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The global community needs to swiftly ramp up the response to contain COVID-19

"Much of the global community is not yet ready for COVID-19 [coronavirus disease 2019]".¹ This is arguably one of the most resonating phrases in the Report of the WHO-China Joint Mission on Coronavirus Disease 2019,¹ released publicly on Feb 28, 2020. Major transmission hotspots were brought under control in China, but subsequently others sprouted across the globe. Since late February, 2020, the daily number of new cases has been higher in other parts of the world. New major epicentres have established in South Korea, Japan, Iran, and Italy. By mid-March, 2020, Europe was declared the world's major epicentre.

China implemented extraordinary public health measures at great socio-economic cost, moving swiftly and decisively to ensure early identification of cases, prompt laboratory testing, facility-based isolation of all cases, contact tracing, and quarantine.² In the community, mobility was at a near standstill, with social distancing implemented at a grand scale. China's massive transmission rates called for extreme measures, and the measures were successful.

The call is now for the rest of the world to ramp up its response, but regrettably, it is evident that the global community is not ready in its mindset or capacity. A differentiated risk-based containment strategy is needed based on the different stages of the outbreak, with different measures during the different phases of the response. Countries with no or few identified cases and only limited local transmission need to invest in aggressive case detection by testing for COVID-19 in all atypical pneumonias and all cases of acute respiratory infection. A wide net should be cast on contact tracing with legally enforced implementation. Singapore managed to contain COVID-19 with

such measures but without lockdown or major social disruption by maximising all efforts to interrupt new transmission chains and keeping clusters under control.³ Countries with widespread community transmission need to follow the China approach, with wide-reaching (and possibly unpopular) mobility restrictions, limited social interaction, and cancelled gatherings. People should be strongly encouraged to stay home and work from home when possible. In addition, all countries need to continue liberal testing, proactive case detection, prompt isolation, rigorous contact tracing, and enforcement of quarantine of all contacts, irrespective of which phase of the outbreak they are in.

All countries should immediately activate the highest level of National Response Management protocols to ensure the all-of-government and all-of-society approach needed to contain COVID-19 with non-pharmaceutical measures. This includes fully engaging the public on the seriousness of, and their role in, the response. Policy makers need to ensure that trained epidemiology teams are in place, along with quarantine facilities, revised hospital workflows, and laboratory processes (who to test, how, and in which laboratory). Surveillance needs to be expanded to test all patients with atypical pneumonias for COVID-19, and COVID-19 testing needs to be added to existing surveillance systems for influenza-like illness and severe acute respiratory infections. The demand on facilities, the number of test kits, personal protective equipment, and medication stockpiles should be forecast to enable scale-up. Health systems vary whereby people in under-resourced countries will be particularly at risk. Vulnerable countries will therefore need extraordinarily intensified support from other countries. WHO freely provides online resources that include training courses, downloadable standardised case report forms, guidance on clinical management and infection control, protection of health-care workers,

and many other technical guidance documents.

We have seen that containment in China, Singapore,³ and Hong Kong is possible, but we have also seen settings where control was lost. Remarkably, South Korea lost control and regained it with no lockdown and simply strong application of the above principles, enhanced by using novel digital technologies for contact tracing.⁴ The consequences of non-containment will be measured in lives lost and socioeconomic disruption, which will be far worse than the cost of rigorously implemented containment combined with mitigation efforts. "Containment of COVID-19 is feasible and must remain the top priority for all countries", WHO's Director-General said at a media briefing on COVID-19 on March 2, 2020.⁵ WHO still does not waver from this message.

DF is Chair of the Global Outbreak Alert and Response Network (GOARN). AW-S is co-Chair of the *Lancet Infectious Diseases* Commission on Preparedness for Emerging Epidemic Threats. We declare no competing interests.

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- 1 WHO. Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19). Feb 28, 2020. <https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf> (accessed March 18, 2020).
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- 4 COVID-19 National Emergency Response Center, Epidemiology & Case Management Team, Korea Centers for Disease Control & Prevention. Contact transmission of COVID-19 in South Korea: novel investigation techniques for tracing contacts. *Osong Public Health Res Perspect* 2020; 11: 60-63.



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For WHO's technical guidance on COVID-19 see <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance>

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5 WHO. WHO Director-General's opening remarks at the media briefing on COVID-19—2 March 2020. March 2, 2020. <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---2-march-2020> (accessed March 18, 2020).

COVID-19 in Europe: the Italian lesson

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Severe acute respiratory syndrome coronavirus 2 is rapidly spreading worldwide,¹ and WHO declared the coronavirus disease 2019 (COVID-19) outbreak a pandemic on March 11, 2020.²

The outbreak has hit Europe; as of March 20, 2020, Italy has the second-largest number of confirmed cases, after China. As elegantly presented by Andrea Remuzzi and Giuseppe Remuzzi,³ a rapid surge of cases is posing a serious threat to the Italian national health

system because of the limited capacity of intensive care unit departments. The Italian Government introduced progressive mitigation measurements on March 9 and March 11, 2020, to drastically limit social interactions and prevent virus diffusion.^{4,5} Projections in Remuzzi and Remuzzi's exponential model,² according to data trends before March 8, predicted more than 30 000 cases by March 15, 2020. Real data from the Center for Systems Science and Engineering at Johns Hopkins University suggest a slight deviation from those predictions, with a recorded number of 24 747 cases by March 15, 2020, suggesting that measures introduced by March 11, 2020, began reducing the number of new cases within 3–4 days.

All other European countries appear to be in a similar situation, with just a short time-lag of a couple of weeks

(figure). We urge all countries to acknowledge the Italian lesson and to immediately adopt very restrictive measures to limit viral diffusion, ensure appropriate health-system response, and reduce mortality, which appears to be higher than previously estimated, with a crude case-fatality rate of almost 4%.⁶

We declare no competing interests.

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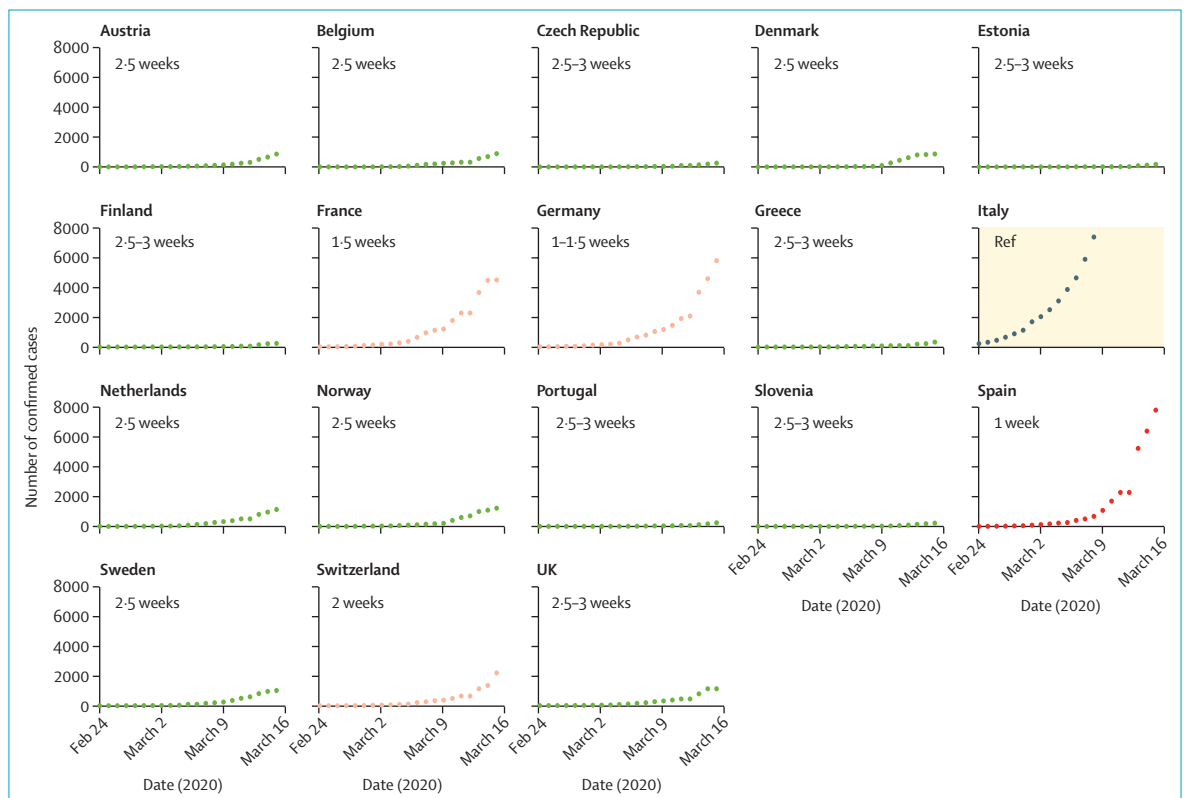


Figure: Epidemic curves for European countries, with estimated lag time from Italy's situation, as of March 15, 2020

Green dots are for countries with more than 2 weeks of lag time from Italy; orange is for countries with 1–2 weeks of lag time; and red is for countries with 1 week or less of lag time. The Italian data curve is cut at 8000 cases to convey easier interpretability of lag times. Source: Center for Systems Science and Engineering, Johns Hopkins University.