



2020 – A Decade of Change and Challenge Manuel Carballo and Ina Gudumac

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Opinion

The decade we have just embarked on is likely to be replete with medical breakthroughs that could revolutionize our capacity to diagnose, treat and possibly prevent many of the diseases that have plagued the world for centuries. The coming ten years are also likely to witness socio-demographic transitions of a magnitude that have not been seen before. Some of them have been underway for many years, others are still emerging. All of them are likely to accelerate massively in the coming ten years and present the world with new and possibly difficult-to-meet public health challenges.

Conservative estimates place the global number of migrants crossing borders in search of work at about 258 million. UNHCR, meanwhile, reports a record number of around 71 million people who have been uprooted and forced to flee wars and persecution around the world; 26 million of them are refugees who have managed to find temporary safety in other countries; another 41 million have fled to other parts of their own countries as internally displaced people. The pace of migration from rural areas to poorly planned, already overwhelmed and unhealthy cities in developing countries is difficult to quantify with precision, but in China alone, official statistics indicate that in 2018 as many as 3.4 million people left the countryside every month to seek work in coastal cities. A similar pace, if not size, of movement has been reported in India and other parts of Asia as well as in Africa and Latin America where rural poverty is pushing people to leave while the hope of a better quality of life in mythical cities is providing the “pull”. At the same time, vastly improved transportation and greater leisure time has given rise to a global tourist industry that in 2018 encouraged 1.4 billion people to move around the world for recreational purposes and at a speed never before possible. Moreover, in many parts of the world climatic changes are now expected to displace at least 200 million people by 2050. Where they will go is not clear; movement to cities in their own countries is likely to occur in the first instance, but large-scale cross-border and cross-oceanic movement is soon expected to follow once domestic employment options fail.

Because people are today moving over increasingly vast distances, crossing ecological zones, and as in the case of refugees and irregular migrants, doing so under difficult socioeconomic and health conditions, they will risk being exposed to new disease challenges they will not have had reason or time to develop herd immunity to. In this dynamic relationship, people on the move will be equally capable of exposing people they come into contact with along the way to health challenges that transit hosts are also biologically unprepared for. This potential for adverse biomedical exchanges will continue to persist in the destinations migrants and refugees eventually settle in and that millions of tourists regularly leave and return to.

People move with the medical histories they have grown up with or have gone on to acquire along their migration route. This means the global socio-demographic shift that is already underway and is likely to quicken, may well produce profound changes in the distribution of both communicable and non-communicable diseases. In some cases, these changes will be abetted by changing ambient temperatures, altered rainfall patterns and adaptations to these changes by local ecological systems. People will not only move with their medical histories, however. They will also take with them their health belief systems, their traditional knowledge and their culturally determined attitudes to disease prevention and health care. All of these will present new challenges for healthcare systems along the way and in final destination societies, especially if and where there has been no preparation for mass migration and its potential effect on public health and clinical medicine.

The knowledge that people on the move have the capacity to introduce new diseases is not recent. As early as the 14th century, in response to the Black Death (bubonic disease) epidemic, port cities such as Venice and Ragusa (now Dubrovnik) introduced regulations designed to keep suspect ships “off-shore” for a period of forty days during which time it was estimated that cases of bubonic plague would incubate, present and lead to the death that was almost

inevitable at the time. These measures were quickly followed by the creation of lazarets on off-shore islands where infected people could be accommodated and cared for. The forty day off-shore requirement eventually went on to be the basis for today's quarantine system. To what extent empirical epidemiologic data were available and used by health authorities in the 14th century in designing these quarantine responses is not clear, but today we know that bubonic plague was not the only disease being moved around the world by people on the move. Smallpox, syphilis, yellow fever, tuberculosis, cholera and other communicable diseases were all, at different moments in history, moved around the world by a mix of explorers, settlers, military personnel, traders and pilgrims.

In the coming decade the number of people who will move, the distances they will cover, the ecological zones they will pass through and the speed with which they will travel will increase significantly. With that acceleration in speed and distance will inevitably come a range of new health and healthcare challenges for the people who move, the people they meet and interact with along the way, and those they finally settle down with. Few of these coming challenges are likely to be impossible for countries or the international community to manage, but all of them will call for a type of epidemiological vigilance and healthcare services preparedness that is still lacking today in many countries and regions of the world.

Thus far the world has seen fit to adopt the International Health Regulations (IHR) which bind 194 signature countries to work together in responding to global epidemic threats and doing so in

ways that respect human rights while protecting the health and wellbeing of the many, and avoiding undue chaos in international trade and travel circles. For IHR to be effective, it means that countries need to align their surveillance and reporting, be able and willing to respond quickly and transparently to suspect outbreaks, and be open to exchanging specialists as well as infection data among themselves and with WHO. The emergence of a new coronavirus in Wuhan, China has precipitated the type of rapid and coordinated response that will hopefully lead to a rapid characterization of the virus, its modes of transmission and how it must be managed.

Preparing for future events of this kind is important, because there will inevitably be many more. The size of our cities, the ways in which we live, the extent to which we move, and the speed with which we expect to move will produce new risk configurations. Identifying these early and modelling the ways in which new diseases might spread is essential. Training medical staff to identify, report and respond to them is equally important. New screening technologies and isolation principles will have to be developed, and creative public information systems put in place to inform without causing unwarranted panic, and generate cooperation without forcing. Above all, it will be necessary to strengthen global reporting mechanisms and the national and international organizations that will be called on to manage future outbreaks. In a global village, moreover, it will be essential that we have a universally agreed-upon health center of excellence to guide the response to health emergencies. If WHO is to continue performing this role, it must be given the means to do so.



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