

SARS, H1N1 and COVID-19: Study of China's Airport Epidemic Control

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Abstract. China's response mechanism in terms of epidemic prevention, coordination, and control is worth learning from all countries. Nowadays, the epidemic has distraught people worldwide, especially the COVID-19 outbreak that has caused enormous social and economic losses recently but has not been contained. The risk assessment framework of international airports has significantly improved the efficiency of quarantine inspection. The health and quarantine emergency response mechanism established by the Baiyun Airport Port, Guangzhou, China in the prevention and control of COVID-19 has not only made reasonable attempts and provided valuable experience for the country's ports in dealing with emergent public health incidents but also provided for the frontline health and quarantine work. The establishment of an emergency response mechanism for public health emergencies in the whole society offers a valuable experience.

This paper investigated how China controls the airport when SARS, H1N1, and COVID-19 outbreaks, given the Chinese government's approach to estimate the risk and reduce the possibility of the virus spreading. The paper made use of the risk assessment model to investigate the Baiyun Airport Epidemic Control Framework that introduces how the airport exam the situation of passengers in different processes and response in time to avoid the spread of COVID-19 through a specific flowchart. Using the risk assessment methods, the airport evaluates the factors that may cause an epidemic and attach more great importance to the time period when the number of flights is concentrated. From 12:00 to 14:00 and 16:00 to 18:00, the analysis result reminds them to strengthen the inspection of the epidemic situation of flights and passengers from specific countries and inspection personnel. The control framework helps the airport to build the coordination mechanism and rapid response institution to control the spread of COVID-19. According to the severity of the emergency, the epidemics are divided into three categories for effective management. In the continuous improvement of the health screening and quarantine monitoring system, the airport's examination for COVID-19 cases of entry and exit personnel has also achieved critical progress.

Keywords: China, epidemic, COVID-19, airport, risk evaluation, risk assessment

References:

- Adam, Morag Bell and Lucy Budd. “Airports, localities and disease: Representations of global travel during the H1N1 pandemic”, *Health & Place*, No. 4, (2010):727-735.
- Bell, D.M.I. “World Health Organization Working Group on, and S. Community Transmission of, Public health interventions and SARS spread”, *Emerg. Infect Dis.* No.4 (2004): 1900–1906.
- Chang C Y, Cao C X, and Wang Q. “The novel H1N1 Influenza A global airline transmission and early warning without travel containments”. No.55 *Chinese Sci Bull* (2010): 3030–3036.
- Daniel C. Swine flu jumps continents. *Nature* No.5 (2009): 405-406.
- Huang J H, Wang K L, and Wang B G. “Application of Risk Analysis Method in the Prevention and Control of Influenza A H1N1 at Capital Airport Port”. *Chinese Frontier Health Quarantine* No.6 (2011), 34-35.
- Lap Hang Chung. “Impact of pandemic control over airport economics: Reconciling public health with airport business through a streamlined approach in pandemic control”. *Journal of Air Transport Management.* No.5 (2015): 42-53.
- Longfei Hu, Huiming Wu and Jianming Zhang. “The establishment and development of the emergency response mechanism for the prevention and control of SARS at Baiyun Airport Port”. *Chin J Frontier Health Quarantine* No.5 (2003): 275-280.
- Lu Yongchang, Zhang Jiazhu, and Zhang Mingjiang. “Establishment of Insect-borne Infectious Disease Risk Assessment Index System III”. *Chinese Journal of Frontier Health and Quarantine*, No.4 (2003): 28-30.
- Reynolds, J., 2009, May 29. “Facing Swine Flu Scrutiny. James Reynolds' China”. *BBC News*. Retrieved from: http://www.bbc.co.uk/blogs/thereporters/jamesreynolds/2009/05/facing_swine_flu_scrutiny_1.html
- Varvara A. Mouchtouri, Eleni P. Christoforidou, Maria an der Heiden. “Diseases among Travelers at Points of Entry: Looking for Evidence on Public Health Impact”. *International Journal of Environmental Research and Public Health* (2019): 47-50.
- Xu, Z., Shen, F., Li, X., Wu, Y., Chen, Q., Jie, X. and Yao, M., 2012. “Molecular and microscopic analysis of bacteria and viruses in exhaled breath collected using a simple impaction and condensing method”. Retrieved from: <http://www.ncbi.nlm.nih.gov/pubmed/22848436>
- Zha Daojiong. “Pandemics and International Norms: China’s handling of the H1N1 flu,” *Rajaratnam School of International Studies* (2009):53-56.