



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

prompt us to consider whether the Cytosponge-TFF3 procedure should now be accepted as a screening tool for oesophago-gastric cancer.

National Health Service (NHS) screening recommendations for certain cancers are largely based on the age-specific prevalence of the disease.^{4,5} Notably, in this study by Fitzgerald and colleagues,¹ the screening population was restricted to patients who had been taking acid-suppressant medication for at least 6 months, which was used as a surrogate marker for gastro-oesophageal reflux disease (GORD). This strategy avoided the need to use GORD screening questionnaires, which might have been difficult to implement in the primary care setting. However, being male, which is one of the strongest risk factors for the development of oesophago-gastric cancer, was not incorporated in the screening criteria.⁶

The Cytosponge-TFF3 procedure is a promising non-endoscopic screening tool and will represent a component in the screening for Barrett's oesophagus and oesophago-gastric cancer. As with colorectal cancer, this procedure is unlikely to be the sole screening tool, as multiple tests will be needed to enhance participation in a screening programme. For instance, although intended for routine use in primary care, in the current environment of an infectious disease (COVID-19) pandemic, the Cytosponge-TFF3 procedure might be difficult to implement, given its

potential to generate aerosolised particles during sponge withdrawal. It might also be necessary to enrich disease prevalence in the screened population by limiting this population to males and people with other risk factors, in order to make this test more cost-effective than previously shown. As the study¹ authors comment, determining the ideal enrichment criteria will be crucial to ensuring the success of a Barrett's oesophagus screening method.

KKW reports receiving research funding from eNose (Zuipen, Netherlands) for research on a device used in a screening study of Barrett's oesophagus, and declares no financial interests in the device. YH declares no competing interests.

Copyright © 2020 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY 4.0 license.

Yuri Hanada, *Kenneth K Wang
wang.kenneth@mayo.edu

Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, MN 55905, USA

- 1 Fitzgerald RC, di Pietro M, O'Donovan M, et al. Cytosponge-trefoil factor 3 versus usual care to identify Barrett's oesophagus in a primary care setting: a multicentre, pragmatic, randomised controlled trial. *Lancet* 2020; **396**: 333–44.
- 2 Kadri SR, Lao-Sirieix P, O'Donovan M, et al. Acceptability and accuracy of a non-endoscopic screening test for Barrett's oesophagus in primary care: cohort study. *BMJ* 2010; **341**: c4372.
- 3 Ross-Innes CS, Debiram-Beecham I, O'Donovan M, et al. Evaluation of a minimally invasive cell sampling device coupled with assessment of trefoil factor 3 expression for diagnosing Barrett's esophagus: a multicenter case-control study. *PLoS Med* 2015; **12**: e1001780.
- 4 Sikora K. Cancer screening. *Medicine* 2020; **48**: 132–37.
- 5 Calman K. Developing screening in the NHS. *J Med Screen* 1994; **1**: 101–05.
- 6 Fitzgerald RC, di Pietro M, Ragnunath K, et al. British Society of Gastroenterology guidelines on the diagnosis and management of Barrett's oesophagus. *Gut* 2014; **63**: 7–42.

US withdrawal from WHO is unlawful and threatens global and US health and security



On May 29, 2020, President Donald Trump announced the USA would sever its relationship with WHO and redirect funds to US global health priorities.¹ On July 6, 2020, the US administration officially notified UN Secretary-General António Guterres of its intention to withdraw from WHO membership.² This notification coincides with record daily increases in COVID-19 cases worldwide and rising infections in more than three-quarters of the US states.^{3,4} In response, 750 leaders from academia, science, and law have urged the US Congress to block the president's action.⁵

The US Congress, the courts, and the public all have the power to block this reckless decision. The USA

entered WHO membership through a 1948 joint resolution passed by both houses of Congress and this resolution has been supported by successive administrations. Former President Harry Truman explicitly referenced that resolution as his legal basis for joining WHO.⁶ The current US administration's unilateral action notifying the UN that the USA is withdrawing violates US law because it does not have express approval of Congress to leave WHO. A Supreme Court precedent has made clear that "When the President takes measures incompatible with the expressed or implied will of Congress, his power is at its lowest ebb."⁷

Published Online
July 8, 2020
[https://doi.org/10.1016/S0140-6736\(20\)31527-0](https://doi.org/10.1016/S0140-6736(20)31527-0)



The US administration's decision to sever ties and terminate WHO funding violates a binding condition in Congress's 1948 resolution, which must be met before the USA may withdraw. The law mandates the USA must pay its financial obligations for the current fiscal year. Because withdrawal could not occur until next July, the USA must pay its mandatory WHO contributions through the end of 2021. And because any withdrawal could not take effect until July, 2021, a new US presidential administration could simply revoke the withdrawal upon taking office.

Withdrawal from WHO would have dire consequences for US security, diplomacy, and influence. WHO has unmatched global reach and legitimacy. The US administration would be hard pressed to disentangle the country from WHO governance and programmes. The Pan American Health Organization (PAHO) is among six WHO regional offices and is headquartered in Washington, DC, USA. The USA is also a state party to two WHO treaties: the WHO Constitution, establishing it as the "directing and co-ordinating authority on international health",⁸ and the International Health Regulations (IHR 2005), the governing framework for epidemic preparedness and response.⁹

Various US institutions collaborate with WHO on vital work that would be harmed if the relationship is severed. There are 21 WHO collaborating centres at the US Centers for Disease Control and Prevention (CDC) and three at the National Institutes of Health, focused on US priorities, including polio eradication, cancer prevention, and global health security.¹⁰ The Secretariat

of the 44 WHO Collaborating Centers for Nursing and Midwifery is based in the USA.

This autumn, seasonal influenza and COVID-19 will pose a double burden on health system capacities.¹¹ The USA could be cut out of the global system to design annual influenza vaccines. The WHO Global Influenza Surveillance and Response System aggregates data from countries around the world to track and study circulating viruses.¹² US agencies, pharmaceutical companies, and laboratories also rely on the WHO Pandemic Influenza Preparedness Framework to gain access to new influenza virus samples for research and development. Severing ties with WHO could impede US access to crucial tools for developing biological countermeasures to influenza.

A COVID-19 vaccine is urgently needed not only to safeguard public health but also to safely reopen society. WHO is conducting the Solidarity trial for COVID-19 treatments joined by more than 100 countries.¹³ WHO also leads the Access to COVID-19 Tools (ACT) Accelerator for COVID-19 diagnostics, therapeutics, and vaccines.¹⁴ If the USA does not participate in these WHO initiatives, Americans could have limited access to scarce vaccine supplies, and are likely to be barred from travel to foreign destinations.

Experienced US personnel are often seconded to WHO or embedded in outbreak response teams. US scientists gained access to Wuhan, China, as part of a WHO COVID-19 mission to China.¹⁵ US global health strategies to rapidly respond to international disease outbreaks will be compromised without membership of WHO. Beyond COVID-19, WHO is tracking and responding to dozens of infectious disease outbreaks around the world, including yellow fever in Togo, Middle East respiratory syndrome in Saudi Arabia, and dengue fever in Brazil.^{16,17} On June 25, 2020, the Democratic Republic of the Congo (DRC) Government declared the end of the world's second longest outbreak of Ebola virus disease.¹⁸ WHO deployed staff to a Congolese warzone, even when the White House banned CDC personnel from involvement in this effort.¹⁹ The DRC Government reported a new unrelated outbreak of Ebola virus disease in June, 2020, in the country's northwest, and WHO surge teams have been deployed.²⁰ WHO's crucial role in curtailing infectious diseases extends beyond outbreaks to diseases. In 1980, the World Health Assembly declared smallpox eradicated, WHO's historic achievement. Today, WHO's key work in HIV, tuberculosis, malaria,

and maternal mortality makes US foreign assistance effective.

COVID-19 has revealed shortcomings in WHO's powers and funding, warranting substantial reforms. WHO has limited authority to ensure state compliance with the IHR, including constrained ability to independently verify official state reports. But after leaving WHO, the USA would be on the outside looking in, without global influence to promote crucial reforms. Stand-alone US programmes, moreover, could never substitute for a truly global agency. Absent treaty obligations, in a multipolar world, mean there are no guarantees that countries will cooperate with the USA.

Health and security in the USA and globally require robust collaboration with WHO—a cornerstone of US funding and policy since 1948. The USA cannot cut ties with WHO without incurring major disruption and damage, making Americans far less safe. That is the last thing the global community needs as the world faces a historic health emergency.

LOG is director of the WHO Collaborating Center on National and Global Health Law. MAH is co-chair of the WHO Expert Advisory Committee on Developing Global Standards for Governance and Oversight of Human Genome Editing and receives no compensation for this work apart from travel-related expenses. The other authors declare no competing interests.

*Lawrence O Gostin, Harold Hongju Koh, Michelle Williams, Margaret A Hamburg, Georges Benjamin, William H Foege, Patricia Davidson, Elizabeth H Bradley, Michele Barry, Jeffrey P Koplan, Mirta Flia Roses Periago, Wafaa El Sadr, Ann Kurth, Sten H Vermund, Matthew M Kavanagh

gostin@georgetown.edu

O'Neill Institute for National and Global Health Law (LOG, MMK) and Department of International Health (MMK), Georgetown University, Washington 20001, DC, USA; Yale Law School (HHK), School of Nursing (AK), and Yale School of Public Health (SHV), Yale University, New Haven, CT, USA; Harvard T H Chan School of Public Health, Boston, MA, USA (MW); National Academy of Medicine, Washington, DC, USA (MAH); American Public Health Association, Washington, DC, USA (GB); Emory University, Atlanta, GA, USA (WHF, JPK); Johns Hopkins University School of Nursing, Baltimore, MD USA (PD); Vassar College, Poughkeepsie, NY, USA (EHB); Stanford University, Stanford, CA, USA (MB); National Academy of Sciences, Buenos Aires, Argentina (MFRP); and Columbia Mailman School of Public Health, New York, NY, USA (WES)

1 McNeil Jr DG. Trump says US is leaving WHO, but experts aren't so sure. *The New York Times*, May 30, 2020. <https://www.nytimes.com/2020/05/29/health/virus-who.html> (accessed July 7, 2020).

- 2 Rauhala E, Demirjian K, Olorunnipa T. Trump administration sends letter withdrawing US from World Health Organization over coronavirus response. *The Washington Post*, July 7, 2020. https://www.washingtonpost.com/world/trump-united-states-withdrawal-world-health-organization-coronavirus/2020/07/07/ae0a25e4-b550-11ea-9a1d-d3db1cbe07ce_story.html (accessed July 7, 2020).
- 3 The New York Times. Coronavirus in the US: latest map and case count. *The New York Times*, July 7, 2020. <https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html> (accessed July 7, 2020).
- 4 WHO. Coronavirus disease 2019 (COVID-19) situation reports. 2020. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/> (accessed July 7, 2020).
- 5 Gostin LO, Koh HH, Kavanagh MM, et al. Letter to Congress on WHO withdrawal public health, law and international relations leaders. June 30, 2020. <https://oneill.law.georgetown.edu/letter-to-congress-on-who-withdrawal-from-public-health-law-and-international-relations-leaders/> (accessed July 7, 2020).
- 6 Koh HH. Trump's empty "withdrawal" from the World Health Organization. *Just Security*, May 30, 2020. <https://www.justsecurity.org/70493/trumps-empty-withdrawal-from-the-world-health-organization/> (accessed July 7, 2020).
- 7 Youngstown Sheet and Tube Company v. Sawyer, 343 U.S. 579 (1952).
- 8 WHO. Constitution of the World Health Organization (1946). <https://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf> (accessed July 7, 2020).
- 9 WHO. International Health Regulations. 2020. https://www.who.int/health-topics/international-health-regulations#tab=tab_1 (accessed July 7, 2020).
- 10 WHO. WHO collaborating centres global database. 2020. <https://apps.who.int/whocc/ReportDetails.aspx?bkGL7M2F810hgDOcglgPXflk3GAvXGshR-TaG7+ml=> (accessed July 7, 2020).
- 11 Gostin LO, Salmon DA. The dual epidemics of COVID-19 and influenza: vaccine acceptance, coverage, and mandates. *JAMA* 2020; published online June 11. <https://doi.org/10.1001/jama.2020.10802>.
- 12 WHO. Into the history of influenza control: GISRS: backbone of global influenza surveillance. May 18, 2017. <https://www.who.int/influenza/gip-anniversary/en/> (accessed July 7, 2020).
- 13 WHO. "Solidarity" clinical trial for COVID-19 treatments. 2020. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov/solidarity-clinical-trial-for-covid-19-treatments> (accessed July 7, 2020).
- 14 WHO. The access to COVID-19 tools (ACT) accelerator. 2020. <https://www.who.int/initiatives/act-accelerator> (accessed July 7, 2020).
- 15 WHO. WHO timeline—COVID-19. April 27, 2020. <https://www.who.int/news-room/detail/27-04-2020-who-timeline---covid-19> (accessed July 7, 2020).
- 16 WHO. Disease outbreak news. 2020. <https://www.who.int/csr/don/en/> (accessed July 7, 2020).
- 17 PAHO. Reported cases of dengue fever in the Americas. 2020. <https://www.paho.org/data/index.php/en/mnu-topics/indicadores-dengue-en/dengue-nacional-en/252-dengue-pais-ano-en.html> (accessed July 7, 2020).
- 18 WHO. Disease outbreak news. Ebola virus disease—Democratic Republic of Congo. June 26, 2020. <https://www.who.int/csr/don/26-june-2020-ebola-drc/en/> (accessed July 7, 2020).
- 19 Gostin LO, Kavanagh MM, Cameron E. Ebola and war in the Democratic Republic of Congo: avoiding failure and thinking ahead. *JAMA* 2019; **321**: 243–44.
- 20 Global Outbreak and Response Network. New Ebola outbreak detected in northwest Democratic Republic of the Congo; WHO surge team supporting the response. 2020. <https://extranet.who.int/goarn/content/new-ebola-outbreak-detected-northwest-democratic-republic-congo-who-surge-team-supporting-0> (accessed July 7, 2020).

Decisive leadership is a necessity in the COVID-19 response



The COVID-19 pandemic poses one of the greatest threats in recent human history as the virus has spread rapidly worldwide, affecting the lives and livelihoods of billions. As of June 30, 2020, according

to WHO, more than 1 million cases of COVID-19 had been confirmed in its Eastern Mediterranean Region (EMR) alone, with considerable differences in the scale and progression of the pandemic in different

Published Online
July 3, 2020
[https://doi.org/10.1016/S0140-6736\(20\)31493-8](https://doi.org/10.1016/S0140-6736(20)31493-8)