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.

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prevalence of HIV-infected patients at our institution. We appreciate the attention paid to our work and their valuable insight.

First, as Jones and colleagues point out, knowledge about the efficacy of different antiviral treatments against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is evolving rapidly, and local protocols have been periodically updated. When treating the five cases described, we relied on findings of previous in-vitro studies and limited clinical data for efficacy of lopinavir-boosted ritonavir against severe acute respiratory syndrome. Published since that time, a Chinese clinical trial has shown scant efficacy of lopinavir-boosted ritonavir against SARS-CoV-2,[2] and Janssen published a note[3] reporting darunavir has no affinity for the SARS-CoV-2 protease. We agree that boosted protease inhibitors introduce a substantial risk of drug-drug interactions, but our five cases were managed by skilled infectious disease specialists and they presented neither remarkable side-effects nor substantial drug-drug interactions during the 14-day treatment period. At the time of the publication of our case series, patient 2 was still in intensive care, requiring extracorporeal membrane oxygenation, but he survived and was discharged on April 30, 2020, with a plasma RNA HIV viral load below 50 copies per mL and, thus, this patient has reverted to their previous antiretroviral regimen (abacavir, lamivudine, and dolutegravir).

Second, Jones and colleagues question the 1% prevalence of HIV-infected cases admitted with COVID-19. We had stated that our findings were both the first data to be published and preliminary results. Moreover, our local protocol included HIV serology for all hospitalised COVID-19 patients. The 1% prevalence has been confirmed in Barcelona after 2 months. 42 HIV-infected patients with COVID-19 visited the hospital clinic emergency department, of whom 32 (76%) were admitted and among whom only one new case of HIV was diagnosed. These figures represent 0·7% of the 5649 patients in our institution's HIV cohort, 1·9% of the 2215 emergency department visits, and 1·5% of the 2102 hospital clinic admissions. The prevalence of HIV-infected patients with COVID-19 was, therefore, similar to the findings of a Chinese survey[4] reporting 0·7% of HIV-infected cases with COVID-19 (eight of 1174), whereas the rate of HIV hospital admissions was slightly higher than the 0·8% (42 of 5700) reported in New York City.[5]

These are preliminary results and we must redouble our efforts, doing appropriate studies to define more clearly the main epidemiological and clinical features of COVID-19 in HIV-infected patients.

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*José M Miró, Juan Ambrosioni, Jose L Blanco
jmmiro@ub.edu

Infectious Diseases Service, Hospital Clínic—IDIBAPS, University of Barcelona, Barcelona 08036, Spain

1 Blanco JL, Ambrosioni J, Garcia F, et al. COVID-19 in patients with HIV: clinical case series. *Lancet HIV* 2020; **7:** e314–16.
2 Cao B, Wang Y, Wen D, et al. A trial of lopinavir–ritonavir in adults hospitalized with severe COVID-19. *N Engl J Med* 2020; published online March 18. DOI:10.1056/ NEJMoa2001282.
3 Janssen. Lack of evidence to support use of darunavir-based treatments for SARS-CoV-2. March 18, 2020. https://www.janssen.com/uk/sars-cov-2-treatment (accessed May 11, 2020).
4 Guo W, Ming F, Dong Y, et al. A survey for COVID-19 among HIV/AIDS patients in two districts of Wuhan, China. *SSRN* 2020; published online March 13 (preprint). http://dx.doi.org/10.2139/ssrn.3550029 (accessed May 6, 2020).
5 Richardson S, Hirsch JS, Narasimhan M, et al. Presenting characteristics, comorbidities, and outcomes among 5700 patients hospitalized with COVID-19 in the New York City area. *JAMA* 2020; published online April 22. DOI:10.1001/jama.2020.6775.

Evolving ART crisis for people living with HIV in Indonesia

Country lockdowns in response to the COVID-19 pandemic are causing drug shortages that are crippling health-care provision for people living with HIV in Indonesia. The supply chain of antiretroviral treatment (ART) has halted amid lockdowns and travel restrictions from India.[1] Many Indonesian districts have completely run out of ART, with other districts running out within 2 weeks. This shortage will result in tens of thousands of people living with HIV stopping ART treatment.

All ART procurement and administration is handled via the Indonesian Ministry of Health, but drugs are procured from outside the country. First-line ART predominantly involves generic fixed-dosed tenofovir, lamivudine, and efavirenz via Mylan (Canonsburg, PA, USA); some supplies are stuck in procurement systems with no further supplies able to come in. Our clinic, a key population HIV/sexual health clinic in Bali, has made provisions to ration tenofovir, lamivudine, and efavirenz to 10 days' supply at once and made switches to zidovudine-based treatment; we have also stopped immediate ART start. At present, all our stocks of drugs will run out within 2 weeks. There has been disconnected local advice to supply patients with mono or dual ART using existing low stocks of nucleoside reverse transcriptase inhibitors (lamivudine and zidovudine) and non-nucleoside reverse transcriptase inhibitors (efavirenz or nevirapine) to keep people going, which would have terrible consequences in driving ART

drug resistance. We have restricted, controlled supply of boosted lopinavir reserved for second-line and third-line treatment.

Many of our patients, who are mostly men who have sex with men, live far away but prefer to visit our service rather than government general community clinics, where greater levels of stigma might exist. Many of our patients have lost jobs because of the COVID-19 crisis, have moved back home to different islands, and will stop ART. High loss to follow-up and poor ART adherence already exist, as reflected in poor UNAIDS HIV testing and treatment outcomes.[2] Such outcomes increase the vulnerability of these individuals to infections and ill health, potentially including COVID-19, when they are off ART and accelerate the existing fast-growing HIV epidemic.

The Indonesian Ministry of Health has recommended an operational programme for special populations, including people with HIV, and a sped up agreement to supply a maximum of 2–3 months ART (normally 1 month) if drugs are available in high-burden HIV districts and epicentres of the COVID-19 outbreak. These challenges have been brought to the attention of the Presidential Office in Indonesia and the Global Fund to Fight AIDS, Tuberculosis and Malaria, who are aiming to purchase and prioritise the procurement of a small number of tenofovir-based regimens from India via specially arranged shipping, which are expected to arrive in late April. Unfortunately, this will not be enough for the shortages throughout the country.

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*Hendry Luis, Wayan Dede Fridayantara, Pande Agung Mahariski, Frank Stephen Wignall, Irwanto Irwanto, *Keerti Gedela*
keertigedela@gmail.com

Yayasan Bali Peduli, Denpasar, Bali, Indonesia (HL, WDF, PM, FSW); AIDS Research Centre, Atma Jaya Catholic University, Jakarta, Indonesia (II); and Chelsea and Westminster NHS Foundation Trust, London SW10 9NH, UK (KG)

1 Pangestika D. Activists urge govt to resolve HIV drugs shortage amid COVID-19 pandemic. *The Jakarta Post*. March 20, 2020. https://www.thejakartapost.com/news/2020/03/20/activists-urge-govt-to-resolve-hiv-drugs-shortage-amid-covid-19-pandemic.html (accessed April 23, 2020).

2 UNAIDS. Country Data 2018. Indonesia. https://www.unaids.org/en/regionscountries/countries/indonesia (accessed April 23, 2020).