipah virus from bats to pigs. In turn, the close physical contact between pig farmers and infected pigs made it possible for pigs to infect pig farmers, causing a rapid spread of this disease.*
- 4) *With regards to the devastating Ebola virus outbreak in West and central Africa in 2014, scientific evidence suggests that outbreaks were primarily concentrated in hotspots of forest fragmentation and was more closely linked to areas in which there were recent deforestation events.*
- 5) Human-mediated environmental drivers, such as climate change and biodiversity loss, can not only drive zoonotic disease emergence but also vector-borne diseases, such as malaria or dengue,

#### PREVENTION

- 6) Our highly interconnected world provides multiple opportunities for the rapid spread of disease, including epidemic-prone and foodborne diseases, and environmental disasters, among others. This global crisis has made clear that more robust, comprehensive and coordinated prevention strategies are needed. It is also critical that all countries have the capacity to detect, assess, and respond to public health events that may arise in future. The International Health Regulations of WHO (IHR) are intended to help the international community prevent and respond to acute public health risks, while limiting interference with international traffic and trade.
- 7) *One Health* and other integrated approaches are foundational pillars of prevention and early detection; in their absence early signals of emergence in animals or their upstream environmental drivers are often missed.
- 8) Collaboration on surveillance and information-sharing between human health, agriculture, and environment sectors helps promote a *One Health* approach that better understands disease transmission dynamics.
- 9) Investment in pandemic prevention is far less costly than response;
  - a) Between 1980 and 2013, there were over 12,000 recorded disease outbreaks affecting over 44 million people worldwide including zoonotic viruses such as SARS, MERS, H1N1 (avian) and H5N1 (swine) influenza viruses.
  - b) In 2003, the SARS outbreak alone cost an estimated \$52 billion
  - c) Based on recent estimated from The UN Conference on Trade and Development estimates that COVID-19 will likely cost the global economy \$1 trillion this year alone.

- d) By comparison, the World Bank estimated that prevention would require an average per capita expenditure of \$1.69 annually to achieve an acceptable level of epidemic preparedness
- e) In addition to very high costs to economies, pandemics also have wide ranging long-term consequences to people's health and productivity, by diverting resources from non-emergency health care and other public goods and services.

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