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PREZODE: preventing zoonotic disease emergence

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executive power to force states to respect rights. Israel needs to fulfil its international obligations by providing full financial support to ensure that any programmes meet minimum standards.

We call on multilateral development banks to support the expansion of Palestinian public health-care infrastructure and capacity to allow Palestinians a dignified life that any person deserves, as per the Universal Declaration of Human Rights.

We call on manufacturers developing these crucial vaccines to ensure access for all Palestinian people under occupation, including those living in refugee and detention camps, which could involve donations of storage units and equipment.

Finally, we call on individuals and civil society organisations to raise global awareness of the situation in the occupied Palestinian territory and ask Israel to honour its commitment to medical ethics and human rights by ensuring access to COVID-19 vaccines for Palestinians living under occupation.

Israel has a moral obligation to ensure that Palestinians have access to COVID-19 vaccines available under emergency use mechanisms or compassionate use and to support such a vaccination programme. Anything short of that is a breach of medical and professional ethics and a clear act of discrimination.

We declare no competing interests.

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- 1 Horton R. Offline: The health of Palestinians is a global responsibility. *Lancet* 2018; **392**: 1612.
- 2 Moss D, Majadle G. Battling COVID-19 in the occupied Palestinian territory. *Lancet Glob Health* 2020; **8**: e1127–28.
- 3 UN Human Rights, Office of the High Commissioner. Israel/OPT: UN experts call on Israel to ensure equal access to COVID-19 vaccines for Palestinians. Jan 14, 2021. <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=26655&LangID=E> (accessed Jan 18, 2021).

- 4 WHO. WHO SAGE roadmap for prioritising the use of COVID-19 vaccines in the context of limited supply. Nov 13, 2020. <https://www.who.int/publications/m/item/who-sage-roadmap-for-prioritizing-uses-of-covid-19-vaccines-in-the-context-of-limited-supply> (accessed Jan 18, 2021).

PREZODE: preventing zoonotic disease emergence

As of mid February, 2021, the SARS-CoV-2 virus has killed approximately 2 million people worldwide and caused profound economic damage, with a global growth reduction of 4.4% in 2020.¹ The ultimate consequences of this crisis are difficult to predict but, from sanitary, economic, sociological, and ecological perspectives, the toll is already substantial. Nevertheless, this threat is not new. Concerns over a global pandemic have arisen many times before, so most countries already had emergency preparedness plans in place. However, the limitations of these have been exposed by the current coronavirus pandemic.² The reasons for these inadequacies are many, and point towards one misconception: contrary to current approaches, prevention strategies should be implemented before the disease emerges within human populations.

During the last several decades, pathogen screening has been developed to anticipate the next pandemic. Although isolating new wildlife-borne pathogens is still important, it is not enough to prevent them from emerging. It is time to take a step forward—namely, by jointly deploying academic research, intersectoral collaboration in the field, and the engagement of operational actors on the front lines of outbreaks—to envision prevention strategies that lead to the reduction of risks of emergence.³

Such a scheme is at the heart of the PREventing ZOonotic Disease

Emergence (PREZODE) initiative, a French brainchild that has attracted the interest of the Tripartite Alliance (Food and Agriculture Organization of the UN, World Organisation for Animal Health, and WHO), as well as the UN Environment Programme, the World Bank, the European Commission, and partner countries. Announced at the One Planet Summit on Jan 11, 2021, the PREZODE initiative was prepared through a series of online workshops that convened nearly 400 researchers and public health authorities from 50 countries on all five continents. We expect that PREZODE will be done under the guidance of the planned One Health high-level expert council.⁴

PREZODE aims to support international organisations and countries across the globe, particularly low-income countries, to prevent the emergence and spread of zoonotic diseases. This initiative is an attempt to initiate a framework shift to envision innovative prevention strategies, on the basis of five pillars: (1) zoonotic risk assessment, (2) zoonotic risk reduction, (3) early detection and socioeconomic evaluation, (4) a global surveillance system of zoonotic risks, and (5) ensuring stakeholder commitment and capacity building to strengthen One Health networks and policies.

This international initiative will debut in 2021, with the co-design of a scientific and strategic agenda to be shared by researchers and stakeholders before the first implementation plan launches in 2022. On behalf of the initiative, we would like to invite the scientific and medical communities to join this effort to co-construct an ambitious plan in the different regions of the world, leveraging existing projects, programmes, centres, and hubs. The PREZODE initiative promotes an international coordination strategy to tackle emerging risks (WHO, World Organisation for Animal Health, Food and Agriculture Organization of the

For more on SARS-CoV-2 see <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

UN, and UN Environment Programme) by deliberately putting a strong focus on prevention and co-construction to ensure sustainable solutions, in addition to preparedness.

We declare no competing interests.

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- 1 International Monetary Fund. World Economic Outlook, October 2020: a long and difficult ascent. October, 2020. <https://www.imf.org/en/Publications/WEO/Issues/2020/09/30/world-economic-outlook-october-2020> (accessed Jan 5, 2021).
- 2 de Garine-Wichatitsky M, Binot A, Morand S, et al. Will the COVID-19 crisis trigger a One Health coming-of-age? *Lancet Planet Health* 2020; 4: e377–78.
- 3 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Workshop report on biodiversity and pandemics of the intergovernmental platform on biodiversity and ecosystem services. Oct 29, 2020. <https://zenodo.org/record/4311798#.YBgRpdj7Suk> (accessed Jan 5, 2021).
- 4 Paris Peace Forum. Strengthening the multilateral health architecture: launch of the "One Health" high-level expert council. Nov 12, 2020. <https://parispeaceforum.org/events/strengthening-the-multilateral-health-architecture-launch-of-the-one-health-high-level-expert-council/> (accessed Jan 5, 2021).

Continue rare cancers collaboration with European Reference Networks after Brexit

We read the Correspondence by Marc Tischkowitz and colleagues,¹ signed by UK participants in the European Reference Networks (ERNs) programme and related to the risk of Brexit on patients with rare diseases.

Although political decisions are obviously outside our remit, the four ERNs dedicated to rare cancers

(EURACAN, EuroBloodNet, Genturis, and PaedCan) want to express the wish to actively continue collaboration with our much-valued UK colleagues in formats that will be acceptable for all political parties for the treatment and management of rare cancers. Rare cancers represent 20% of all cancers and more than 30% of the deaths related to cancers across the whole of Europe.²

The collaborations done during the first years of the ERNs need to continue² and have already enabled substantial progress, in particular and for example in patient advocacy engagement,³ in the creation of highly cited clinical practice guidelines,⁴ and in research.⁵ More collaborations are needed on a global level, and the continued contribution of our esteemed UK colleagues and patient advocacy groups (known as European Patient Advocacy Groups in the ERNs) to the work of these four ERNs is crucial and serves the best interests of all patients with rare cancers in all countries.

We declare no competing interests.

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- 1 Tischkowitz M, Power B, Slater G. A no-deal Brexit will be detrimental to people with rare diseases. *Lancet* 2021; 397: 20.
- 2 Blay JY, Coindre JM, Ducimetière F, Ray-Coquard I. The value of research collaborations and consortia in rare cancers. *Lancet Oncol* 2016; 17: e62–69.
- 3 Bolz-Johnson M, Meek J, Hoogerbrugge N. "Patient Journeys": improving care by patient involvement. *Eur J Hum Genet* 2020; 28: 141–43.
- 4 Casali PG, Bielack S, Abecassis N, et al. Bone sarcomas: ESMO-PaedCan-EURACAN Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol* 2018; 29: iv79–95.
- 5 Morfouace M, Stevovic A, Vinches M, et al. First results of the EORTC-SPECTA/Arcagen study exploring the genomics of rare cancers in collaboration with the European reference network EURACAN. *ESMO Open* 2020; 5: e001075.

Certifying Guinea worm eradication in humans and animals

The Viewpoint by David Molyneux and colleagues,¹ members of the International Commission for the Certification of Dracunculiasis Eradication, notes the special challenges they face in preparing to certify that there are no Guinea worms remaining in humans or animals in the final seven countries that have not yet been certified as free of transmission, since eradication programmes detected the sustained transmission of *Dracunculus medinensis* among domestic dogs in Chad, Ethiopia, and Mali. We believe a comprehensive approach to evidence for certification might include a range of actions.

First, community-based surveillance should continue to document the declining numbers of patients and animals with Guinea worm infections, and make use of surveys of reward awareness, tallies of the numbers of rumours, and evaluations of system management to assess surveillance sensitivity.

Second, expanded genetic testing should be done to monitor reduced worm diversity and confirm worm linkages in the same and proximate generations.

Third, dogs should be tested with the use of a serological assay (if validated) to search for pre-emergent worms and identify hot spots for further monitoring and evaluation.

Fourth, environmental sampling and monitoring protocols should be done with the use of a loop-mediated isothermal amplification assay (if validated) to detect *D medinensis* DNA in copepods or in fingerlings (small fish), which concentrate copepods by feeding on them.

Finally, research should be continued to develop other tools for eradication and certification, including mathematical modelling.



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