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.

instructed MDA to act to prevent and contain the spread of COVID-19 and to prepare to respond to potential cases of infection. MDA then expanded the NMEDC and opened a dedicated COVID-19 call center. The goal is to contain viral exposure by keeping suspected patients in quarantine at home and away from the public. Upon excluding medical emergency, if the call is concerning COVID-19 and fulfills either the clinical or epidemiological criteria, it is transferred to the COVID-19 call center.

The center is manned by EMS dispatchers along with representatives from the Ministry of Health (MOH). Over 200 MDA volunteers and 50 management staff the center around the clock. Information technology staff provide around the clock support. Routinely, an average of 6000 calls are received a day by the NMEDC. As the pandemic progressed the number of calls increased to 120,000/day.

A flow-chart was developed and programmed into the command and control system together with the infected patient routes. Patients clearly not exposed to an index case, can return to their normal routine. If exposure is confirmed, they are instructed to stay in home quarantine (for 14 days) and a paramedic contacts them to inquire about symptoms. If the case is suspicious of COVID-19, a physician then decides whether to send a paramedic with personal protective equipment to the home to collect samples for testing. Over 25,000 samples have been collected. Cases, where COVID-19 are confirmed, are transported by paramedics on a dedicated negative-pressure hooded bed in an ambulance to the hospital (Fig. 1).

As the number of calls and COVID positive patients increased, the system became overwhelmed. MDA then opened four stationary and 8 mobile drive-in testing centers that allow prescreened patients to stay in the car. QR code technology is used for patient identification and flow. Over 23,400 samples have been collected this way.

Maximizing EMS during a pandemic by carrying out phone triage, home testing, and drive-in testing significantly decreases visits to physicians' offices and hospitals and allows early identification of those with COVID-19. These activities contribute to the effort to contain the spread of disease.

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Protecting our healthcare workers during the COVID-19 pandemic

Currently, there are 1.2 million physician Healthcare Workers (HCWs) in the United States (US), 20% over the age of 55 [2]. Similarly, in the hospital setting, there are 2 million registered nurses, with 22% are over the age of 55 and of the 1.2 million registered nurses employed outside of the hospital, 29% are over the age of 55 [1]. According to the CDC, older adults are at higher risk of infection and complications related to COVID-19, particularly those over the age of 65, the age group that currently comprises 8 out of 10 US deaths from COVID 19 [2]. All ages are susceptible to COVID-19, with close contact with an infected individual [3]. Given this assessment, physicians, nurses and other staff risk their personal health each time they tend to COVID-19 patients and this is made worse by the shortage of PPE (Personal Protective Equipment). Lack of PPE and inadequate social distancing are the two modifiable risk factors that if addressed through the implementation of enforced physical distancing, increasing the availability of PPEs, and proper guidelines would significantly reduce transmission rates and help save lives [4,5]. In March 2020, Italy reported over 2600 HCWs were infected, devastating their already worn-down workforce [6]. Observing the wreckage ensuing across the globe, it is imperative to better prepare and care for our HCWs.

Many hospitals and states have not yet released their number of HCWs testing positive for COVID 19. Those who have released their numbers include hospitals from Washington State, Massachusetts and Alabama. The number of US HCWs confirmed infected with COVID 19 is over 800 [7-11]. As more states release their numbers, the amount is expected to rise, possibly dramatically, as more states are issuing tests to their HCWs in high risk exposure situations [12]. Additionally, there is an ever-growing list of HCWs from across the globe who have lost their lives due to COVID-19 [13-15]. As the number of HCWs infected and dying continue to rise, so our providers continue to diminish.

The physical and psychological well-being of our HCWs are being tested as patient loads continue to increase and fellow co-workers become infected with COVID-19, contributing significantly to burnout among healthcare workers [16-18]. The effects of this increase in workload in the dangerous atmosphere of this pandemic are the decline in the mental health of our HCW [16,17]. Throughout this pandemic HCWs have had to self-isolate from their own families for fear of transmitting the virus to their loved ones [17]. There will be guilt when a family member becomes infected. Our HCWs are bravely living in a constant state of psychological stress founded in fear; fear of transmitting the virus and stress of the unknown aspects of this virus. The long-term effects of stress can result in post-traumatic stress disorder, anxiety and depression [19]. Thus, it is imperative to employ productive strategies to care for the mental health of our HCW.

The mental health needs of our providers must be addressed with the same priority of their physical health. Keeping our HCWs updated

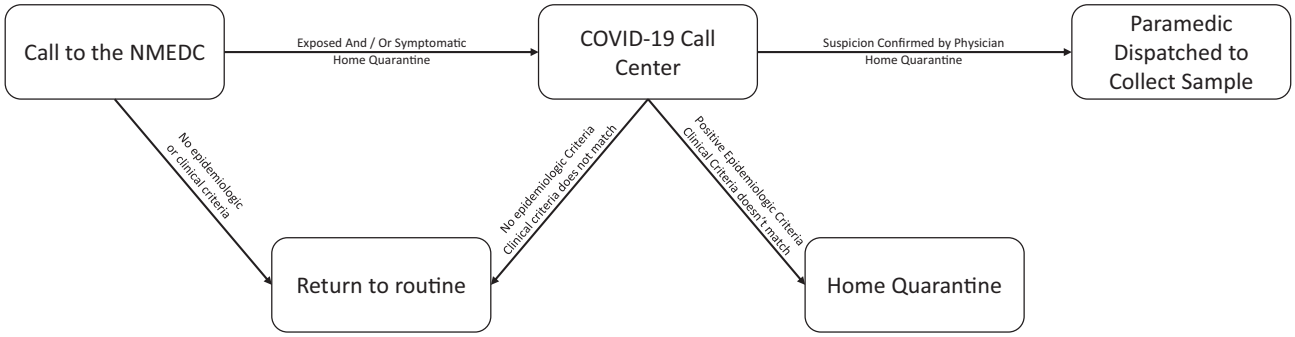

Fig. 1. COVID-19 call center flowchart.

on the latest information diminishes the fear of uncertainty and negative emotions associated with the virus [20]. This entails frequent information sessions on the specific details of the virus, practicing ethical decision making, and how to effectively use hospital resources [19]. By ensuring that the entire team maintains the same understanding of information and protocols, a certain amount of order can be maintain to curtail the negative impacts of this crisis. Additionally, establishing break time will allow for HCWs time to take care of themselves. Another recommendation centers on creating healthcare staff reserves to relieve those on duty before exhaustion and strain sets in resulting in anxiety and depression, affecting the quality of healthcare delivery. This can be done in several ways, including incorporating outside registered nurses into the hospital system, re-employing HCWs who recently retired, and adding in the newly matched fourth year medical students. As this crisis progresses it is imperative to continue to evaluate the well-being of our HCW and implement effect measures to care for their mental health.

This global crisis has fostered fear among healthcare workers. Healthcare workers are scared for their co-workers, their families, their friends, our communities and our country. Despite this fear, they continue to fight on the frontlines to execute their job while in a persistent state of survival mode in order to protect everyone around them. In order to win this war against COVID 19, we must come together on a united front to support those on the frontlines. While our healthcare workers continue to fight, we must help them fight off any potential short or long-term effects during and after the COVID19 pandemic. This requires the implementation of accessible counseling services and effective measures to care for their mental well-being in order to preserve their health.

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References

[1] Buerhaus PI, Auerbach DI, Staiger DO. Older clinicians and the surge in novel coronavirus disease 2019 (COVID-19). JAMA 2020. https://doi.org/10.1001/jama.2020.4978 Published online March 30. (Date Accessed April 2, 2020).
[2] Older adults. *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention; 21 Mar. 2020. www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/older-adults.html.
[3] Severe outcomes among patients with coronavirus disease 2019 (COVID-19) - United States, February 12–March 16, 2020. Centers for Disease Control and Prevention, Centers for Disease Control and Prevention; 2020 26 Mar www.cdc.gov/mmwr/volumes/69/wr/mm6912e2.htm.
[4] Infection control: severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Centers for Disease Control and Prevention, Centers for Disease Control and Prevention; 1 Apr. 2020. www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Finfection-control%2Fcontrol-recommendations.html.
[5] Sen-Crowe Brendon, Mark McKenney AEP. Social distancing during the COVID-19 pandemic: staying home save lives. Sensors & Actuators: B Chemical 2020:127065. https://doi.org/10.1016/j.snb.2019.127065.
[6] High proportion of healthcare workers with COVID-19 in Italy is a stark warning to the world: protecting nurses and their colleagues must be the number one priority. International Council of Nurses; 19 Mar. 2020. www.icn.ch/news/high-proportion-healthcare-workers-covid-19-italy-stark-warning-world-protecting-nurses-and.
[7] "COVID-19 daily patient update." EvergreenHealth, www.evergreenhealth.com/patient-update. Date Accessed: April 4, 2020.
[8] "Information and resources for media about COVID-19." COVID-19 Information for the Media – Brigham and Women's Hospital, www.brighamandwomens.org/covid-19/for-media. Date Accessed: April 4, 2020.
[9] "Anna Jaques Hospital." AJH, 31 Mar. 2020, www.ajh.org/about/news/monitoring-novel-coronavirus-what-you-need-to-know. Date Accessed: April 4, 2020.
[10] "Information for the media." Massachusetts General Hospital, www.massgeneral.org/news/coronavirus/information-for-the-media. Date Accessed: April 4, 2020.
[11] Ivey, Kay. "Governor Ivey issues stay at home order." Alabama Public Health, Governor Kay Ivey, 3 Apr. 2020, www.youtube.com/watch?v=jyzxvdfhWjI. Date Accessed: April 5, 2020.
[12] U.S. Department of Labor. Guidance on preparing workplaces for COVID-19. https://www.osha.gov/Publications/OSHA3990.pdf; 2020.
[13] "In memoriam: healthcare workers who have died of COVID-19." Medscape, 1 Apr. 2020, www.medscape.com/viewarticle/927976. Date Accessed: April 4, 2020.
[14] "ACEP mourns loss of first emergency physician to COVID-19." EMPhysicians Home, 1 Apr. 2020, www.emergencyphysicians.org/press-releases/2020/4-1-20-acep-mournsloss-of-first-emergency-physician-to-covid-19. Date Accessed: April 4, 2020.
[15] "Two emergency physicians in critical condition." ACEP//, www.acep.org/corona/covid-19/covid-19-articles/a-statement-from-acep-president-william-jaquis-md-facep/. Date Accessed: April 4, 2020.
[16] Ayanian John Z. Mental Health Needs of Health Care Workers Providing Frontline COVID-19 Care. JAMA Network. JAMA Health Forum; 1 Apr. 2020. jamanetwork.com/channels/health-forum/fullarticle/2764228?resultClick=1.
[17] Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. JAMA Netw Open 2020; 3(3):e203976. https://doi.org/10.1001/jamanetworkopen.2020.3976.
[18] Patti MG, Schlottmann F, Sarr MG. The problem of burnout among surgeons. JAMA Surg 2018;153(5):403–4. https://doi.org/10.1001/jamasurg.2018.0047.
[19] VA.gov: Veterans affairs. Managing healthcare workers' stress associated with the COVID19VirusOutbreak; 2020 9Mar www.ptsd.va.gov/covid/COVID_healthcare_workers.asp.
[20] Li S, Wang Y, Xue J, Zhao N, Zhu T. The impact of COVID-19 epidemic declaration on psychological consequences: a study on active Weibo users. Int J Environ Res Public Health 2020;17(6):2032. https://doi.org/10.3390/ijerph17062032.

Why India needs to extend the nationwide lockdown

The ongoing COVID-19 pandemic has afflicted almost the entire world. China and Italy have been some of the worst hit while the first world economic superpowers like United States of America and United Kingdom have had an onerous load on their respective healthcare systems. On January 30, 2020 India became part of this global carnage with the first COVID diagnosis [1]. The numbers have risen steadily since then, albeit at an alarming rate in the final days of March. Aiming to control community transmission, the Indian government took the step of declaring a 21 day nationwide lockdown starting on March 24th [1].

As we approach deeper into the lockdown, a steep rise in the number of confirmed cases has been noted. Despite this, as of now, the Central government has expressed no intention of extending the lockdown.

Epidemics are a numbers game and as far as numbers are concerned, India has its hands full.

India has the second largest population after China but India's population density far exceeds China's ($455/km^2$ vs $148/km^2$) [2]. This is should be an extremely pertinent factor while designing the epidemic response suited to the country. When we look at the rate which screening is being done, India ranks at the lower end of the spectrum. If the maximum number of people cannot be diagnosed, how can one expect them to quarantined or treated.

Availability and cost of testing kits are valid concerns which perhaps cannot be dealt with at this juncture in a manner of urgency. What can be done is to contain the spread of the infection to as few individuals as possible before this becomes the wildfire that some countries have had the misfortune of being witness to.

The answer lies not in clinical medicine. This battle cannot be won inside the hospital. There are no evidence based treatment options and a vaccine does not seem to be in sight anytime soon. Healthcare systems across the resource rich countries have visibly crumbled under the case loads. The answer lies in the fundamentals of epidemiology.