

Chronic disease and infection in China: lessons from the covid-19 pandemic

The covid-19 pandemic is over but provided many lessons for population health and chronic diseases, say **Luzhao Feng and colleagues**

The harms from covid-19 during the pandemic extended beyond the disease itself. Older people with a chronic or non-communicable disease were among the most vulnerable to SARS-CoV-2 and at the highest risk of death.^{1,2} The interplay between chronic disease and infection can exacerbate each condition, highlighting the importance of preventing infection in people with chronic disease and increasing the challenges of caring for patients with comorbidity.^{3,4} For instance, during the omicron outbreak in Hong Kong excess deaths occurred not only from covid-19 infections but from chronic diseases, including cerebrovascular disease and kidney disease.⁵ This may be because the healthcare system was heavily overwhelmed, leading to low quality healthcare services and longer waits for some interventions for non-covid illness. Moreover, patients with chronic diseases may face increased risks of complications and severe outcomes after covid-19 infection.

At the onset of the pandemic, public health measures such as wearing masks, maintaining social distancing, and proactive health education, were crucial in controlling the spread of epidemics and buying more time to prepare health resources⁶ and develop vaccines and antiviral drugs. This approach minimised harm to the entire population, particularly vulnerable people with chronic diseases. The vulnerability to infection of people with chronic diseases highlighted the need for research into treatment of not only covid-19 but also chronic diseases. New technology was developed to promote efficient and convenient management of chronic diseases. Telehealth and digital health provide real time video consultations, enabling primary care triage and interventions such as counselling, prescription management, long term treatment management, and post-discharge coordination, all supported by remote monitoring capabilities.^{7,8}

Another problems that emerged during the pandemic was inadequate medical

resources during disease outbreaks, which increased the risk of nosocomial infection in hospitals and nursing homes. This highlights the need to improve the ability to prevent and control infections.

Healthy systems and populations

A flexible strategy for optimising allocation of health resources should therefore be established to integrate efforts during both pandemic and non-pandemic periods. During non-pandemic times, the focus is primarily on general preparations, including research into better prevention, detection, control, and treatment methods and tools, as well as capacity building for preparedness and response against a target pathogen, infection prevention in people with chronic diseases, and the care of those with comorbidity. During an outbreak, prevention and control methods take precedence. For example, implementing public health measures at the peak of the epidemic is crucial. Meanwhile, hospital preparations and managing influxes of patients are urgent, especially with regard to intensive care capacity, timely communication of nursing experience, and drug distribution strategies. Additionally, planning to convert existing public venues, such as stadiums and exhibition centres, into healthcare facilities and leveraging community and family doctors can help improve healthcare access.

The pandemic highlights that challenges persist with the management of chronic diseases. Initially, population approaches should be used to prevent chronic diseases, and high risk groups should be urged to have regular health screenings and adopt lifestyle interventions. Older adults, who are often affected by chronic diseases, should be prioritised for vaccination against covid-19, influenza, pneumococcus, and herpes zoster to reduce the severity of infection related outcomes.⁹ Other vulnerable groups such as children and pregnant women should be also protected. Furthermore, it is crucial to ascertain the size and distribution of the population affected by chronic

diseases and to optimise the allocation of medical resources, such as care facilities for older adults. The scarcity and uneven distribution of medical resources pose a challenge in China, as it does in many other densely populated countries.

Collaborative approach required

Management of people with chronic diseases is a long term endeavour that requires collaboration across multiple departments and staff. A fundamental principle for enhancing treatment processes is to bolster the capacity of the healthcare system, including the reserve staff from other departments, when additional support is needed. Moreover, improving management does not suggest neglect of infectious diseases. Some infections can lead to cancer,¹⁰ and, conversely, other infections exacerbate chronic diseases, causing severe outcomes and even death.² Implementing management based on the levels of patient risk is advisable. Therefore, rapid pathogen detection, infection prevention as much as technically feasible, and standardised application of antimicrobial drugs should be integral to management of chronic diseases. The availability of healthcare services is crucial in achieving social and health equity.

Optimising the management of chronic diseases necessitates integrating prevention and control measures within communities alongside clinical practices in hospitals. Covid-19 has shown that experiences from pandemic management can enhance control and prevention of chronic diseases. This includes improving surveillance systems, building resilient health systems, strengthening public health, and promoting vaccinations against infection related cancers such as cervical and liver cancer. From a mechanistic perspective, the response to covid-19 offers new insights into the interactions between the immune system and non-communicable diseases, potentially improving their management.

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