

## Book

## Preparing for the next pandemic

In a clinic in Guinea, a community health worker is puzzled by the number of people in a village becoming severely ill and reports this to their superior, who notifies the Ministry of Health about the outbreak. Across the world in San Francisco, USA, a child with upper respiratory symptoms is brought to a paediatrician's office and is tested for a range of diseases, including avian influenza; when the test is positive, the US Centers for Disease Control and Prevention is alerted for further investigation. Each day, all around the world, such concerning disease signals are happening. In 2023, for example, WHO identified roughly 750 signals for in-depth analysis and response. These have included everything from anthrax, cholera, dengue and Marburg virus disease. While much of the public got to know public health through COVID-19, pandemics are rare events. Most disease signals and outbreaks are contained and managed using public health tools and an effective response. Public health is almost invisible when it is most effective.

A new book *Infectious Disease Emergencies: Preparedness and Response* captures the essential technical information from some 100 leading public health scientists and practitioners on what makes an effective outbreak response. Edited by Dale Fisher, Professor of Medicine at the National University of Singapore and a former Chair of WHO's Global Outbreak Alert and Response Network, the book starts with COVID-19 but takes readers further to the range of diseases that require intervention. Chapters cover everything from laboratory detection, surveillance, and early warning (by Rachel Peh, Geoffrey Namara, Oyeronke Oyebanji, and Chikwe Ihekweazu), to new diagnostics (Devy Emperador, Camille Escandafal, and Daniel Bausch), field epidemiology (Alexander Spina, Erika Valeska Rossetto, and Neale Batra), legal

instruments (Elyssa Liu, Dena Kirpalani, and Ayelet Berman), critical care in outbreaks (Ziwei Liu, Richard Kojan, and William Fischer), setting up real-time studies during outbreaks (Sam Xin Hui,

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Marissa Alejandria, John Amuasi, and Barnaby Young) to pandemic vaccine development (Qi Rou Yap, Wei Chuen Tan-Koi, John Lim, and Eng Eong Ooi) and how best to develop a vaccination strategy (Jolyn Koh, Leesa Lin, and Heidi Larson). You can tell just from that taster that this book includes world leaders in global health security.

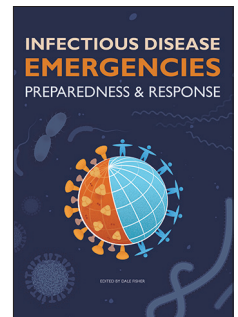
*Infectious disease preparedness and response* is usually one chapter in a global health textbook: it now gets an entire textbook devoted to this topic and I can see *Infectious Disease Emergencies: Preparedness and Response* becoming the backbone for courses and training. Informed by key lessons learned from the COVID-19 pandemic and other disease outbreaks, the book takes readers through the various components of what makes an effective response and lays out clearly the knowledge needed in each of those areas. Its comprehensive approach makes this book crucial reading for people at all career stages in public health as well as policy makers.

With its clear, evidence-based information on, for example the difference between sensitivity and specificity, a false positive and false negative, and mRNA versus inactivated vaccines, this is also a book that I wish I could gift to the growing online community pushing back against science, including vaccines. Some of this disinformation includes alternative theories about whether outbreaks and pandemics are

planned by governments. COVID-19 was not planned and cholera, Lassa fever, and plague outbreaks have not been orchestrated. Governments have struggled to manage the cross-border spread of pathogens as growing trade routes brought not only new goods, but also disease. Over many years, technical knowledge has been accumulated, refined, and tested. The public health community knows what measures are needed to manage disease outbreaks.

But as this book recognises and as the COVID-19 pandemic showed, there is a big gap between what should happen and what plays out in reality. We scientists must have the humility to acknowledge that response is also linked to politics, economics, and social science. For instance, if a vaccine is approved, people need to be willing to take it. And public health data about outbreaks and response measures are undermined when political imperatives mean that risks are downplayed. Infectious disease preparedness and response are increasingly both technical and social and ethical issues. Alongside this excellent textbook, I would recommend reading political and social takes on the pandemic, such as Emily Mendenhall's *Unmasked*, Heidi Larson's *Stuck*, Richard Horton's *The COVID-19 Catastrophe*, Rebecca Katz and Mackenzie S Moore's *The Outbreak Atlas*, and Caitlin River's *Crisis Averted*. Having read all of these superb books, my take-away is that while it is crucial that experts know what to do in a crisis and train the next generation, we also need to consider whether anyone is willing to listen to us in government or in the public. The 2025 Executive Order of US President Donald Trump to withdraw the USA from WHO shows that our knowledge and expertise might fall on deaf ears in some places.

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**Infectious Disease Emergencies: Preparedness and Response**

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For online open access to this book see <https://emergencies.pubpub.org/infectious-disease-emergencies-preparedness-response>

## Further reading

- Horton R. The COVID-19 catastrophe: what's gone wrong and how to stop it happening again, 2nd edition. Polity, 2021
- Katz R, Moore MS. The outbreak atlas. Vanderbilt University Press, 2024
- Larson HJ. Stuck: how vaccine rumors start—and why they don't go away. Oxford University Press, 2020
- Mendenhall E. Unmasked: COVID, community, and the case of Okoboji. Vanderbilt University Press, 2022
- River C. Crisis averted: the hidden science of fighting outbreaks. Viking, 2024
- Sridhar D. Preventable: how a pandemic changed the world and how to stop the next one. Viking, 2022