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Letter to the Editor

Preparing for long-term non-face-to-face outpatient care services during the COVID-19 pandemic



Dear editor

The novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was first reported in Wuhan, China, at the end of 2019, with the World Health Organization (WHO) declaring the coronavirus disease (COVID-19) a global pandemic in March 2020.¹

The initial response in our hospital to COVID-19 was to triage patients with symptoms consistent with COVID-19, a travel history or a history of exposure to patients with confirmed COVID-19. In addition, our hospital prepared separated temporary sites outdoors or cohort rooms in the emergency department for the suspected increase in the number of affected patients.² Except for emergency situations, individuals were told to postpone visits to our hospital if they had travelled during the previous 14 days to areas with ongoing community transmission, or if they had close contact with infected persons. All patients and visitors were instructed to wear face masks before entering health-care facilities. Patients with febrile respiratory symptoms were not admitted to our hospital unless they tested negative for SARS-CoV-2.

Healthcare workers (HCWs) were instructed to wear face masks at all times within the healthcare facility, and to wear proper personal protective equipment (PPE) according to their risk of exposure based on guidelines of the Centers for Disease Control and Prevention (CDC). HCWs in facilities located in febrile respiratory outpatient clinics, febrile respiratory outpatient intensive care units, febrile respiratory inpatient wards and febrile respiratory zones in the emergency department were advised to follow standard and transmission-based precautions. Especially during aerosol generating procedures and collection of diagnostic respiratory specimens, HCWs were instructed to wear N95 or equivalent masks in addition to eye protection.

Because of the possibility of disease transmission between the general population and HCWs or nosocomial transmission in hospitals, HCWs may pay too much attention to COVID-19. COVID-19 outbreaks in acute care facilities, including hospitals, have high mortality rates in vulnerable patients with underlying comorbidities, including non-COVID-19 inpatients. This may be stressful for HCWs, and several studies report that HCWs have higher rates of psychological disturbances such as anxiety and depression.^{3, 4} In particular, frontline HCWs at facilities treating COVID-19 patients showed a high prevalence of psychological symptoms, similar to workers at facilities treating previous emerging infectious disease such as Ebola virus and SARS.⁴⁻⁶ Fear of an unknown disease and

the need for proper PPE may also put pressure on HCWs during patient care and sample collection. Wearing PPE can limit mobility and heat loss while increasing fatigue among HCWs. In addition, there is some risk of self-contamination when HCWs remove PPE.^{7, 8} COVID-19 will continue to be a threat to public health until the general population has developed sufficient immunity or an effective vaccine has been developed. The temporary facility used as a febrile respiratory center at our hospital had several drawbacks, including vulnerability to weather. Moreover, HCWs wearing PPE for a long period of time were at risk of exhaustion.²

Physicians treating patients with febrile respiratory illnesses have traditionally provided face-to-face care, including physical examination. To minimize exposure to patients suspected of being infected, as well as to protect HCWs and reduce their fatigue, our clinic has altered its healthcare systems to provide a better long-term strategy to combat COVID-19. A separated febrile respiratory outpatient clinic was constructed to provide non-face-to-face care (Fig 1A). In addition, separate areas were created for medical staff and symptomatic patients, with a physical barrier between these areas (Fig 1B). The patient area was maintained under negative pressure with HEPA filters with the HCW area maintained under positive pressure (Fig 1B). This newly-constructed clinic was adequately ventilated, with 22–38 air changes per hour. Patients with symptoms consistent with COVID-19 who visited the hospital were instructed by nurse-directed triage to go to this febrile respiratory center, not to the main hospital, and meet the doctor in the area with the barrier between patients and HCWs (Fig 1C). Physicians communicated with patients through microphones and speakers. If the patients required screening for SARS-CoV-2, they were directed to a separate room in the screening center that modified the walk through system of other facility (Fig 1D).⁹ HCWs who stayed only in the positive pressure area with the physical barrier wore face-masks, whereas those who encountered patients also wore surgical gowns, N95 facemasks, gloves and eye protectors. After a patient left an area, it was ventilated, environmentally cleaned, and disinfected by nursing aids who wore PPE, including gloves, and ventilated a second time.

As of July 23, 2020, samples from 3919 patients with suspected COVID-19, 3548 in the temporary container and 371 in the new non-face-to-face febrile respiratory center, were subjected to PCR assays for SARS-CoV-2. Six patients were confirmed to have COVID-19. Nosocomial transmission in HCWs was not found.

This report describes a shift from in-person care to non-face-to-face outpatient care services for COVID-19. Non-face-to-face care can be an efficient and comfortable long-term strategy for HCWs to combat COVID-19. These measures may provide a model for patient care beyond the COVID-19 pandemic.

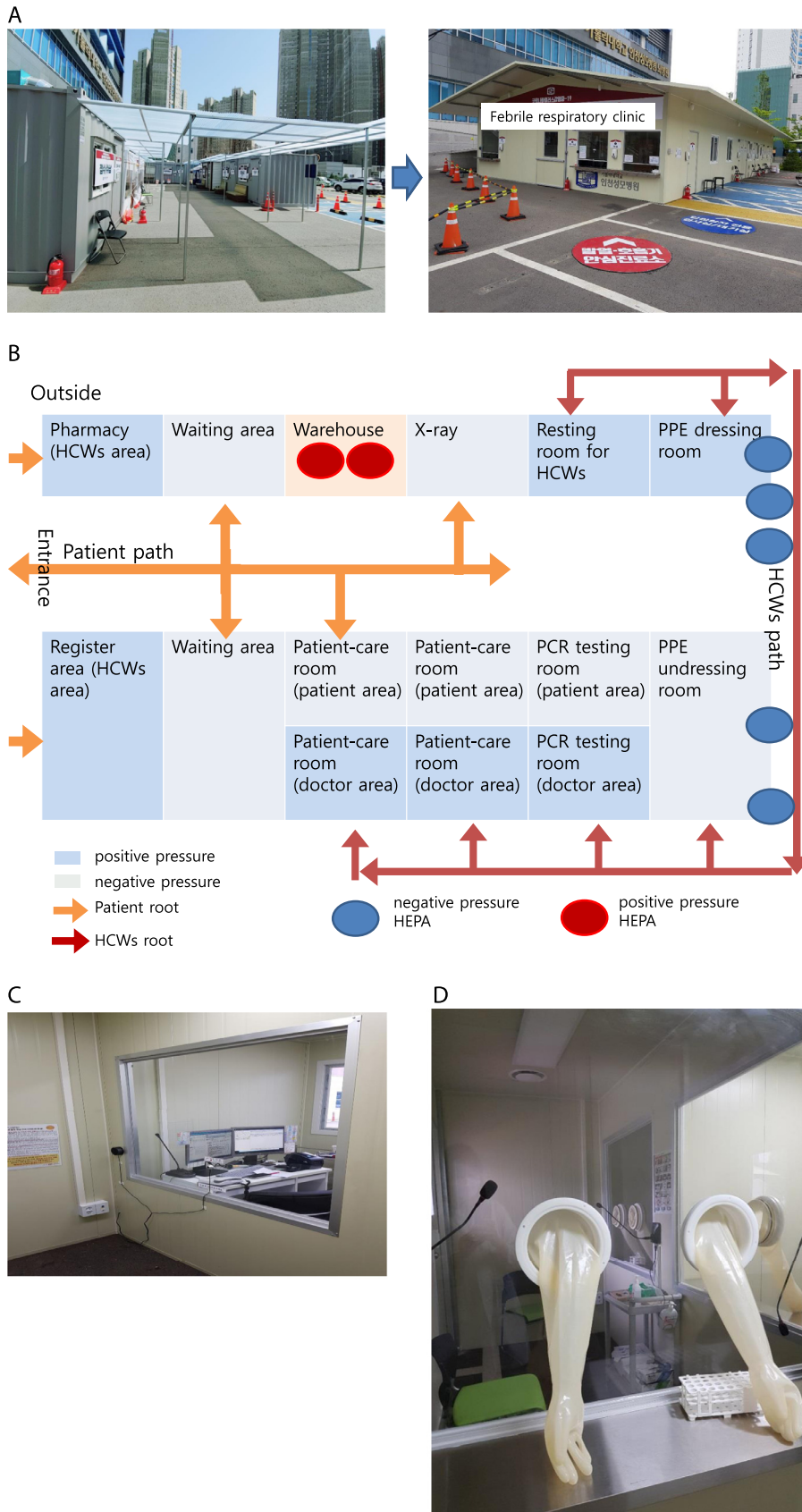


Fig. 1. Shift to a non-face-to-face outpatient febrile respiratory care center.
 A. Shift from the old temporary container to a non-face-to-face outpatient care center
 B. Floor plan of the new non-face-to-face outpatient care center
 C. Patient-care room
 D. Room for SARS-CoV2 PCR assays.

Declaration of Competing Interest

We declare no conflict of interest related to this work.

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