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

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To the editor

The pneumonia or novel coronavirus disease (2019- nCoV) with human-to-human transmission and severe human infection, temporarily named as Coronavirus Disease 2019 (COVID-19), has been escalating rapidly since late December 2019.¹ Disease symptoms can range from mild flu-like to severe cases with life-threatening pneumonia.^{2, 3} The global condition is evolving dynamically, and on 30 January 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 Ministry of Health and Medical Education (MOHME) stated the first cases of coronavirus on February 19, 2020 in Qom.⁴ As of March 6, 2020, according to public relations with the MOHME have been identified 27,017 cases with COVID-19 in the country, 2,077 of which have died and 9,625 have recovered so far. Following the widespread outbreak of COVID19 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-19.⁵ Therefore, the most effective measures are to eliminate the source of infection, cut off the transmission route and protect the susceptible.⁶ Prevention and control became the most urgent task in Iran during the early days of overcoming sudden outbreak of new coronavirus infection.⁷ In this regard, the government has invested a lot 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 Anti-Virus Headquarters chaired by President and headed by the MOHME.⁸ With the decision of the

headquarters, 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.⁸ The headquarters with the inter - sectoral collaboration is trying to control the outbreak of COVID-19. The Ministry of Roads and Urban Development initiated the necessary steps for public transport and the Ministry of Industry, Mine and Trade to build the required medical equipment. On March 13, 2020, the Revolutionary Guards announced a plan to clear streets, shops and public places in Iran. In addition, 1,000 fixed and mobile diagnostic clinics would be set up, the military would work alongside medical provider as well as the production of face masks and gloves, and army beds will be available to patients. Administrative and Employment Affairs Organization allowed telecommuting of government employees. academic organizations. Academic organizations to launch learning management systems.

The government created an application and a website to battle against the COVID-19 outbreak.

⁹The COVID-19 Self-Assessment and Electronic Screening System has been designed and launched by the MOHME since 4 March 2020. The system address is salamat.gov.ir. By logging into this system, people will answer information such as national code, date of birth, phone number, and some questions about symptoms of COVID-19 depending on their physical condition. After answering existing questions, if a person is suspected of having a coronavirus, follow-up will be provided through health care centers affiliated by the MOHME. The Chart map shows proportion of the target population screened for COVID-19 by province. (Figure 1) People who suspect the disease will receive an SMS about their health status. If they do not recover physically after 3 days, they will be referred to hospitals. Also, their homes will be disinfected and other family members will be isolated if needed. The plan has been implemented with the

allocation of more than 17,000 health houses and more than 9,000 comprehensive health centers in urban, suburban and rural areas throughout the country, and organized work has been carried out at these mobilization centers and bases.

The Social-Law Enforcement Committee of the Coronavirus Battle National Headquarters at the Interior Ministry has begun implementing the Social Distancing Plan on March 27 and will continue until April 2020 and will be extended if approved by the Committee. According to the plan, inter-city trips will be banned and only locals will be allowed to enter cities and towns. Also, any sites that might draw large clusters of people, including schools, universities, shopping centers, parks, swimming pools, tourist sites, promenades, etc, will be closed. Holding any official or unofficial celebration that can draw crowds will also be forbidden during this period. Maximum restrictions will also be carried out according to transport by aircraft, trains and buses. There has been a significant effort to treat COVID-19 patients.¹⁰ On March 26,2020, Iran launched plasma therapy for corona-infected patients.¹¹ The blood plasma of people recovering from COVID-19 infection will be donated to patients to boost their immune systems. Based on the concept of passive immunity, this plan is a new method that can help improve the condition of a better and more accurate drug. In the fight against corona, it is crucial that countries around the world take steps to prevent the transmission and save human lives. The Iranian authorities are trying to implement their policies and plans with the help of inter - sectoral collaboration and public participation. However, they should continue to develop new policies and programs to prevent and control the spread of the virus so that the vaccine or medication is available.

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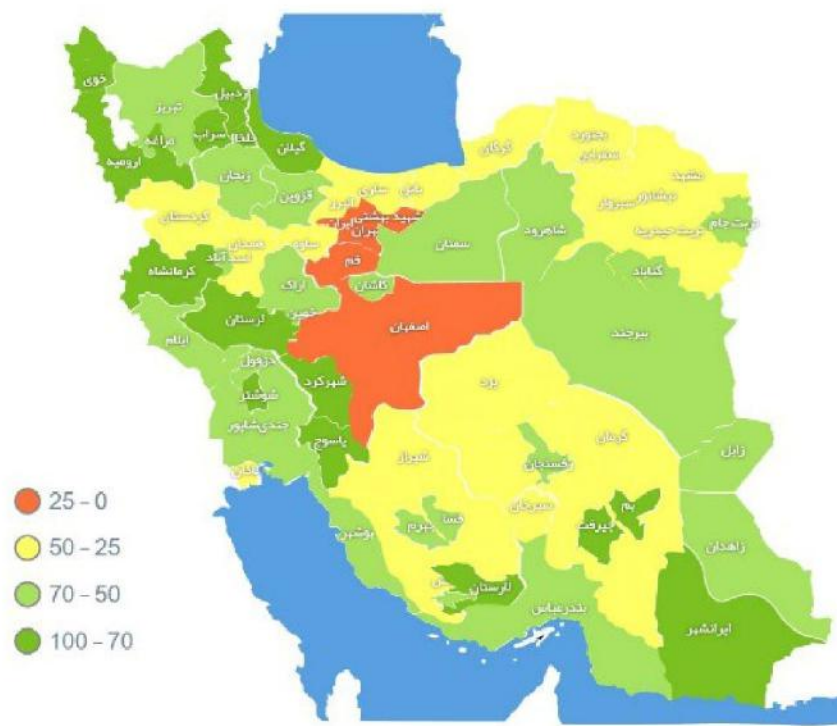


Figure 1: Proportion of the target population screened for COVID-19 by province