


## Letter to the Editor

# Coronavirus disease 2019 (COVID-19) outbreak on an inpatient psychiatry unit: Mitigation and prevention

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*To the Editor*—Severe acute respiratory coronavirus virus 2 (SARS-CoV-2) is primarily spread through respiratory droplets with increased risk of transmission in households and congregate settings.<sup>1–3</sup> Asymptomatic and presymptomatic transmission of SARS-CoV-2 have also made containment difficult.<sup>1,4</sup> Inpatient psychiatry units present unique challenges in controlling infectious disease outbreaks.<sup>5,6</sup> Here, we describe the management of a coronavirus disease 2019 (COVID-19) outbreak on an inpatient psychiatry unit, highlighting unique considerations for this patient population.

Beth Israel Deaconess Medical Center (BIDMC) is a 655-bed, academic, tertiary-care center in Boston, Massachusetts, with a 25-bed inpatient psychiatry unit including multiple 2- and 4-bed patient rooms and communal living spaces. In March 2020, Infection Control/Hospital Epidemiology (IC/HE) was notified of an asymptomatic inpatient with concern for COVID-19 due to a community exposure prior to admission. The index patient, who had been admitted to a double room the day prior (hospital day 0), was placed on precautions and was transferred to a medical floor for evaluation. Upon transfer, the patient further disclosed 14 days of dry cough and subsequently had 2 SARS-CoV-2 polymerase chain reaction (PCR) tests  $\geq 12$  hours apart, per hospital protocol. The first test was negative and the second was positive on hospital day 3. The next day, the index patient's former roommate reported headache and congestion. The roommate was placed on precautions, transferred, and tested negative twice. Two employees also reported symptoms that day but subsequently tested negative for SARS-CoV-2.

The remaining patients on the unit were screened each shift for symptoms including fever ( $T > 38^{\circ}\text{C}$ ) or feverishness, new or worsening cough, sore throat, shortness of breath, diarrhea, vomiting, or severe fatigue. Employees were screened once daily. Nasopharyngeal swabs were obtained for SARS-CoV-2 PCR using

the Abbott RealTime SARS-CoV-2 assay (Abbott Diagnostics, Abbot Park, IL) for all symptomatic patients and staff.

A multidisciplinary team consisting of medicine, psychiatry, and IC/HE leadership met daily to plan and implement additional control measures. These measures included closure to new admissions on hospital day 4, implementation of personal protective equipment (PPE), observed hand hygiene before meals and group therapy sessions, visitor restriction, and continued patient and staff symptom screening. PPE consisted of surgical masks and eye protection for staff and surgical masks for patients who were able to adhere. Psychiatry unit-specific measures to promote physical distancing involved limiting the number of patients in shared spaces and staggering group mealtimes. Environmental-focused interventions involved increased cleaning frequency and bleaching of communal spaces and shared equipment (Table 1).

The outbreak lasted for a total of 27 days, with the last cases confirmed on day 20. A median of 11 days was observed between date of exposure to index patient and positive test. Between days 5 and 20, 6 additional patients became symptomatic, and 4 tested positive. Also, 10 additional employees reported symptoms, and 5 of these tested positive. Notably, no patients or employees were retested after initial testing for symptom evaluation. Environmental services completed enhanced terminal cleaning of the unit (Table 1), 2 remaining exposed patients were transferred to the medicine service, and the unit was reopened to admissions on day 27. In total, 20 individuals reported COVID-19 symptoms; 5 (63%) of 8 symptomatic patients and 5 (42%) of 12 of symptomatic employees tested positive.

There were several limitations to implementing interventions. First, staff uptake of recommended PPE was slow initially, but it increased with further encouragement and observations from unit leadership and IC/HE. Additionally, complex patient behaviors affected proper PPE use, physical distancing adherence, and consistent symptom reporting. Physical distancing was also difficult given the fundamental practice of group sessions in patient treatment and the communal nature of the unit. Lastly, asymptomatic patients and staff were not tested at the time of this outbreak due to limited global testing capacity early in the pandemic. A more inclusive testing strategy may also be applied as testing capacity allows.

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**Table 1.** Inpatient Psychiatric Control Interventions Implemented during Outbreak

General Patient Level	Environmental Level	Specific to the Psychiatric Population
<ul style="list-style-type: none"> <li>■ Surgical masks for all patients</li> <li>■ Surgical masks and eye protection for all employees</li> <li>■ Symptom screening patient and staff daily</li> <li>■ Increase patient compliance to hand hygiene</li> <li>■ Restrict all visitors</li> </ul>	<ul style="list-style-type: none"> <li>■ Increase frequency of cleaning in shared spaces</li> <li>■ Bleach cleaning daily</li> <li>■ Enhanced terminal cleaning:               <ul style="list-style-type: none"> <li>○ Change curtains</li> <li>○ Deep cleaning with bleach</li> <li>○ Ultraviolet (UV) light disinfection</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Adhere to safety measures for patient masking (ie, no metal nose clips or ties)</li> <li>■ Limit number of patients per group therapy session to five and physically distance</li> <li>■ Stagger patient meal times</li> <li>■ Reduce shared patient supplies</li> </ul>

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