



What the European and American health care systems can learn from China COVID-19 epidemic; action planning using purpose designed medical telecommunication, courier services, home-based quarantine, and COVID-19 walk-in centers

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Key point

After weeks of speculation, WHO finally announced a “pandemic level” for COVID-19 distribution. We agree with Watkins, that “catch and isolate” policy is of utmost importance in the current stage but suggest focusing more seriously on preparation and “plan for the worst” part of his suggestions.

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“By failing to prepare, you are preparing to fail”.

Benjamin Franklin
Controlling a contagious disease in each country reflects availability of financial/national resources, health-system infrastructure, cultural differences, ratio of trained medical professionals per population, tight border control, geographic characteristics, pathogen specifications, stage of spread and many other factors. Although one may argue that in dealing with such a diverse issue, we should not compare Chinese health-system with the system present in North America or Europe, we still have a lot to learn from others success or shortcomings when dealing with the current COVID-19 epidemiy.

When dealing with contagious viral diseases, time of action is extremely important and specifically with COVID-19 specifications (long incubation period 2-7, average transmission index 2-3, virus stay alive in the form of respiratory droplets up to 7 days) (1,2). Hellewell et al developed a stochastic transmission model, and assessed the value of contact tracing and case isolation policy using mathematical models stipulating data from COVID-19 outbreak (3). They showed that with low case numbers (<40

cases), 80% success in tracing and complete isolation of the cases, less than 80% success in outbreak control is achievable (3). Based on their model, an increase in cases significantly decreases the success rate of “catch and isolate” policy in controlling COVID-19 spread. This is in concordance with the observations in China.

Daily reported cases show that in majority of Europe and the United States, the distribution of cases has already passed the threshold (3,4), for “catch and isolate” policy to be unsuccessful. The only way we can tackle the COVID-19 is by being steps ahead and prepare for the worst.

The current number of COVID-19 cases is the tip of the iceberg. A large number of the patients either in the incubation period or with mild symptoms are currently moving freely in the societies. Europe and the United States have not been aggressive until quite recently in screening close contacts and potential cases, protecting borders and placing travelers on extended isolation.

We believe the following steps should be taken immediately. The current infrastructure in the majority of Europe and the United States allows these steps to be potentially



practical and successful in controlling this pandemic. While research and development is underway, the United States and Europe should start mass testing the public for any potential virus carriers in close contacts and more importantly in the high-risk professionals by drive-through and walk-in facilities. Public gatherings, social and political events should be cancelled to reduce the risk of virus spread.

We have to divert the mainstream of COVID-19 care away from the hospitals/tertiary-care centers. Creating widely distributed purpose designed walk-in facilities should become a priority. Initial evaluation of the cases, collecting nasal/throat swabs, blood tests, assessing the need for a hospital admission can all be arranged there. While the transit between this ambulatory system and the hospital is going to be handled by ambulance services, transport of patients to the walk-in centers should be organized by either private transports or specially designed courier services with trained drivers complying with isolation and hygienic precautions required for a safe transfer. This designed courier system should be expanded to cover medication, hygienic products and food delivery while positive cases are placed on home-isolation. This brings the focus to necessity of having a sophisticated purposely designed telecommunication system to deliver daily medical updated information to the public, patients and families, answer their questions, arrange logistical steps of care and update the medical system about patient's status while at home-isolation (5).

Placing positive cases with no admission indication at home-isolation relieves unnecessary pressure off the system and reducing the risk of virus spread. Delivering medication, food, information pamphlets and hygienic

supply to the positive/potential COVID-19 cases keeps patients away from society. Chinese experience shows overwhelming the hospitals with high number of cases will increase the spread further. If the health-care authorities and politicians do not treasure the current time, there will soon come a time that the above steps may not be adequate and a true disaster will await us.

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Ethical considerations

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

Conflicts of interest

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