

CORRESPONDENCE

Death from Covid-19 of 23 Health Care Workers in China

TO THE EDITOR: The National Health Commission of the People's Republic of China has reported that as of February 24, 2020, a total of 3387 of 77,262 patients with Covid-19 (4.4%) in China were health care workers or others who worked in medical facilities.^{1,2} According to the Chinese Red Cross Foundation, the National Health Commission of the People's Republic of China, and public media, as of April 3, a total of 23 of the health care professionals among these 3387 persons had died from Covid-19 after they became infected during the practice of medicine in Wuhan and elsewhere in China.^{3,4}

The median age of the 23 health care workers who died was 55 years (range, 29 to 72); 17 were men and 6 were women. Eighteen of the health care workers were from Wuhan, 4 were from areas of Hubei Province outside Wuhan, and 1 was from Hainan Province (see Table S1 in the Supplementary Appendix, available with the full text of this letter at NEJM.org). Eleven of these persons had been rehired after retirement, and at least 5 were known to have had a chronic condition such as hypertension, atrial fibrillation, or post-polio syndrome. Thirteen were physicians who provided direct patient care (5 practiced in community health centers or in private clinics, 3 practiced Chinese medicine, 2 were internal medicine physicians, 2 were physicians in respiratory medicine, and 1 was a gastroenterologist); 8 were surgeons (including 3 ophthalmologic surgeons); 1 was an electrocardiography technician; and 1 was a nurse.

The median period from the onset of symptoms of Covid-19 to hospital admission in the 19 health care workers for whom these data were available was 6 days (range, 0 to 15).³ Three of them died in late January, 17 died in February, and 3 died in early March. The median period from hospital admission to death in all 23 health care workers was 19 days (range, 1 to 47). In 16 of the health care workers, acute respiratory distress syndrome (ARDS) rapidly progressed, and

their condition then deteriorated quickly; all but 3 of these persons were 50 years of age or older. After their condition deteriorated, 12 of the 23 health care workers were transferred from the hospitals where they were first admitted to specialized intensive care units in other hospitals or to hospitals that specialize in infectious diseases. In addition to ARDS, the complications of Covid-19 in these patients included cardiac injury, septic shock, multiple organ dysfunction syndrome, hypercoagulability, intracardiac thrombus, and bacteremia.

Only 2 of the 23 health care workers were physicians in respiratory medicine who had been specifically assigned to treat patients with Covid-19. None of the 23 patients who died were from hospital divisions of infectious diseases or worked in hospitals that specialized in infectious diseases. The infections in these patients may have resulted from inadequate precautions and insufficient protection in the early stages of the epidemic.

As of March 31, none of the 42,600 health care workers who went to Hubei Province to care for patients with Covid-19 were known to have been infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).⁵ The 42,600 workers included one of us, an intensive care physician from Fujian Province who cared for patients with Covid-19 from January 29 to March 23, first in Wuhan Central Hospital, and then in Wuhan Jinyintan Hospital. These data suggest that sufficient precautions with rigorous enforcement can prevent health care workers from becoming infected with SARS-CoV-2 and the subsequent risk of death. The 23 health care heroes described here were dedicated to saving the lives of others in a catastrophic pandemic that has been plaguing our country and many others around the globe.

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Disclosure forms provided by the authors are available with the full text of this letter at NEJM.org.

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