

mechanisms of COVID-19 inflammation induced as well as coagulation disorders. As the disease spreads and new evidence emerges, we need to identify the existence of additional pathophysiological mechanisms of stroke in COVID-19 patients. We should establish a prospective registry of these patients to better identify the factors most responsible for a possible greater onset or worse prognosis of stroke in these patients and to identify and/or predict a better or lesser response of these patients to thrombolytic treatments.

Acknowledgments. Antonio Siniscalchi serves as national member for the Italian National Society of Neurovascular Disease (SINV).



Financial support. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflicts of interest. All authors state that they have no conflict of interest regarding this study.

References

- Jin H, Hong C, Chen S, Zhou Y, *et al.* Consensus for prevention and management of coronavirus disease 2019 (COVID-19) for neurologists. *Stroke Vasc Neurol* 2020 April 1 [Epub ahead of print]. doi: [10.1136/svn-2020-000382](https://doi.org/10.1136/svn-2020-000382).
- Madjid M, Safavi-Naeini P, Solomon SD, Vardeny O. Potential effects of coronaviruses on the cardiovascular system: a review. *JAMA Cardiol* 2020 Mar 27 [Epub ahead of print]. doi: [10.1001/jamacardio.2020.1286](https://doi.org/10.1001/jamacardio.2020.1286).
- Baig AM, Khaleeq A, Ali U, Syeda H. Evidence of the COVID-19 virus targeting the CNS: tissue distribution, host-virus interaction, and proposed neurotropic mechanisms. *ACS Chem Neurosci* 2020;11:995–998.
- Lau KK, Yu WC, Chu CM, *et al.* Possible central nervous system infection by SARS coronavirus. *Emerg Infect Dis* 2004;10:342–344.
- Xu J, Zhong S, Liu J, *et al.* Detection of severe acute respiratory syndrome coronavirus in the brain: potential role of the chemokine Mig in pathogenesis. *Clin Infect Dis* 2005;41:1089–1096.
- Tang N, Bai H, Chen X, Gong J, Li D, Sun Z. Anticoagulant treatment is associated with decreased mortality in severe coronavirus disease 2019 patients with coagulopathy. *J Thromb Haemost.* 2020 Mar 27 [Epub ahead of print]. doi: [10.1111/jth.14817](https://doi.org/10.1111/jth.14817).
- Ruan Q, Yang K, Wang W, *et al.* Clinical predictors of mortality due to COVID-19 based on analysis of data of 150 patients from Wuhan, China. *Intensive Care Med* 2020 Mar 3 [Epub ahead of print]. doi: [10.1007/s00134-020-05991-x](https://doi.org/10.1007/s00134-020-05991-x).
- Consoli D, Vidale S, Aguglia U, *et al.* Previous infection and the risk of ischaemic stroke in Italy: the IN2 study. *Eur J Neurol* 2015;22:514–519.
- Siniscalchi A, Iannacchero R, Anticoli S, *et al.* Anti-inflammatory strategies in stroke: a potential therapeutic target. *Curr Vasc Pharmacol* 2016;14: 98–105.
- Siniscalchi A, Gallelli L, Malferrari G, *et al.* Cerebral stroke injury: the role of cytokines and brain inflammation. *J Basic Clin Physiol Pharmacol* 2014; 25:131–137.

Early phases of COVID-19 management in a low-income country: Bangladesh

Mohammad R. Monjur¹  and Md. Zakiul Hassan MBBS² 

¹University of Newcastle, New South Wales, Australia and ²International Centre for Diarrhoeal Disease Research, Dhaka, Bangladesh

To the Editor—The World Health Organization has emphasized the importance of diagnostic testing in tracking and managing COVID-19, and most high-income economies have adopted widespread population testing schemes. The United States now leads the way, with >370,000 tests performed as of March 26, 2020.¹ This level of testing starkly contrasts with low-income economies such as Bangladesh, where an almost contrarian strategy seems to have been adopted that is arguably masking the true national spread of the virus.

From the first reported case of COVID-19 in Bangladesh on March 8 until March 28, 1,068 samples were tested by the Institute of Epidemiology, Disease Control and Research (IEDCR) in Dhaka.² The IEDCR was the sole institute in Bangladesh with testing facilities for COVID-19 until March 26, when a second facility was given testing rights. Centralized testing in these underresourced public institutions has been unable to effectively respond to the wave of suspected COVID-19 patients.

Even at this initial stage with limited confirmed cases, busy telephone hotlines and lack of timely testing for symptomatic patients raised concerns regarding Bangladesh's preparedness. In addition, the Bangladesh government has not sought to proactively limit community transmission from primary cases thus far. With a population of 161 million and a total of 1,169 ICU beds,³ this inadequate strategy could potentially devastate Bangladesh's health system with multiple outbreaks.

This risk is compounded by thousands of Bangladeshi workers returning from COVID-19-struck countries and poor adherence to self-quarantine recommendations due to limited education and monitoring mechanisms. This situation is particularly problematic for Bangladesh because a significant portion of returning workers (ie, significant sources of SARS-CoV-2) reside in rural areas outside Dhaka and thus carry the virus to some of the most vulnerable and ill-equipped communities. This situation was likely worsened by the government declaring a 10-day holiday without travel restrictions from March 26 to April 5, which encouraged millions of city workers to leave Dhaka and return to their rural communities.⁴

Author for correspondence: Md. Zakiul Hassan, E-mail: zhassan@icddr.org

Cite this article: Monjur MR and Hassan MZ. (2020). Early phases of COVID-19 management in a low-income country: Bangladesh. *Infection Control & Hospital Epidemiology*, 41: 1116–1117, <https://doi.org/10.1017/ice.2020.147>

We believe that Bangladesh has lacked coordinated policy decision and enforcement measures to curtail COVID-19 transmission thus far. We urge policy makers to follow WHO guidance and observe other countries' experiences, which point to a strategy of acting decisively, quickly, and early, well before case numbers reach a crisis level for containment. We believe Bangladesh has not yet reached this point, so urgent implementation of a coordinated policy may prevent a spike in cases that is likely to stretch Bangladesh's health system well beyond its capacity.

Acknowledgments. None.


Financial support. No financial support was provided relevant to this article.

Conflicts of interest. All authors report no conflicts of interest relevant to this article.

References

1. Subramaniam T, Lybrand H. Fact check: US has done more coronavirus tests than South Korea, but not per person. CNN website. <https://edition.cnn.com/2020/03/25/politics/coronavirus-testing-trump-south-korea-fact-check/index.html>. Published March 25, 2020. Accessed March 29, 2020.
2. No new COVID-19 cases as testing declines 50%. *Dhaka Tribune* website. <https://www.dhakatribune.com/bangladesh/dhaka/2020/03/28/no-new-covid-19-cases-as-testing-declines-50>. Published March 28, 2020. Accessed March 29, 2020.
3. Number of ICU beds insufficient to combat COVID-19 pandemic. *Dhaka Tribune* website. <https://www.dhakatribune.com/bangladesh/2020/03/21/number-of-icu-beds-insufficient-to-combat-covid-19-pandemic>. Published March 21, 2020. Accessed March 29, 2020.
4. Hindu. COVID-19: Bangladesh Army says troops will be on streets until govt recalls. Hindu website. <https://www.thehindu.com/news/international/covid-19-bangladesh-army-says-troops-will-be-on-streets-until-govt-recalls/article31197469.ece>. Published 2020. Accessed March 29, 2020.

COVID-19: Protecting Healthcare Workers is a priority

Francesco Chirico MD^{1,2} , Gabriella Nucera MD^{3,4} and Nicola Magnavita MD^{1,5}

¹School of Occupational Medicine, Università Cattolica del Sacro Cuore, Rome, Italy, ²Health Service Department, State Police, Ministry of Interior, Milan, Italy,

³University of Milan, Milan, Italy, ⁴ASST Fatebenefratelli Sacco, Fatebenefratelli Hospital, Milan, Italy and ⁵Department of Woman/Child and Public Health, Fondazione Policlinico "A.Gemelli" IRCCS, Rome, Italy

To the Editor—We very much appreciated the letter by Zhou et al¹ regarding the protection of Chinese healthcare workers (HCWs) while fighting the COVID-19 pandemic. The authors recognized that the lack of awareness and training, the shortage of personal protective equipment (PPE), and the lack of point-of-care diagnostic tests for were the most important sources of viral spread. In Italy, more infections among HCWs have been recorded than in China. As of April 5, 2020, 12,252 HCWs in Italy had tested positive for SARS-CoV-2, comprising 10% of Italy's COVID-19 cases²; furthermore, 80 medical doctors and 25 nurses had died. Notably, official figures probably underestimate the real impact of COVID-19 on Italian HCWs because many have not been tested and a large majority of coronavirus infections do not result in symptoms or remain paucisymptomatic.³ In Italy, HCWs are facing the same issues that Zhou highlighted in Chinese hospitals. SARS-CoV-2 has a high transmissibility rate in indoor environments and, therefore, asymptomatic patients admitted to hospitals without respiratory symptoms have probably spread the virus to unaware and unprotected HCWs. These HCWs have, in turn, infected other patients, visitors, and staff, further amplifying viral transmission. It is well-known that a hospital may amplify an epidemic and that epidemics may overwhelm a hospital's capacity to deliver healthcare services.⁴ Therefore, in addition to general lockdown and social distancing measures, protecting HCWs is a priority in alleviating the burden on the hospitals.

However, in the absence of effective therapies or a vaccination, before the onset of further COVID-19 waves, it is important to relocate the public health emergency response from the hospitals to other locations by integrating the hospital into an overall epidemic response.⁴ In this regard, communication and mass-media information campaigns for the public are crucial.

Acknowledgments.

Financial support. No financial support was provided relevant to this article.

Conflicts of interest. All authors report no conflicts of interest relevant to this article.

References

1. Zhou P, Huang Z, Xiao Y, Huang X, Fan XG. Protecting Chinese healthcare workers while combating the 2019 novel coronavirus. *Infect Control Hosp Epidemiol* 2020 Mar 5 [Epub ahead of print]. doi: [10.1017/ice.2020.60](https://doi.org/10.1017/ice.2020.60).
2. Istituto Superiore di Sanità. Sorveglianza integrata COVID 19 in Italia. Epicentro website. <https://www.epicentro.iss.it/coronavirus/sars-cov-2-sorveglianza-dati>. Published April 5, 2020. Accessed April 5, 2020.
3. Day M. COVID-19: four-fifths of cases are asymptomatic, China figures indicate. *BMJ* 2020;369:m1375. doi: [10.1136/bmj.m1375](https://doi.org/10.1136/bmj.m1375).
4. World Health Organization. *Hospital Preparedness for Epidemics*. Geneva: WHO; 2014.

Author for correspondence: Prof Francesco Chirico, E-mail: medlavchirico@gmail.com

Cite this article: Chirico F, Nucera G, and Magnavita N. (2020). COVID-19: Protecting Healthcare Workers is a priority. *Infection Control & Hospital Epidemiology*, 41: 1117, <https://doi.org/10.1017/ice.2020.148>

© 2020 by The Society for Healthcare Epidemiology of America. All rights reserved. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.