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Title page

Strategies for qualified triage station and fever clinic during the outbreak of COVID-2019 in the county hospitals of Western Chongqing

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Running title: Strategies for fever clinic

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Abbreviations:

CT Computed tomography

DR Digital radiography

PCR Polymerase chain reaction

PPE Personal protective equipment

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The outbreak of SARS-CoV-2 infection in China is highly transmissible by airborne droplets and close contact with infected secretions. Essential control of this disease relies on the prompt identification, appropriate risk evaluation, isolation of possible cases and prevention measures for the spread of the virus. The hospital is a high risk area for nosocomial transmission with inappropriate room setup for triaging and diagnosing febrile patients. Chongqing municipality is adjacent to Hubei (the most affected province), with 576 confirmed cases and 22,700 people with close contact history of the disease in Chongqing. Until now, there has been a zero transmission of the infection to any medical staff here. The most vital strategy of minimising the risk of nosocomial infection starts from the triage stations and fever clinics. Here we report the strategies of makeshift for qualified triage stations and fever clinics during the outbreak of COVID-2019 in the 37 county hospitals of Western Chongqing. ^[1-4]

Setup of a triage station

The triage station was required to be located outside the entrance of the outpatient hall with highlighted signs. This location was chosen for better ventilation and more space, mitigating close contact among people by setting one-metre interval lines for queueing. The security guard and the nurse measure the temperature of the people on line using a mobile infrared thermometer. Tents are pitched for further investigation of suspected patients. One tent is for nonfebrile persons and the other is for febrile patients to enter. All people with mobile phone are required to register their identification and other basic information by scanning the QR code next to the queueing line before entry, reducing the time of collecting information, minimizing the risk of potential contamination by touching the pen and paper and also shortening the waiting time. Filling in the information manually is available, with the help of nurses, for people who cannot complete the task electronically. In the tent, a second time temperature measurement using a more precise infrared thermometer is undertaken, to further assess suspected patients and to minimize the risk of contact transmission to medical staff. Routine hand sanitizers are ready to be used at any time. Trained physicians and nurses wearing personal protective equipment (PPE) work together for initial assessment and the differential diagnosis of the fever. A simple, but crucial, questionnaire is designed to assist diagnosing patients (Figure 1 and Supplementary Figure 1). ^[3,6]

General fever clinic and specific fever clinic for the suspected

After assessment, patients with fever or cold-like symptoms with epidemiological history or suspected epidemiological history are referred to the ‘COVID-2019 fever clinic’; other fever patients without epidemiological history are referred to the “general fever clinic”. At the clinics the suspected febrile patient undergoes detailed history taking, physical examination, blood and other specimen collection and imaging. Usually, nasopharyngeal specimen are tested all of the febrile patients, regardless of epidemiological links, to ensure that cases are not mis-assigned at triage. Only trained staff are engaged in specimen collection to guarantee the quality of specimen. Extra backup room is kept to accommodate for any overflow of febrile patient. Besides, routine use of disinfectant wipes, disinfectant spray, UV

light and air disinfecting machines ensure timely cleaning and sterilization. Hospitals are either redesigning and remodelling old buildings or quickly setting up temporary tents or barrack-like rooms at an open area for better classification and circuit of two passages and the three regions of standard fever clinic, dramatically reducing the risks of hospital cross infection.

Measures to limit contact between patients include limit-lines for access to the fever clinic. Also, specific patient routes within the hospital, and a specific CT scanner, were identified for suspected patients. An emergency call is made to the radiology department to ensure that it is prepared to receive the patient, and to notify the technician to wear PPE. After imaging is completed 1000mg/L chloride-containing disinfectant, with 30 min ventilation time, is used prior to the next patient. If an independent laboratory, pharmacy and cashier are not available in the fever clinic, a team of trained staff is designated to deliver the specimen and medication, and to obtain mobile self-service payment. However, all fees are paid by the government once testing SARS-CoV-2 PCR is positive. ^[3,5-6]

One cannot overemphasize the importance of the triage station and fever clinic during the contagious disease outbreak in terms of timely patient management and minimizing the risk of nosocomial transmission. Thus, thanks to qualified triage station and fever clinics altogether with community isolation, quarantine, medical support, COVID-2019 has been rapidly and well controlled in all of the counties in Western Chongqing. ^[7]

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Figure legends:

Figure 1. The triage station area. One-meter interval line with QR code.



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