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.

Myanmar's health leaders stand against military rule

Responding to the military coup of Feb 1, 2021, the citizens of Myanmar are on the airwaves, the web, and the streets peacefully protesting their outrage and unreserved rejection of this unlawful and anti-democratic act. Emergency Medicine (EM) doctors have led the resistance through a Civil Disobedience Movement (CDM), minimising work in government hospitals under military rule. The CDM has spread throughout the health workforce, resulting in closure of public hospitals as well as medical and nursing universities. Clinical services have drastically diminished, leading to a health system suddenly in crisis.[1]

Our duty as doctors is to prioritise care for our patients—but how can we do this under an unlawful, undemocratic, and oppressive military system? For emergency care providers, limiting access to life-saving interventions presents an acute and complex ethical challenge, notwithstanding the significant risks to the public. 50 years of previous military rule failed to develop our health system and instead enshrined poverty, inequality, and inadequate medical care.[2] We cannot return to this situation. To care for the community, civil doctors are using private and charity hospitals to provide emergency services. Yet these facilities have neither capacity nor finances for comprehensive care. Doctors and nurses are staffing ambulances and clinics in the street, anticipating a surge in demand through mass casualties if public action escalates.

EM specialists have led the clinical COVID-19 response in Myanmar. Until recently, our busy public emergency departments were performing screening, testing, and early critical care for patients with COVID-19. In collaboration with global health partners, our systems were robust, resource stewardship was sound, and an immunisation programme had commenced. Since the military takeover, the COVID-19 response has stalled. Mass public rallies and protests are both serving a critical function for resistance and unity, but also as likely superspreader events for virus transmission. Without adequate testing, public compliance and goodwill for isolation, access to acute clinical care, and continued immunisations, the implications for COVID-19 spread, morbidity, and mortality are substantial.

Myanmar risks profound health system collapse. Government spending on health has been among the lowest in the world. Decades of neglect, isolation, and armed conflict have resulted in poor health outcomes and a high rate of catastrophic individual health out-of-pocket expenditure.[3] Emergency care systems have been established in recent years as an essential but previously absent component of a universal health-care response.[4] Now, recent work to address inequality of access and outcome, and to build a modern health education, clinical services, and public health system are under threat. Reversion to military rule and subsequent expected financial neglect, coupled with global isolation and sanctions, are likely to result in critical deterioration of both public health measures and clinical services. Access to essential medicines and supplies could be restricted, and global partnerships for research, education, and capacity development will falter. Finally, prolonged lack of service through the CDM might not yield the desired return to democracy, and paradoxically, could engender resentment towards health workers who withdrew from civil service to protest against injustice.

International colleagues and global health partners are needed to coordinate and support the COVID-19 response through humanitarian pathways that ensure ongoing testing, treatment and immunisations.

We call for solidarity and understanding from our global health colleagues as we face these complex ethical challenges during these most dangerous and difficult times. We urge our colleagues to join a global movement of protest against injustice and demand for the return of peace and democracy to Myanmar. The unlawful military regime presents an extreme risk to the health and human rights of the people of Myanmar and must not continue. The harassment and arrest of doctors and health workers for peaceful protest is a criminal act and cannot be tolerated.

We declare no competing interests.

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Early rate reductions of SARS-CoV-2 infection and COVID-19 in BNT162b2 vaccine recipients

In December, 2020, the Israeli Government approved the BNT162b2 COVID-19 vaccine and initiated a national immunisation campaign prioritising health-care workers (HCWs), as in other countries.[1] This

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campaign coincided with a third wave of COVID-19, peaking at 10 116 daily new cases by mid-January, 2021. The Sheba Medical Centre, Israel's largest hospital with 9647 HCWs, began staff vaccination on Dec 19, 2020. All HCWs, excluding those with previous SARS-CoV-2 infection, were eligible for vaccination. Clinical trial data of BNT162b2 vaccine estimated an early vaccine efficacy in preventing COVID-19 of 52·4% before dose two, and 90·5% on days 2–7 after dose two.[2] A recent analysis of BNT162b2 vaccine data estimated vaccine efficacy of 89–91% during days 15–28 after the first dose.[3] We examined early reductions in SARS-CoV-2 infection and COVID-19 rates in vaccinated HCWs.

To assess vaccine-associated rate reductions we analysed a retrospective cohort of 9109 vaccine-eligible HCWs, comparing vaccinated versus unvaccinated. Active daily symptom reporting and immediate same-day testing allowed for prompt (<24h) detection and investigation of exposed or symptomatic HCWs.[4] We defined all HCWs with positive SARS-CoV-2 PCR at Sheba Medical Centre or in the community as cases of SARS-CoV-2 infection. All SARS-CoV-2-infected HCWs were contacted by infection control staff and requested to respond to a contact tracing questionnaire and a clinical questionnaire specifically regarding COVID-19 symptoms. Symptomatic HCWs were defined as COVID-19 cases. We used the number of days each HCW was unvaccinated or days after the first dose as follow-up time. Rate ratios and 95% CIs associated with time after first-dose administration were adjusted for community exposure, using the distribution of probability of a positive contact by means of Poisson regression (appendix). The adjusted estimates were subtracted from 1 to obtain rate reductions.

By Jan 24, 2021, of the 9109 eligible staff, 7214 (79%) had received a first dose and 6037 (66%) had received the second dose. 5505 (91%) fully vaccinated HCWs received the second dose on days 21 or 22 after the first dose. 6818 (95%) HCWs were vaccinated at Sheba Medical Centre. All employees vaccinated in the community (n=396) were required to report dates of first and second dose to the Human Resources department at Sheba Medical Centre.

Overall, there were 170 SARS-CoV-2 infections among HCWs in the period between Dec 19, 2020, and Jan 24, 2021, of which 99 (58%) HCWs reported symptoms and were designated as COVID-19 cases. Of the 170 HCWs who became infected, 89 (52%) were unvaccinated, 78 (46%) tested positive after the first dose, and three (2%) tested positive after the second dose. Among the 125 infections that could be traced, 87 (70%) were community acquired and there were no nosocomial clusters.[4]

Compared with a SARS-CoV-2 infection rate of 7·4 per 10 000 person-days in unvaccinated HCWs, infection rates were 5·5 per 10 000 person-days and 3·0 per 10 000 person-days on days 1–14 and 15-28 after the first dose of the vaccine, respectively. Adjusted rate reductions of SARS-CoV-2 infections were 30% (95% CI 2–50) and 75% (72–84) for days 1–14 and days 15–28 after the first dose, respectively (table; appendix).

Compared with a symptomatic COVID-19 rate of 5·0 per 10 000 person-days in unvaccinated HCWs, disease rates were 2·8 and 1·2 per 10 000 person-days on days 1–14 and days 15–28 after the first dose of the vaccine, respectively. Adjusted rate reductions of COVID-19 disease were 47% (95% CI 17–66) and 85% (71–92) for days 1–14 and days 15–28 after the first dose, respectively.

The limitations of this study include the observational nature of the study design. Lack of active laboratory surveillance in the cohort might have resulted in an underestimation of asymptomatic cases. Data on vaccine efficacy in preventing asymptomatic SARS-CoV-2 infection are scarce, and our results of rate reductions in SARS-CoV-2 infections, which include asymptomatic HCWs, need further validation through active surveillance and sampling of vaccinated people

	Unvaccinated	Vaccinated	
		1–14 days after first dose	15–28 days after first dose
All SARS-CoV-2 positive			
Number of cases	89	55	26
Number of exposure days	120 575	100 433	88 126
Rate per 10 000 person-days	7·4	5·5	3·0
Rate reduction compared with unvaccinated (95% CI)	..	26% (–4 to 47)	60% (38 to 74)
Adjusted rate reduction compared with unvaccinated (95% CI)*	..	30% (2 to 50)	75% (72 to 84)
Symptomatic COVID-19			
Number of cases	60	28	11
Number of exposure days	120 575	100 433	88 126
Rate per 10 000 person-days	5·0	2·8	1·2
Rate reduction compared with unvaccinated (95% CI)	..	44% (12 to 64)	75% (52 to 87)
Adjusted rate reduction compared with unvaccinated (95% CI)*	..	47% (17 to 66)	85% (71 to 92)

SARS-CoV-2 positivity was determined by PCR. *Rate ratios of new cases in vaccinated compared with unvaccinated health-care workers each day were adjusted for community exposure rates using Poisson regression (appendix). The adjusted estimates were subtracted from 1 to obtain rate reductions.

Table: **Rate reductions of SARS-CoV-2 infections and COVID-19 cases in health-care workers at the Sheba Medical Centre, Israel, from December, 2020, to January, 2021**

See Online for appendix

and unvaccinated controls to ascertain the actual reduction of asymptomatic infection in vaccinated individuals. The early rate reductions seen in HCWs might differ from vaccine efficacy reported in the general population due to their higher exposure risk or due to exposure to more virulent or infectious strains.

Our data show substantial early reductions in SARS-CoV-2 infection and symptomatic COVID-19 rates following first vaccine dose administration. Early reductions of COVID-19 rates provide support of delaying the second dose in countries facing vaccine shortages and scarce resources, so as to allow higher population coverage with a single dose. Longer follow-up to assess long-term effectiveness of a single dose is needed to inform a second dose delay policy.

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MAb for symptomatic COVID-19 in correctional facilities: an important opportunity

Jails and prisons across the USA are at the epicentre of the COVID-19 pandemic. Most of the largest, single-site cluster outbreaks of COVID-19 in the country have occurred in jails and prisons.[1] Much attention has focused on the need for testing, masks, and robust access to vaccination; however, calls to increase access to treatment are largely absent. In November, 2020, the US Food and Drug Administration (FDA) authorised the use of monoclonal antibodies (mAbs) for the treatment of mild to moderate COVID-19 because these treatments prevent progression to severe disease and considerably reduce hospitalisations and emergency room visits.[2] However, uptake of these treatments has been slow, including in the correctional setting.

In response to the COVID-19 pandemic, as well as implementing widespread surveillance testing of residents and staff, universal mask wearing, small group cohorting, and vaccination of detained individuals at high risk, the Rhode Island Department of Corrections (RI, USA) administered an anti-SARS-CoV-2 mAb approved by the FDA and Emergency Use Authorization to a symptomatic, incarcerated person with COVID-19 on Jan 22, 2021, for the first time. The individual met criteria on the basis of timing of symptoms, age, and presence of comorbidities. There were no complications, and the individual did not require hospitalisation. To our knowledge, mAbs have been sparsely used in correctional settings across the USA. This treatment, and any other approved treatment that has the potential to reduce serious disease and death from COVID-19, should be made widely available to individuals who are incarcerated or detained and meet eligibility criteria.

Incarcerated individuals are at high risk of infection and death from COVID-19[3] and are often overlooked in this pandemic. However, they can have a major role in statewide outbreaks.[4] MAb treatments not only benefit individuals at high risk of disease but can also decrease the burden on overrun community medical centres and hospitals. In the current environment, where implementation of mAbs has proven challenging and many doses of medication go unused nationally,[5] correctional facilities offer the unique opportunity to efficiently identify and administer this evidence-based intervention.

Health departments, hospital systems, policy makers, and correctional administrations should collaborate to ensure access to evidence-based treatments, such as mAb therapy, as quickly as possible. In this way, society can not only treat a marginalised population at high risk but also efficiently decrease community burden on the local health-care infrastructure.

JB reports being the Medical Director for the Rhode Island Department of Corrections. All other authors declare no competing interests.

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