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CORONAVIRUS

Could rural China's healthcare deal with covid-19?

What happens if SARS-CoV-2 reaches the less developed parts of China, asks **Andrew Silver**

Andrew Silver *freelance journalist*

Nearly 40% of China's population of about 1.4 billion people live outside urban areas, 2020 statistics show. China's strategy in the pandemic is to interrupt community transmission of SARS-CoV-2 by isolating infected people and their close contacts, wherever they may be.¹ The worry is what will happen if transmission can't be detected quickly, especially in the face of more transmissible new variants, such as delta, and particularly in rural areas that may have even less robust medical capabilities than urban areas.

China has "a general issue with capacity for people with medical conditions," says Benjamin Cowling, an epidemiologist at the University of Hong Kong. "It's not specific to covid, generally an ageing population and insufficient resources and economic downturn perhaps."

The country significantly increased investment in community based services after the 2003 SARS outbreak,² introduced comprehensive healthcare reforms in 2009,³ made new investments for covid-19, and aims to boost capacity under its Healthy China 2030 Plan, such as by increasing the number of general practitioners.⁴ For now, however, analysts say that there's still a way to go to tackle the overall medical needs of people around the country.⁵

Medical care

Village doctors in China can provide basic medical services such as care for colds and cuts. When people in rural areas are sick they are supposed to go first for village services and then be referred to a township healthcare centre and if needed a county hospital, although many go directly to the county hospital. People living in rural areas may even travel to city hospitals. Hospitals accounted for only 3.5% of China's medical institutions as of 2019 but provide 45% of national outpatient services.⁵

During the pandemic China has demonstrated its ability to set up entirely new hospitals in response to a surge in patient numbers,⁶ but in an emergency situation some people doubt that the medical facilities people could quickly access would always have the resources or capabilities to meet villagers' needs. "For those who do suffer illness in rural China, healthcare services are generally not as good as in cities," says Christopher Dye, an epidemiologist at the University of Oxford, UK, who advised the Chinese Center for Disease Control and Prevention on tuberculosis in 2013.

"If you're living in a rural area and you get very sick then your immediate access to the highest level of medical care is more limited, and a consequence of

that potentially is that you could die if you had serious covid or serious anything else," adds Dye.

The risks from an outbreak in large cities and rural areas are not the same, says Wang Weibing, an epidemiologist at Fudan University in Shanghai. On one hand, population mobility in rural areas is lower than in large cities. But on the other hand, it's difficult to discover an outbreak quickly, and treatment capability is also a challenge.

Cowling says that he "wouldn't be surprised if some villages have outbreaks and struggle to control spread." If everyone in an unvaccinated village of 1000 became infected with the delta variant, probably 50 at the most would require hospital admission, he believes. But he's "not sure what happens for those 50 if the rural health clinic only has five beds."

Early detection

Researchers have cited several reasons why detecting an outbreak in a village could take longer than in cities. One is that it might be more time consuming to access medical services and that villagers who are sick might self-treat first to see what happens. "On average, compared to urban areas, the costs of seeking healthcare are higher in terms of time," says Sean Sylvia, a health and development economist at University of North Carolina Chapel Hill, USA, who studies rural healthcare in China. "Particularly if they don't think the quality in their village is very high."

The financial cost of accessing high quality medical services could be another factor in villagers deferring medical care, which could help identify outbreaks. China's government says that one of the benefits of its poverty alleviation resettlement is that it brings people in rural areas closer to medical services.

Kristen Looney, a researcher at Georgetown University in Washington, DC, who studies rural development in China, agrees. "By moving people out, you improve their access to care," she says. But cost is the number one deterrent for not seeking medical care, she adds, as "it doesn't require a formal education to figure out that seeing a doctor of any kind of quality is expensive."

Yanzhong Huang, a senior fellow at the US Council on Foreign Relations, worries that the overall cost of healthcare could deter low income farmers who have flu-like symptoms from seeking medical care at county hospitals or other facilities. China says that it will cover expenses for covid-19 that are not covered by insurance, but people probably wouldn't factor this knowledge into their decision making.

“Despite the increasing reimbursement rate the benefit level remains low for the farmers, and the absolute amount spent on healthcare can remain prohibitively high,” says Huang. “They might think it’s just like a cold.”

Outbreak control

Authorities in China that don’t take quick action to control outbreaks face punishment. “When the local authority finds new cases, they will take actions immediately due to high pressure from higher level authority,” says Ruilian Zhang, a postdoctoral researcher at the University of Queensland, Australia, who grew up in a village in central China and studies how government policy affects rural communities.

Emergency transportation in the event of a rural outbreak could be a challenge in some areas. But Sylvia says that if a diagnosis of covid-19 was made, isolated transportation to medical services by ambulance would likely be arranged by authorities. “They would be able to locate the transportation in most of the counties,” he says. “They have a strong incentive to provide it, too: they don’t want an outbreak in their county.”

Ray Yip, an epidemiologist and former country director of the Gates Foundation in China, thinks that some early cases might be missed but that the original source of a village outbreak would eventually be identified by authorities and the people exposed would then be isolated so that the outbreak could be contained. “The cases will be found by the initial index case,” says Yip. But he adds, “The rural healthcare quality of service in China is still very poor, it’s still very sketchy, and it’s still highly inequitable.”

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