

Infectious Disease Control and Prevention Geographic Information System for the Next War Against SARS

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SARS although seems to be diminishing in Hong Kong, but we should not lower our precaution against it. According to medical experts, SARS will be threatening us for a quite a while and will recur in Hong Kong unless we can find a vaccine to cure it. We should make good use of this time to prepare for the next SARS' attack so that we can take swift and immediate measures to prevent it from spreading. SARS is a contagious disease. It is mainly spread through respiratory droplets and secretions of SARS patients. It can be eliminated if we can control it from further spreading. The risk of infection can be minimized if one takes high precautionary measures against it. To help to control this disease from further spreading and minimize the risk of getting infected, it is important for us to take very high precaution in living, working, and visiting areas that have high incidences of SARS. Knowing locations within our local communities (i.e. living, working, and visiting areas) with a high incidence of SARS will alert us to take the necessary steps to minimize the risk of being infected. This knowledge will help curb the disease from further spreading. Mapping and GIS are well established important tools and methods in helping to control contagious diseases and in identifying and rectifying environmental factors that cause them. Examples of these include the identification of contaminated water pumps for the spreading of cholera in London by John Snow in 1854 and the identification of contaminated ground water by nuclear waste dump in causing cancer in the latter part of 20th century.

In addition to the high dedication of our medical professionals and the collective efforts of the Hong Kong Government and all the citizens in Hong Kong, the publication of the Lists of Buildings with Confirmed/Suspected Severe Acute Respiratory Syndrome Patients by the Health Department also plays an important role in this war against SARS. It can help to alert the residents, workers and visitors to these buildings and surrounding areas to take precaution against SARS and pay special attention to the environmental hygiene of these areas. The importance of these information can be reflected by the high hit rate of the SARS maps homepage (www.hkgisa.org/sars). These homepages are built by the efforts of private companies and research institutes. They play an important role in disseminating the spatial information to the citizen in this critical special moment but they lack authority and resource to continue it when the current wave of SARS is over. For long term war against SARS and other infectious disease, there is a need for the Government to set up a cross-department task force, involving relevant government departments, such as Health Department and the Land Information Centre of the Lands Department, to set up an "Infectious Disease Control and Prevention Geographic Information System" quickly within the new Disease Control and Prevention Centre to prepare for the next wave of SARS attack. This system could supply the necessary spatial information on the distribution of buildings affected by SARS to the public and let them take high precaution and improve the environmental hygiene in these buildings and surround areas. Through spatial analysis and modelling of the location of the confirmed patients, suspected patients and people whom they have close contact with, the system can find help to identify potential infected areas so that the relevant government departments can take the necessary precaution in these areas to prevent this disease from further spreading.