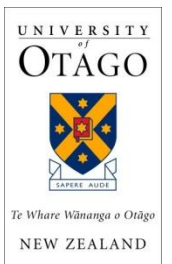


Preparing for the Next One – Learning from the Lessons of COVID-19

David Murdoch
University of Otago

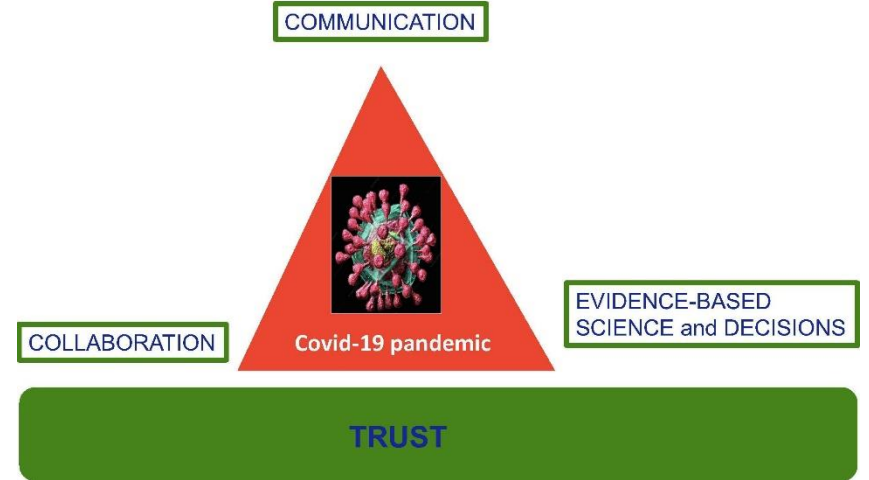


8 Lessons

THE COVID-19 PANDEMIC TAUGHT US

PANDEMIC PREPAREDNESS AND RESPONSE STRATEGIES
 COVID-19 LESSONS FROM THE REPUBLIC OF KOREA, THAILAND, AND VIET NAM
 Patrick L. Osewe
 OCTOBER 2021

LESSONS FROM COVID-19 PANDEMIC



LESSONS LEARNED from COVID-19 Response Efforts

- COORDINATION across the supply chain is essential
- The private sector is a CRUCIAL PARTNER
- Responding to supply challenges requires ADAPTATION

ASIAN DEVELOPMENT BANK

COVID-19 lessons for the climate emergency

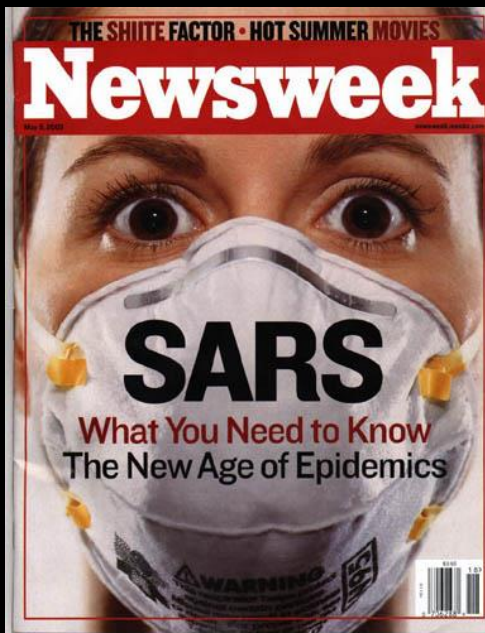
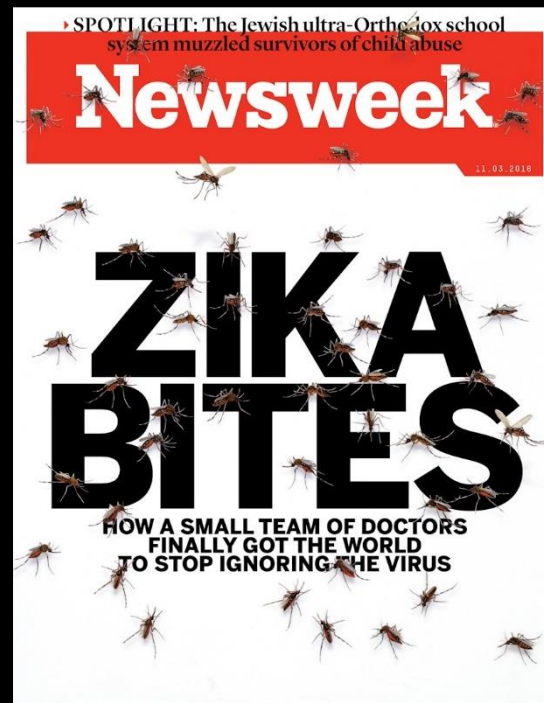
- High momentum trends
- Irreversible changes
- Social and spatial inequality
- Weakening of international solidarity
- Less costly to prevent than to cure

“For too long, we have allowed a cycle of panic and neglect when it comes to pandemics: we ramp up efforts when there’s a serious threat, then quickly forget about them when the threat subsides.”

*Dr. Jim Kim, former World Bank President
- speaking in 2018*

***“The history of pandemics teaches us only
that we can't be taught.”***

— Roxanne Khamsi





AHMED KULLI/ANEO/EPFL/ARTDOV

Ebola outbreaks

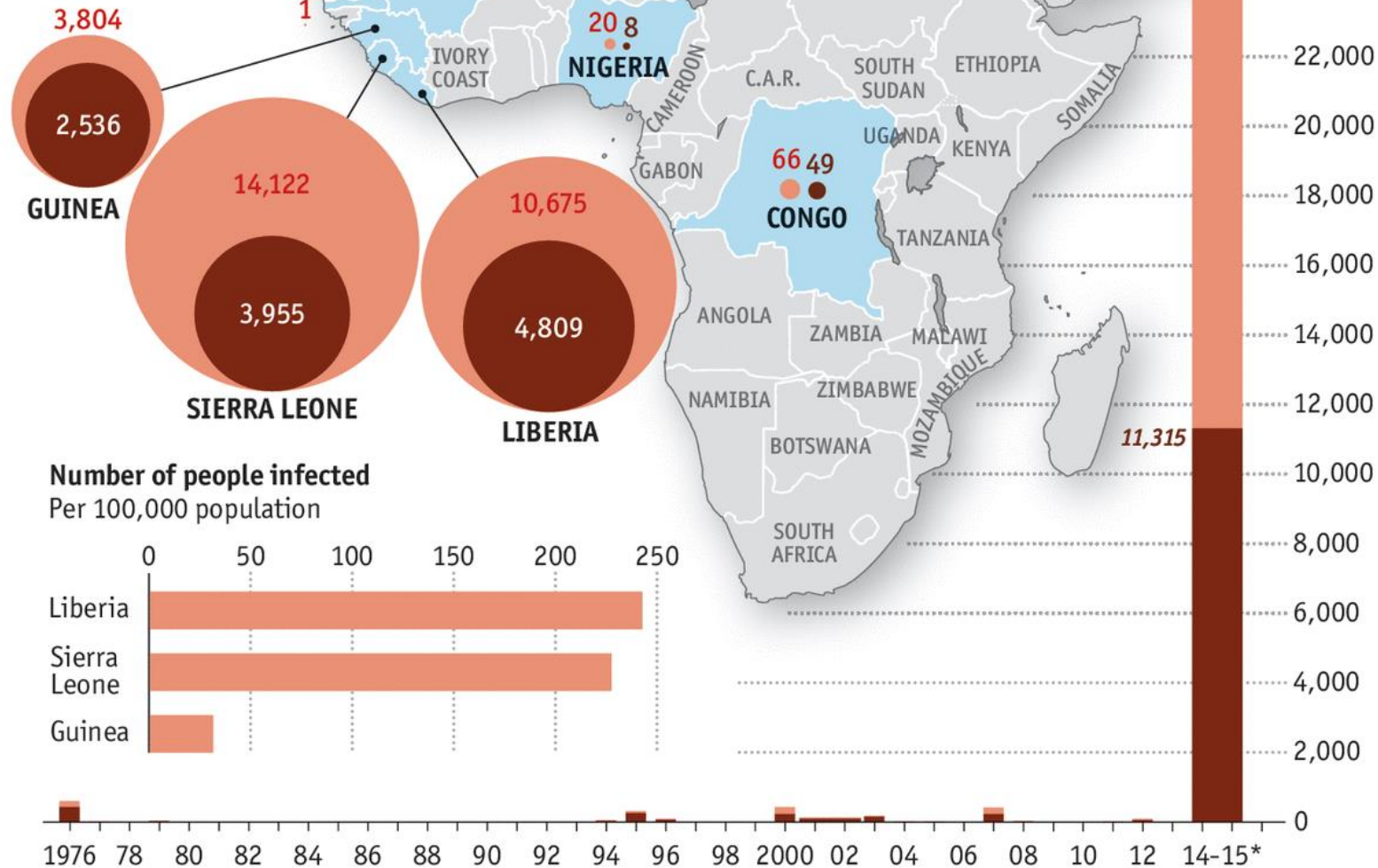
To January 14th 2016

Number of people:

● infected

of whom:

● dead



Number of people infected
Per 100,000 population

Sources: WHO; UN; *The Economist*

*Includes cases in Italy, Spain, Britain and the United States. Excludes Congo



ANTICIPATING EMERGING INFECTIOUS DISEASE EPIDEMICS





The NEW ENGLAND JOURNAL *of* MEDICINE

Perspective
JULY 23, 2015

Establishing a Global Vaccine-Development Fund

Stanley A. Plotkin, M.D., Adel A.F. Mahmoud, M.D., Ph.D., and Jeremy Farrar, M.D., Ph.D.

As the Ebola epidemic in West Africa continues, albeit at a much lower level than it reached in the spring, we still lack a vaccine that has been shown to be safe and effective.



Coalition for Epidemic Preparedness Innovations

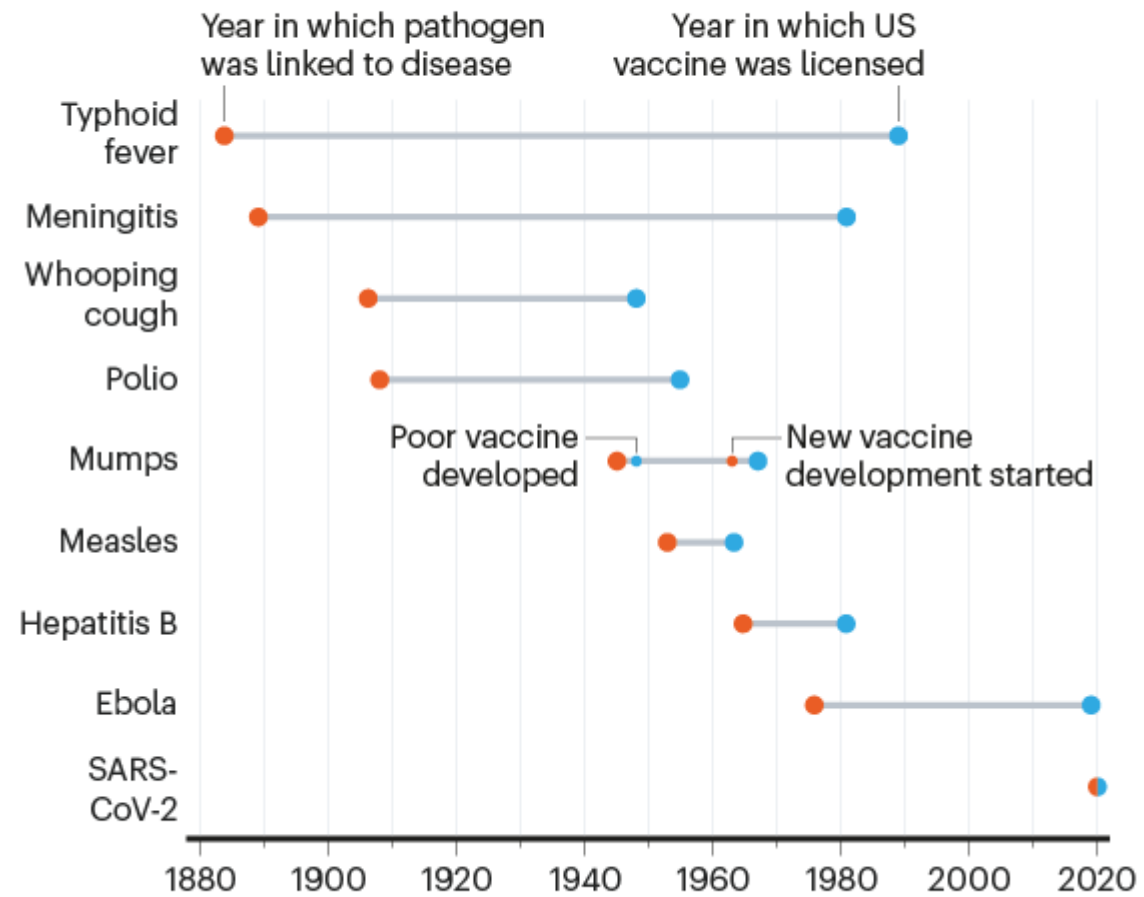
New vaccines for a safer world

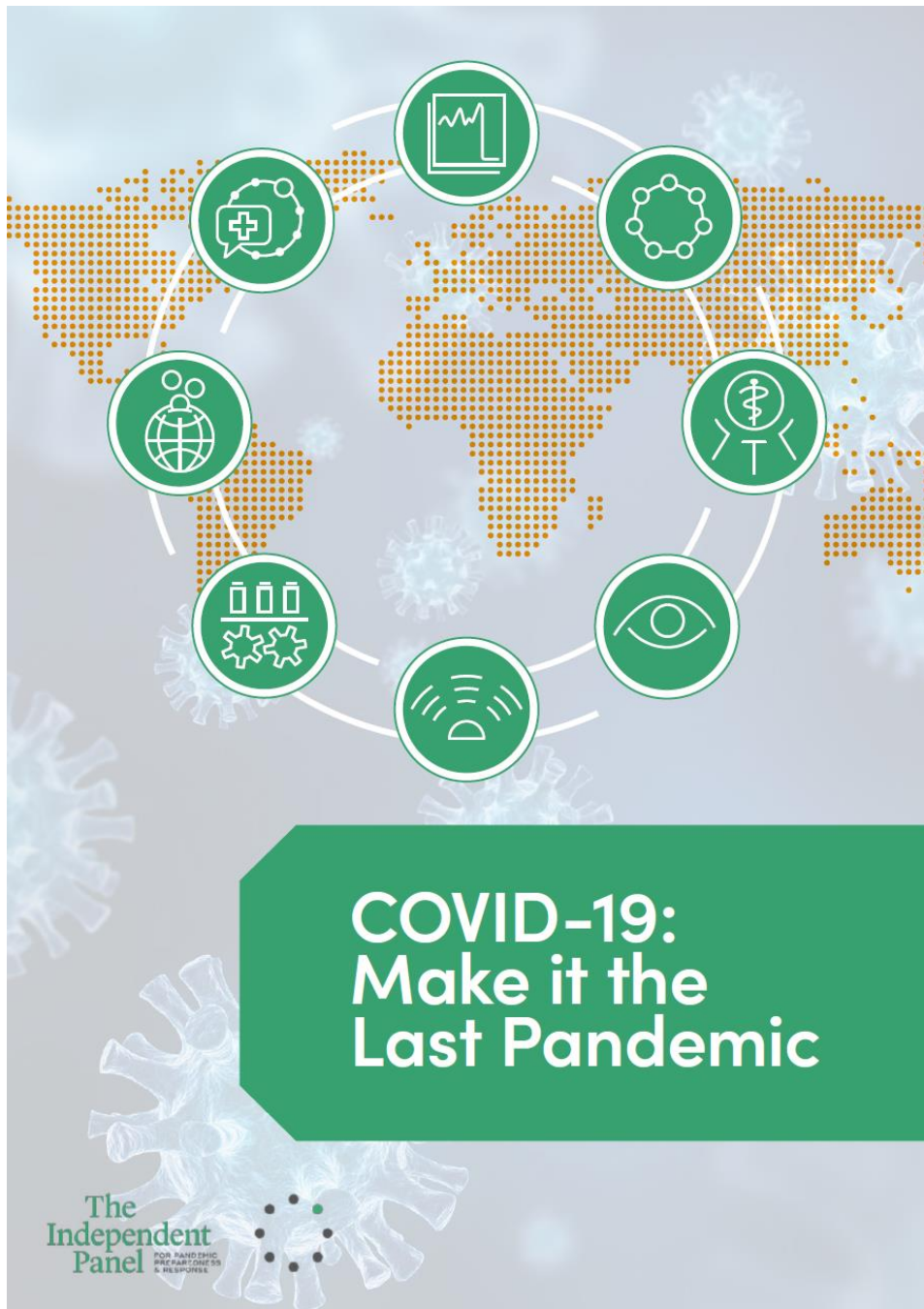
The Coalition for Epidemic Preparedness Innovations (CEPI) is a global partnership launched in 2017 to develop vaccines to stop future epidemics.



VACCINE INNOVATION

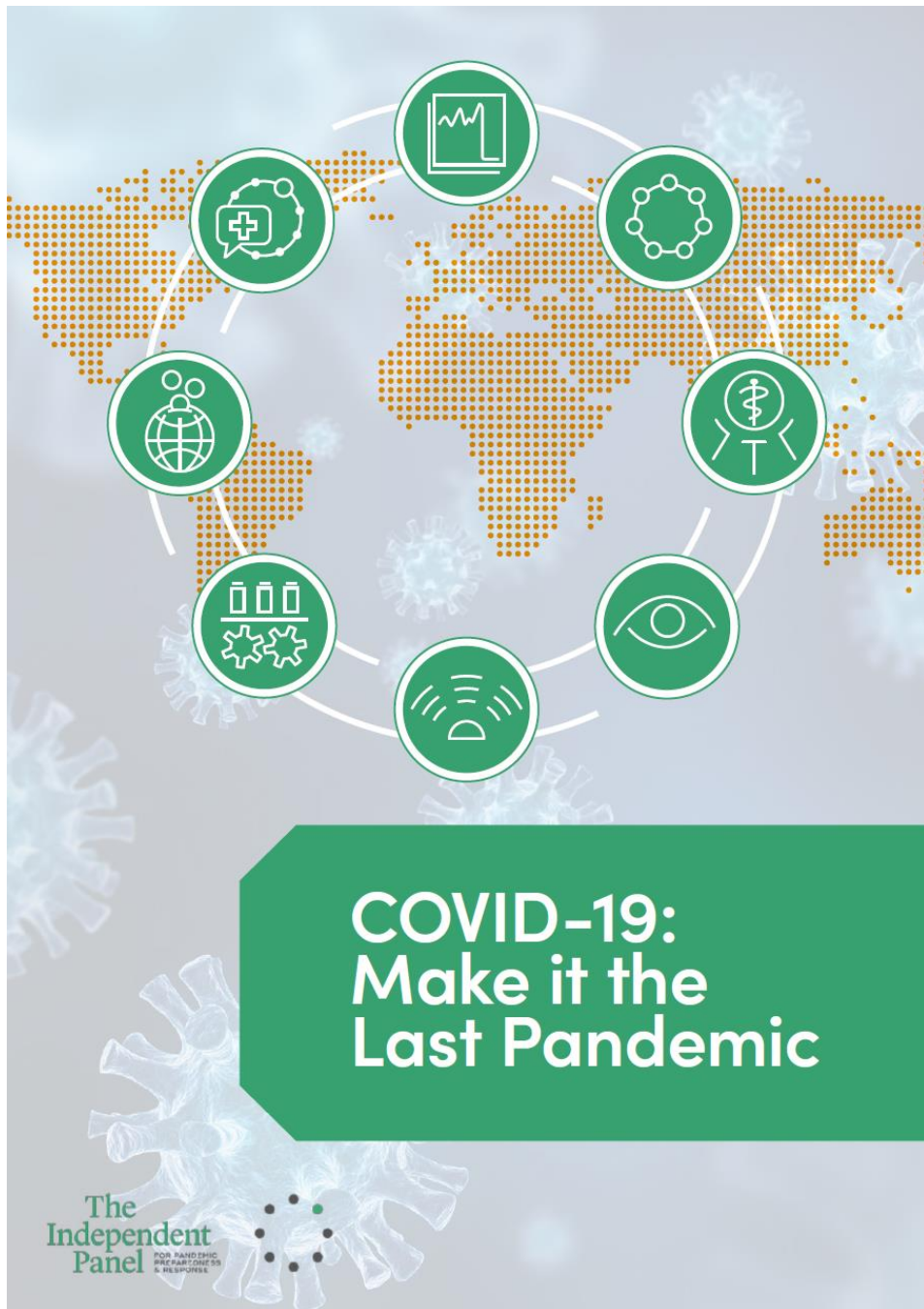
Most vaccines take years to develop, but scientists created multiple vaccines for SARS-CoV-2 within a year.





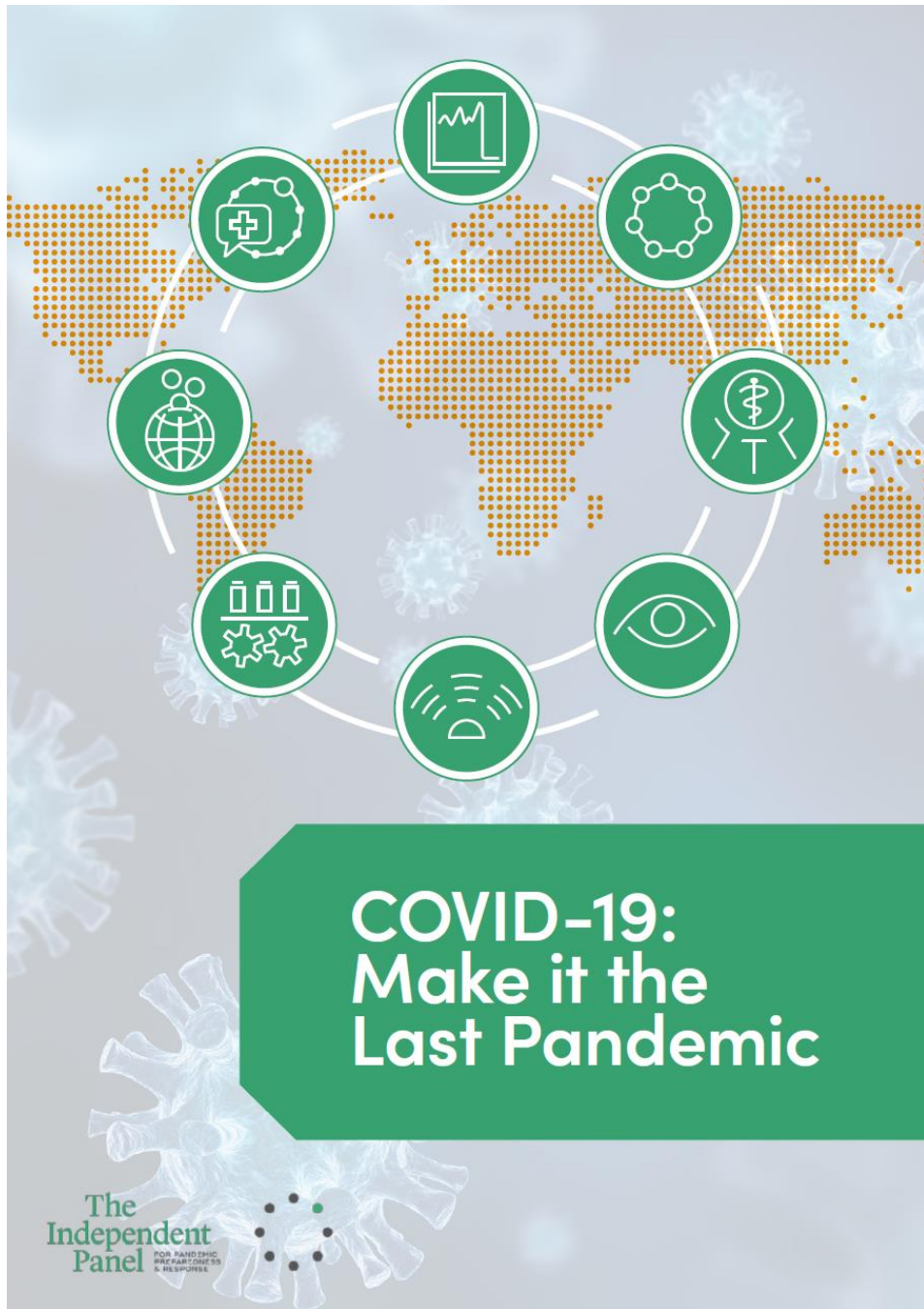
Findings

- Widespread lack of resilience to deal with crises
- Weak links at every point in the chain of preparedness and response
- Preparation was inconsistent and underfunded
- Alert systems were too slow and meek
- WHO was under-powered
- Responses exacerbated inequities
- Global leadership was absent

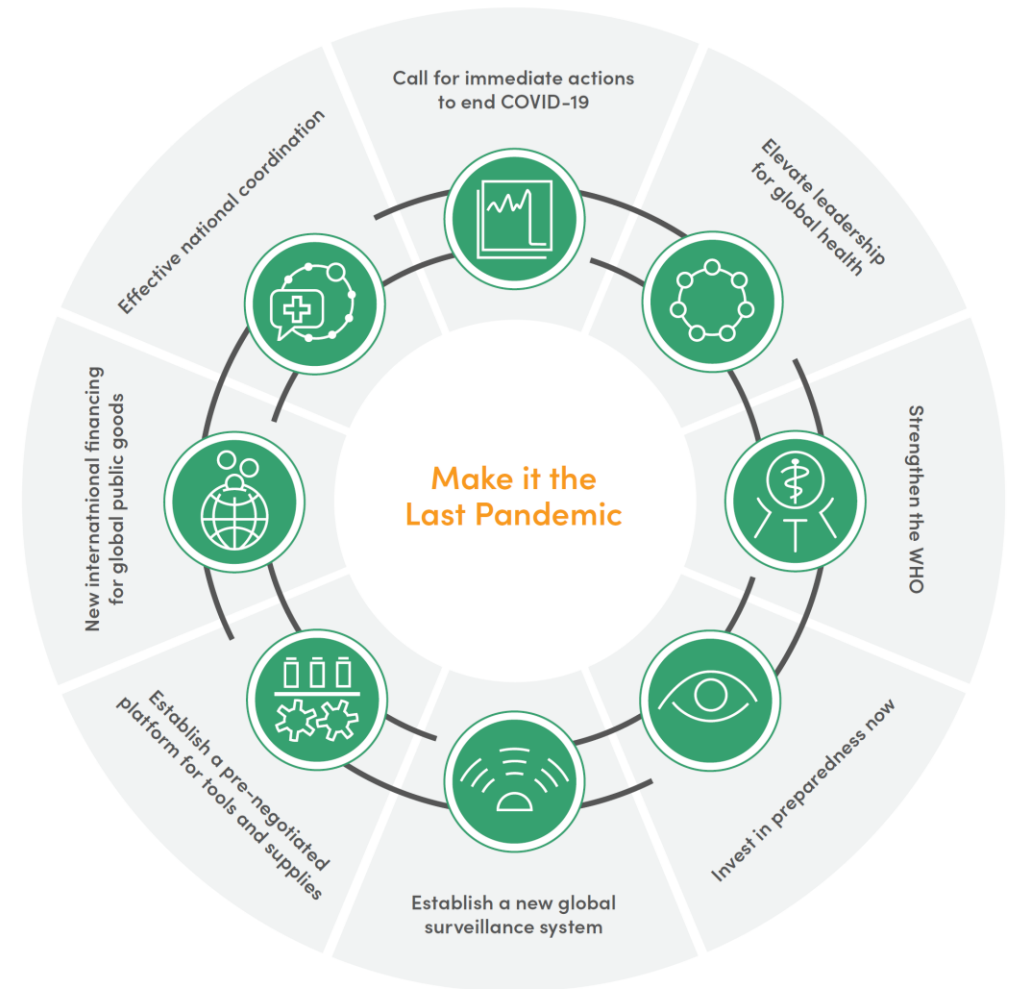


Successful National Responses

- Were often built on lessons from previous outbreaks
- Listened to the science and changed course when necessary
- Engaged communities
- Communicated transparently and consistently



Recommendations



“There is a need for investment in preparedness now, and not when the next crisis hits.”



“There is progress, but it is not fast or cohesive enough to bring this pandemic to an end across the globe in the near term, or to prevent another.”

**AN OPPORTUNITY
TO HOST THE
INFECTIOUS
DISEASES
RESEARCH
PLATFORM**



**2022
ASSESSMENT
GUIDELINES**

**FUTURE
OF HEALTH**

**TE ANAMATA
O TE ORANGA**

The Critical Partnership of Science and Leadership



Local Solutions are Often Best

Protecting the pā: Vaccinating against Covid-19 on the marae



By Alice Webb-Liddall
Partnerships editor

SHARE STORY



Marama Lyall Barraball receives her vaccine from Dr Maia Melbourne-Wilcox (Photo: Supplied)

In some rural areas of Canterbury, mana whenua working alongside the University of Otago have created safe spaces for Māori to get vaccinated against Covid-19 on their own marae.



We are all Mutually Interdependent

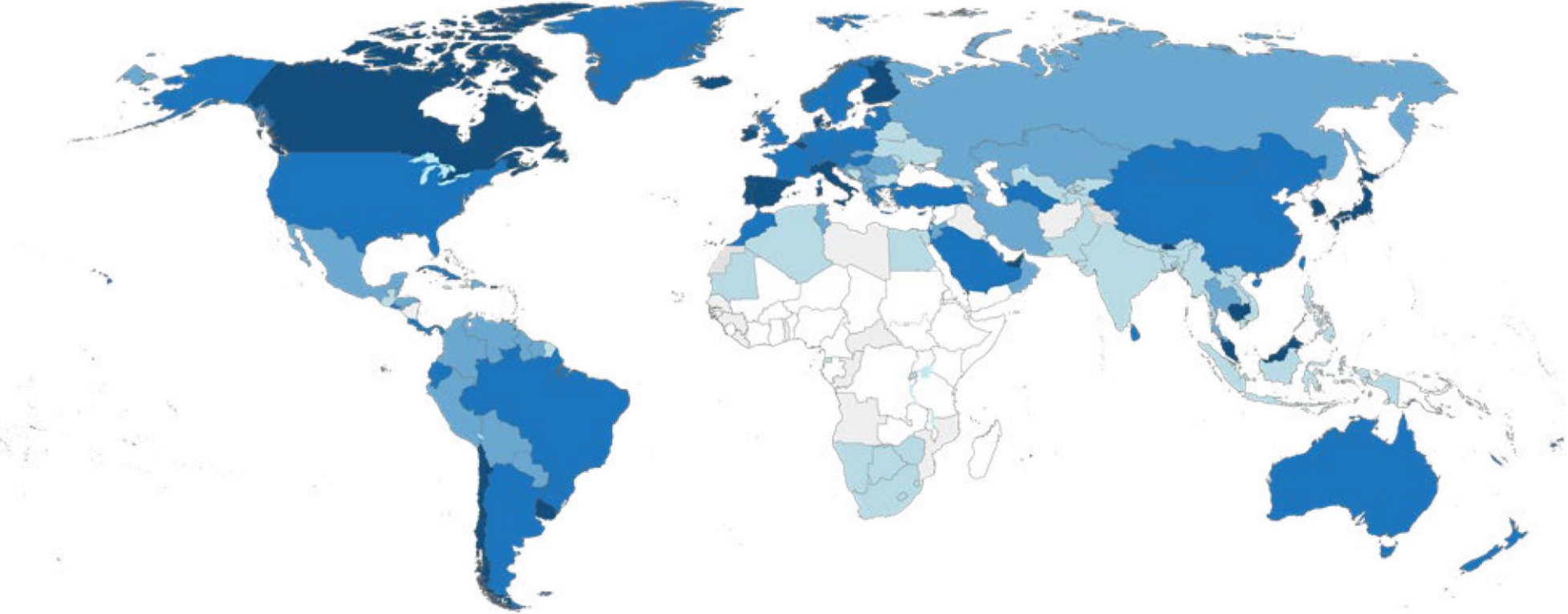


Vaccine nationalism is killing us. We need an internationalist approach
Rogelio Mayta, KK Shailaja and Anyang' Nyong'o

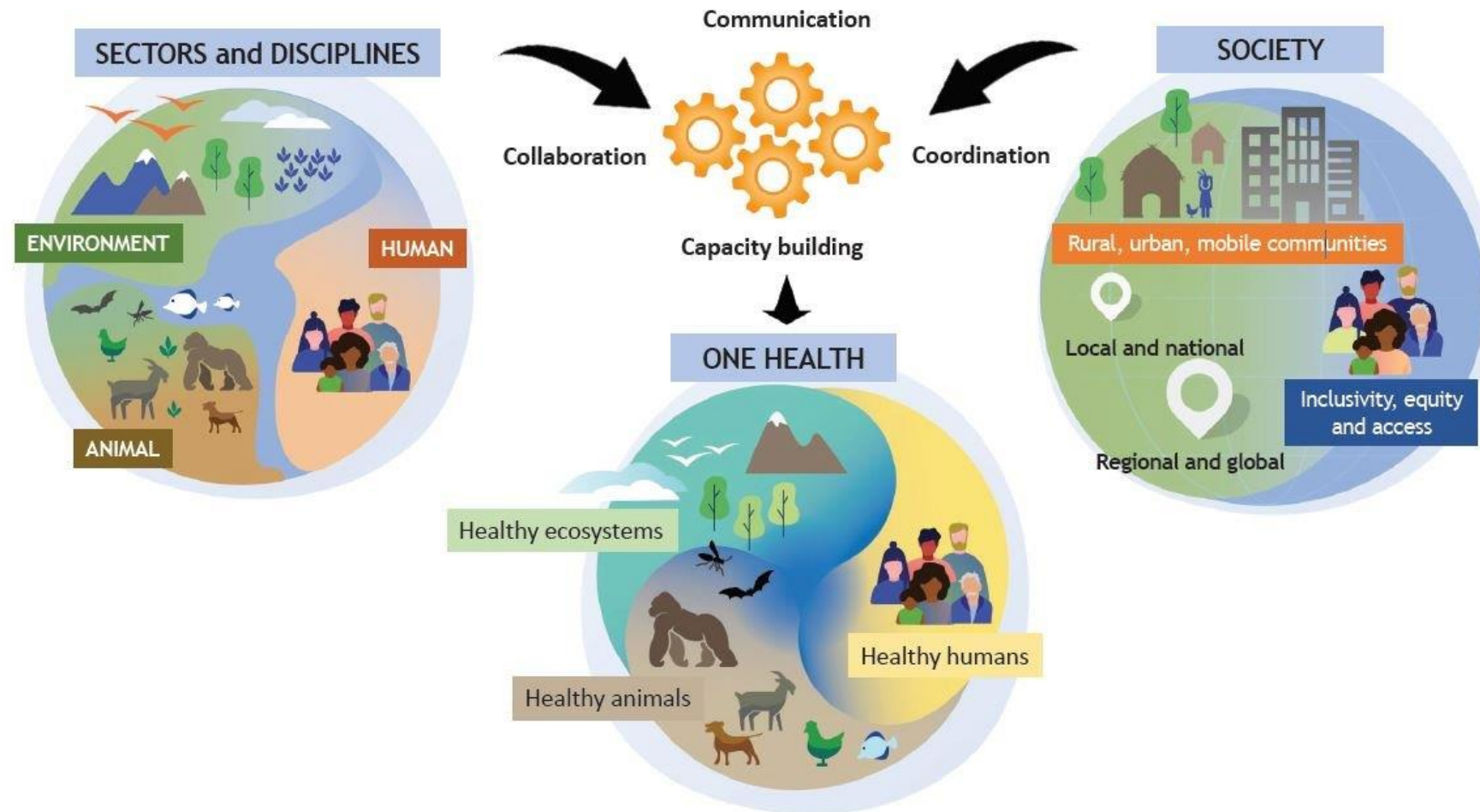
"How many more deaths must it take before the ... excess vaccines in the possession of the advanced countries of the world will be shared with those who [have] simply no access to vaccines?"

Prime Minister Mia Mottley of Barbados, at the 76th UN General Assembly⁶

Number of persons fully vaccinated for COVID-19 per hundred as of 8 November 2021



Diverse Expertise, Networks and Thinking are Important



Joint Tripartite (FAO, OIE, WHO) Definition of One Health

- **One Health** is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems
- It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and inter-dependent



Joint Tripartite (FAO, OIE, WHO) Definition of One Health

- The approach mobilizes multiple sectors, disciplines and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for clean water, energy and air, safe and nutritious food, taking action on climate change, and contributing to sustainable development.



Will the COVID-19 crisis trigger a One Health coming-of-age?

As the COVID-19 pandemic continues across the globe, leaving governments and public health services in shock and disarray, calls have been made for the need to adopt One Health approaches to address the failure to predict and halt the emergence of COVID-19.¹ The novel severe acute respiratory syndrome coronavirus 2 is widely suggested to have originated in Asia from a bat reservoir, possibly also involving other animal bridge species. As such, the focus of One Health on the human-animal-environment interface appears particularly compelling.² We concur, however, we warn that conceptual and institutional ambiguities that preclude the practical implementation and evaluation of One Health remain to be resolved.^{3,4}

One Health was initially adopted by major health agencies more than a decade ago to promote interdisciplinary collaborations among biomedical scholars and practitioners, and then progressively with workers in the environmental and social sciences, with the aim of establishing a more society-wide responsibility for the health of humans and the whole planetary ecosystem. EcoHealth, which further extends the concept of human-environment systems.⁵ This broader concept of health in social-ecological systems gained momentum, adopting a transdisciplinary action-research posture, and converged with sustainability sciences. Social-ecological systems uniquely formalised and explicitly defined resilience as a property of complex adaptive systems, the theoretical and practical validity of which is now supported by hundreds of case examples of diverse social-ecological systems.⁶ However, the word resilience is often used in a health context without a clear reference to other explicit definition. The term resilience is especially confusing in the fields of public and animal health, in which resilience has several different meanings.⁶ Use of the term resilience in an environmental health systems context should be accompanied by a clear specification of whether or not its intended meaning is consistent with the social-ecological systems framing of One Health—i.e. whether it addresses the resilience of social-ecological systems or the health of humans, animals, and the bio-physical environment in

the context of social-ecological systems—is essential to overcoming a number of challenges to its practical implementation as a transdisciplinary concept.^{1,7} Without more explicit framing as complex systems, the ambitions of One Health are likely to fail most of the time at the implementation phase.⁸



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de México (FMS), Torontolo (in Mexicana para la Salud (FMS),
Mexico (FMS), Torontolo (in Mexicana para la Salud (FMS),
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National Association for Hospice and Palliative Care (NAHPC) and Inverclyde
International Narcotics Control Board, Vienna, Austria (CIB); and Inverclyde
International Narcotics Control Board, Boston, MA, USA (AB)

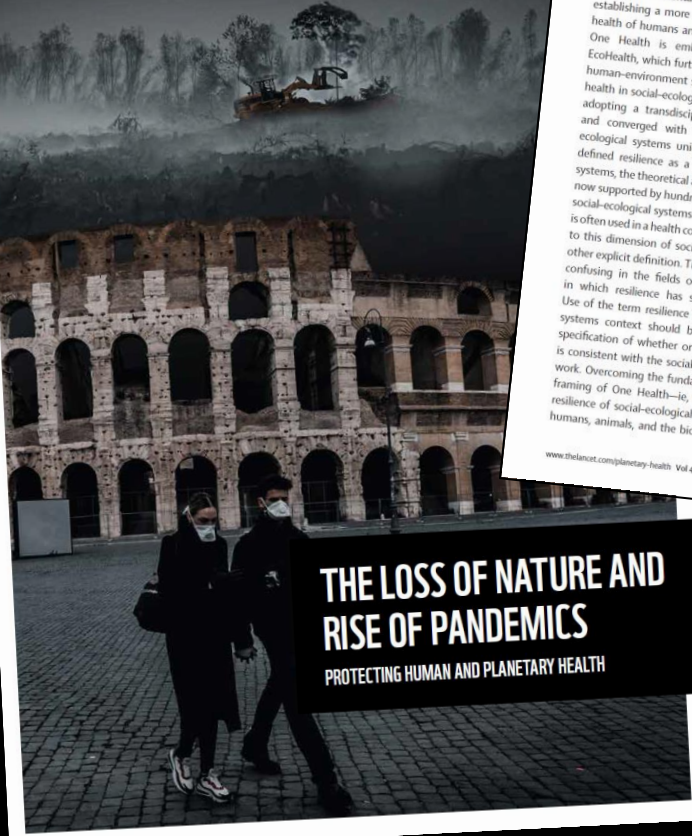
1. Kaur, P., Kaur, P., Kaur, P., et al. Alleviating the access abyss in
palliative care and pain relief—an imperative of universal health coverage:
a Lancet Commission report. *Lancet* 2018; 391: 1391–1454.
2. Borchers S, Gagnon B, Downar J. Palliative care perspectives
on end-of-life care and saving lives. *CMAJ* 2020; published online
March 31. DOI:10.1503/cmaj.200465.
3. Havel V, Smeets M. What should palliative care's response be to the
COVID-19 epidemic? *J Pain Symptom Manage* 2020; published online
March 27. DOI:10.1016/j.jpainsymman.2020.03.013.
4. Costantini M, Stevanin KE, Pennell C, Higginson I. Response and role of
palliative care during the COVID-19 pandemic: a national telephone survey
of hospices in Italy. *medRxiv* 2020; published online March 26.
<https://doi.org/10.1101/2020.03.15.20028488> [preprint].
5. Rosenbaum L. Facing COVID-19 in Italy—ethics, logistics, and therapeutics.
Health Aff (Millwood) 2020; published online March 18.
6. Rosenbaum L. Facing COVID-19 in Italy—ethics, logistics, and therapeutics.
Health Aff (Millwood) 2020; published online March 18.
7. Wallace CL, Widdowells D, Gibson A, White F. Grief during the COVID-19
pandemic: considerations for palliative care providers. *J Pain Symptom Manage*
2020; published online April 13. DOI:10.1016/j.jpainsymman.2020.04.017.
8. International Association for Hospice and Palliative Care. Palliative care
International Association for Hospice and Palliative Care. *Palliative Care* (accessed
April 2, 2020). <http://inglobalpalliativecare.org/news/13/>
9. Weaver MS, Wheeler L. Applying palliative care principles to communicate
with children about COVID-19. *J Pain Symptom Manage* 2020; published
online March 31. DOI:10.1016/j.jpainsymman.2020.03.020.
10. Wakam GC, Montenegro B, Betsworth BE, et al. Not dying alone—modern
compassionate care in the Covid-19 pandemic. *J Pain Symptom Manage*
2020; published online April 14. DOI:10.1016/j.jpainsymman.2020.07.078.
11. Downar J, Scovrovec B. Palliating a pandemic: all patients must be cared
for. *J Pain Symptom Manage* 2020; 59: 291–95.
12. University of Toronto Joint Centre for Bioethics/Pandemic Influenza
Working Group. STAND ON GUARD FOR THE: ethical considerations in
preparation for pandemic influenza. Toronto: University of Toronto
Toronto Joint Centre for Bioethics, 2015. <http://www.jcb.utoronto.ca/stand-on-guard-for-the-ethical-considerations-in-preparation-for-pandemic-influenza/>
13. Swiss Academy of Medical Sciences. COVID-19 pandemic: steps for intensive
care treatment under resource scarcity. *Swiss Med Wkly* 2020; 150:w20279.
14. WHO. Integrating palliative care and symptom relief into the response to
humanitarian emergencies and crises: a WHO guide. Geneva: World Health
Organization, 2018. <http://www.who.int/news-detail/story041818>
15. Bagshaw S, Wilcock A, Towers R, et al. Managing the supportive care needs of
those affected by COVID-19. *Eur Respir J* 2020; published online April 8.
DOI:10.1183/13993003.00019-2020.
16. Nishi W, Doh S, Sabelkand B, Mase BO, et al. Recommendations for
treatment of patients with COVID-19 from the palliative care perspective.
2020. *Deutsche Gesellschaft für Palliativmedizin/Deutsche
Gesellschaft für Palliativmedizin und Sterbungsmedizin*. https://www.dgp.de/fileadmin/user_upload/DSG_Handlungsempfehlung_palliative_Therapie_Die_COVID-19_V20_English_version.pdf (accessed April 2, 2020).
17. Bertone S, Erbil J, Thomas J, et al. Use of and barriers to access to opioid
analgesics: a worldwide, regional, and national study. *Lancet* 2016;
387: 1544–56.
18. International Narcotics Control Board. 2020. The International Narcotics
Control Board calls on governments to ensure continued access to
controlled medicines for pain relief and palliative care amid for mental
health and neurological conditions during the COVID-19 pandemic.
March 12, 2020. <https://www.incb.int/news/en/view/press-release/20200312/calls-on-governments-to-ensure-continued-access-to-controlled-medicines-during-the-covid-19-pandemic.html> (accessed April 2, 2020).
19. De Lima L, Astar Casan N, Work R, Badruch L, Pastana T. Opioid medications
in response formulations are valid at a level price than immediate-release
morphine in countries throughout the world: third phase of opioid pain
watch cross-sectional study. *J Palliat Med* 2018; 23: 1428–45.
20. Center for Advanced Palliative Care. Symptom management courses.
<https://www.capc.org/training/symptom-management/> (accessed
April 2, 2020).
21. Indian Association of Palliative Care. Palliative mobile app for palliative care.
designed by Karanrajya, Bangalore Hospice Trust. <http://www.palliativecare.org/free-palliative-care-app-palliant> (accessed April 4, 2020).
22. The Lancet. Palliative care and the COVID-19 pandemic. *Lancet* 2020;
395: 1168.
23. Horton H. Offline: COVID-19—what countries must do now. *Lancet* 2020;
395: 1120.

Reconnecting for our future: The Lancet One Health Commission

The evolution and sustenance of our planet hinges on a symbiotic relationship between humans, animals, and the environment that we share—we are interconnected. However, this past century has seen human dominance over the biosphere, accelerated manifest in technological innovations, accelerated mobility, and converted ecosystems that characterise industrialisation, globalisation, and urbanisation.¹ These developmental trajectories have advanced human health in unprecedented ways. However, they also make humans increasingly vulnerable to contemporary global health challenges, such as emerging and re-emerging infectious diseases,² as shown by the coronavirus disease 2019 (COVID-19) pandemic, antimicrobial resistance (AMR),³ and the increasing burden of non-communicable diseases.⁴ These challenges are further impacted by climate change, poverty, conflict, and migration.⁵

The apparent dominance of the human species comes with a huge responsibility. Thus, in our quest to ensure the health and continued existence of humanity, consideration must be given to the complex interconnectedness and interdependence of all living species and the environment—the concept of One

See Online/Correspondence
[http://doi.org/10.1016/S0140-6736\(20\)30208-X](http://doi.org/10.1016/S0140-6736(20)30208-X)



THE LOSS OF NATURE AND RISE OF PANDEMICS

PROTECTING HUMAN AND PLANETARY HEALTH

IPBES WORKSHOP ON BIODIVERSITY AND PANDEMICS

EXECUTIVE SUMMARY

Intergovernmental Platform on Biodiversity and Ecosystem Services



www.thelancet.com Vol 395 May 9, 2020

GROWTH SAVING CAPITALISTS

Valuing the economy
Leveraging stimulus

Growth is erratic. As stimulus packages advantage investors, economic inequality continues to grow. The decade ends with a savings glut at the top that depresses demand by debt-burdened consumers and foresees trouble ahead.

RESPONSE | Rush to reopen
RESET | Automation, stimulus, surveillance
REINVENTION | Monopoly

With \$3.4 trillion already committed to stimulus, the Federal Reserve Bank promises to extend stimulus as needed.

COLLAPSE UNGOVERNING

Valuing political power
Leveraging masks as symbols

With leadership that prioritizes political wins, battle lines are drawn between Red Hats and Blue Masks. Street rage escalates as a deeply divided nation proves ungovernable. Coalitions of secessionist states set the stage for a fractured union.

RESPONSE | Masked diversions
RESET | Violent protest, a divide military
REINVENTION | Exit strategies

TRANSFORMATION SOCIAL SOLIDARITY

Valuing social well-being
Leveraging mutuality

Building on the best of collective grassroots actions to provide mutual aid in a moment of collapsing health, the country relaunches the sharing economy ethos of the 2000s with new civic infrastructures to provide and protect universal basic rights.

RESPONSE | Mutual aid
RESET | Sharing economies, civic literated
REINVENTION | A global standard

CONSTRAINT GERM PODS

Valuing health
Leveraging testing and contact tracing

Data-driven health surveillance tools create algorithmic clusters of the immune, the at-risk, and the untreated. Over the decade, these so-called germ pods expand to signify a wide range of identity markers and new cultural categories.

RESPONSE | Data-driven policy
RESET | Algorithmic epidemiology
REINVENTION | Pod-based gatekeeping

AFTER THE PANDEMIC

A DEEPER DISEASE

BROKEN HEALTH SYSTEMS

Healthcare as UNINTEGRATED
Health costs POLITICIZED
Health outcomes DISCRIMINATORY
Health workers TRAUMATIZED

ECONOMIC INEQUALITY

Low-wage workers SACRIFICED
Gig economy/platforms FISSURED
Unemployment SKewed
Savings and debt IMBALANCED

RACIAL INJUSTICE

Equal opportunity UNREALIZED
Public safety UNSAFE
Communities of color INCARCERATED
Shifting demographics RESTRUCTURED

COVID-19 mortality rates are disproportionately high among Blacks

Los Angeles	70%
Chicago	69%
South Carolina	58%
Washington	47%
Illinois	47%

POLITICAL DIVISION

Federal government DECONSTRUCTED
State and local governments BANKRUPTED
Blue vs. Red PERVASIVE
Political corruption MILITARIZED

CLIMATE EMERGENCY

Climate science CONTESTED
Carbon industries DIVESTED
Environmental regulations EMBATTLED
Climate disaster preparedness INSUFFICIENT

FRAGILE SOCIAL FABRIC

Public social spaces VIRTUALIZED
Educational institutions INTERRUPTED
Cultural expressions THREATENED
Civic boundaries WEAPONIZED

Americans believe that trust in government and each other has been shrinking... and that makes it harder to solve problems

In the federal government	75%
In each other	64%
In the federal government	64%
In each other	70%

BRITTLE SUPPLY CHAIN

Food systems SHOCKED
Medical supply chains MISREGULATED
Patent processes DEADLY
Consumer goods MONOPOLIZED

The projected rate of food insecurity across the country has more than tripled as a result of COVID-19

CONSUMER GOODS

As COVID-19 cases and deaths mount, the US is growing more divided along party lines on perceptions of the threat

Dem/Lean Dem	74%
Rep/Lean Rep	43%



AFTER THE PANDEMIC

GROWTH
**SAVING
CAPITALISTS**

an alternative futures scenario



AFTER THE PANDEMIC

CONSTRAINT
GERM PODS

an alternative futures scenario



AFTER THE PANDEMIC

COLLAPSE
UNGOVERNING

an alternative futures scenario



AFTER THE PANDEMIC

TRANSFORMATION
Social Solidarity

an alternative futures scenario

Making the future mythic

FOUR ARCHETYPES FOR
ALTERNATIVE SCENARIOS



INSTITUTE FOR THE FUTURE



TRANSFORMATION SOCIAL SOLIDARITY

Universal basic well-being

- Social agenda, rather than purely economic or technological
- Focus on collective well-being and building resilient communities
- Recognition that we are all mutually interdependent, including with the natural world we inhabit
- Refocusing on stewardship rather than exploitation
- Explicit focus on equity and justice




INSTITUTE FOR THE FUTURE

We ask: if this pandemic cannot catalyse real change, what will?



Rt Hon. Helen Clark



H.E. Ellen Johnson Sirleaf

Former Co-Chairs of the Independent Panel for Pandemic Preparedness and Response