Covid-19 care before, during, and beyond the hospital

It’s time to shift the research focus to studies on living with this disease

Alicia L Rauh assistant professor of medicine, Jeffrey A Linder professor of medicine

1 Division of Hospital Medicine, Department of Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, USA; 2 Division of General Internal Medicine and Geriatrics, Department of Medicine, Northwestern University Feinberg School of Medicine, 750 North Lake Shore Drive, 10th Floor, Chicago, IL 60611, USA

By the third week of May 2020, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes coronavirus disease 2019 (covid-19), had infected about 4.7 million people worldwide and over 300 000 had died. Without a vaccine or disappearance of the virus, we could be living with SARS-CoV-2 and covid-19 for the foreseeable future, possibly years.

In the initial phase of the pandemic, descriptive studies of patients in hospital have been invaluable in understanding the epidemiology, populations at risk, and outcomes for patients with severe covid-19. Peer reviewed studies and preprints have described patients admitted to hospital in China, the United States, and Korea, ranging in size from 69 to 5700 patients.

Other studies, notably several from Italy, describe those in intensive care.

In a linked study, Docherty and colleagues (doi:10.1136/bmj.m1985) describe what appears to be the largest cohort of patients in hospital so far. Using a standardized data collection protocol, the investigators collected information on 20 133 patients with covid-19 from 208 hospitals, representing 34% of patients admitted with this disease in England, Scotland, and Wales.

Beyond the size of the cohort, the researchers had several notable findings. This cohort is among the oldest reported (median age 73). The proportion of intensive care unit admissions (17%) was slightly lower than many other studies. The mortality (26%) at the time of reporting was higher than almost all other studies. Independent predictors of mortality included older age, male sex, obesity, and several chronic conditions. The authors reason that the high mortality in this cohort was due to older age, health system differences (for example, proportion of intensive care unit beds), and practices for advanced care planning.

Clinical experience and research evidence so far suggest that key components of good supportive care include oxygenation; management of symptoms, fluid balance, and chronic conditions; judicious use of antibacterial drugs; prophylactic anticoagulation; closer monitoring of frail or immunosuppressed patients; multidisciplinary management among hospital medicine, infectious diseases, pulmonary critical care, palliative care, and medical ethics teams; and advanced care planning with patients and care givers.

Beyond the hospital, long term outcomes of covid-19 are unknown. Anecdotal reports have included symptoms that last for weeks or months. Sequelae of covid-19 infection might
include worsening of chronic conditions and profound needs for rehabilitation. And we still have much to learn about transmission, immunity and its durability, and, as with other coronaviruses, the potential for reinfection. 

At the outset of the covid-19 pandemic, it was natural to focus first on the people with severe disease who might need potentially scarce resources in hospital and intensive care. Cohort studies of such patients important, and the work described by Docherty and colleagues is a testament to good planning and preparation before, and implementation of data collection during a pandemic. If we are going to be managing covid-19 for the next several years, however, we need to understand and optimize care before, during, and beyond the hospital.

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