

## Rapid COVID-19 movement restrictions reduce societal costs

Rapid implementation of COVID-19 movement restriction policies (MRPs) in China reduces the health burden and societal costs, according to findings of a study published in *Value in Health*.

A dynamic simulation model with a SEIR (susceptible, exposed, infectious, and recovered) framework, populated with epidemiological and migration data from official statistics in Hubei province and resource use and costs from a recent-cost-of-illness study in China, was used to evaluate the health burden of the first wave of COVID-19 in China, and the cost effectiveness of a MRP with rapid implementation (current practice) on 23 January 2020 in Wuhan, Hubei (real-world scenario; ending on 25 March 2020 when no new cases were confirmed in China), compared with a 1-week, 2-week or 4-week delay in implementation of MRPs (ending on the first day with zero newly confirmed cases). Cost effectiveness was assessed from a Chinese healthcare and societal perspective, at willingness-to-pay (WTP) threshold based on the annual gross domestic product per capita in China (70 892 RMB\*).

It was estimated that the first wave of COVID-19 resulted in losses of 38 348 disability-adjusted life-years (DALYs) under current practice and 139 784, 432 225 and 3 750 069 DALYs with a 1-week, 2-week and 4-week delay, respectively, at total societal costs of \$343, \*\* \$660, \$915 and \$3324 billion, respectively. The estimated net monetary benefit of the four strategies was -\$381, -\$658, -\$910 and -\$3285 billion, respectively.

The rapid implementation strategy therefore dominated (more effective and less costly) all three delayed strategies. At a WTP threshold of 70 892 RMB per DALY averted, the probability that rapid implementation of MRPs was the most cost-effective strategy was 96%, 99% and 100% compared with a 1-week, 2-week and 4-week delay, respectively.

"Relatively rapid introduction of MRPs greatly reduced the health burden and the overall cost. When faced with an outbreak of a disease that may be highly infectious and associated with raised mortality, early implementation of MRPs is advisable," concluded the authors.

\* 2019 Chinese RMB

\*\* 2019 US dollars

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