

## Letter to the Editor

# Coronavirus disease 2019 in Italy: The Veneto model

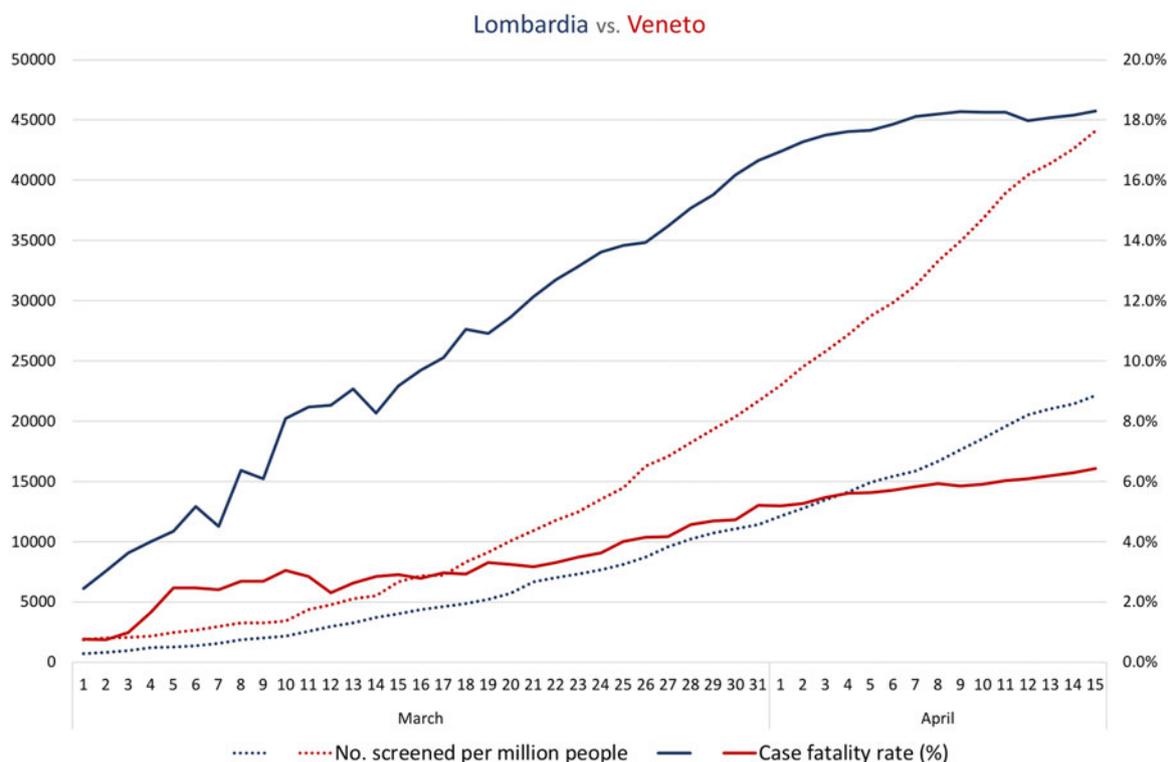
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*To the Editor*—In a Viewpoint article in the *Journal of the American Medical Association (JAMA)* regarding the third novel coronavirus (SARS-CoV2) outbreak in Wuhan, China, in December 2019, Drs Wu and McGoogan presented the key findings in a large case series of 72,314 infected individuals, refining the estimates in China to severe disease in 14% of cases and a case-fatality rate of 2.3%.<sup>1</sup> Among the total case records, only 889 (1%) were classified as asymptomatic (ie, lacking typical symptoms including fever, dry cough, and fatigue), >5 times lower than those observed in Italy.<sup>2</sup> After February 21, 2020,

Italy became the hardest-hit country, with the highest death toll of 17,127 (>5 times as much as China) and 135,586 confirmed cases on April 7, 2020.

Recent evidence shows that 86% of all infections were undocumented prior to the Wuhan shutdown on January 23, 2020, representing the infection source for 79% of documented cases.<sup>3</sup> It has now become evident that the percentage of mild or asymptomatic cases in developed societies, such as China and Italy, prior to major restrictions or control, was much higher than previously recognized. Although challenging without strict containment measures,



**Fig. 1.** Timeline of number of tests for SARS-CoV-2 per million people (dotted lines) and case fatality rate (solid lines) in Lombardia (blue) and Veneto (red). Source: Italian Civil Protection and Ministry of Health.

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identification of these subjects may slow the spread of SARS-CoV2. The cases of Veneto and Lombardia, contemporaneously affected neighboring regions in Italy, provide 2 telling examples with strikingly different endings. As of April 15, 2020, a total of 44,107 tests per million people have been performed in Veneto, which is double the number of tests conducted in Lombardia (Fig. 1). Indeed, in contrast to the neighboring region, Veneto adopted a large-scale population screening model at the beginning of the outbreak, allowing home isolation for a larger number of mild (or asymptomatic) cases (85% vs 60% of active cases according to the last estimates).<sup>4</sup> This strategy may have avoided overwhelming the health system, with a consequent positive impact on the case fatality rate in Veneto, which is currently almost 3 times lower than that in Lombardia.

In fact, in line with previous modeling predictions,<sup>5</sup> Lombardia did run out of intensive care beds at the end of March, resulting in the need to transfer critical patients to other Italian regions or European countries. Furthermore, between one-half and one-third of the daily national deaths are still being recorded in this region at this time.

At a time when Italy is facing its biggest challenge since World War II, the 'Veneto model' indicates that early mass screening for SARS-CoV-2 can make a positive difference, and it should be

recommended to other countries responding to the COVID-19 pandemic.

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# Battle with COVID-19 in Iran: What lessons can be learned from the implementation of response strategies so far?

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*To the Editor*—The novel coronavirus disease (COVID-19), with human-to-human transmission and severe human infection, has been escalating rapidly since late December 2019.<sup>1</sup> Disease symptoms can range from mild flu-like cases to severe cases with life-threatening pneumonia.<sup>2,3</sup> The global condition is evolving dynamically, and on January 30, 2020, the World Health Organization (WHO) announced that COVID-19 is a “public-health emergency of international concern.” During the coronavirus pandemic, the authorities of the Iranian Ministry of Health and Medical Education (MOHME) reported the first cases of coronavirus on February 19, 2020 in Qom.<sup>4</sup> As of March 6, 2020, according to MOHME, 27,017 cases of COVID-19 have been identified in the country, 2,077 of whom have died and 9,625 of whom have recovered so far. Following the widespread outbreak of SARS-CoV-2 in China, the MOHME launched a campaign in early February 2020 including

monitoring and examining all incoming travelers from China and quarantine of Iranian students residing in China.

Currently, no licensed vaccine for specific antiviral prevention and treatment is available for COVID-19.<sup>5</sup> Therefore, the most effective measures are to eliminate the source of infection, to cut off the transmission route and to protect the susceptible.<sup>6</sup> Prevention and control became the most urgent task in Iran during the early days of the sudden outbreak of the SARS-CoV-2 virus.<sup>7,8</sup> In this regard, the government has invested large amounts of human capital and material resources. Regarding the origin of the infection, people who are in close contact with patients may become new patients or new sources of infection. For this reason, the first action after the media provided public education on COVID-19 disease was to establish a Corona National Antivirus Headquarters chaired by the President of Iran and headed by the MOHME. With the establishment of the headquarters, many actions were taken, such as canceling public events and Friday prayers; closing schools, universities, shopping centers and bazaars, as well as holy shrines; and banning festival celebrations. Economic measures were also taken to assist families and businesses. With the intersectoral collaboration, the headquarters is trying to control the outbreak of SARS-CoV-2. The Ministry of Roads and Urban Development initiated the necessary steps for public transport, and the Ministry of Industry, Mine, and Trade

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