

### Strategies for Supplying Personal Protective Equipment to Hospitals in Taiwan during The Early COVID-19 Pandemic

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#### Abstract

Personal protective equipment (PPE) provides proper protection for first-line medical and outbreak prevention personnel to ensure their safety. After the outbreak of COVID-19 in 2019, the demand for PPE had increased rapidly, but the international supply was shrinking, causing the panic procuring in the world. After the outbreak of SARS (severe acute respiratory syndrome) in 2003, Taiwan revised the relevant regulations on the prevention and control of infectious diseases, established the PPE three-level (the central government, local governments and hospitals) reserve and dispatch mechanism including the Management Information System (MIS) for outbreak prevention, which requires that the central/local and hospitals should estimate the 30-day PPE safety reserves in case of outbreaks of infectious diseases. During this COVID-19 outbreak, the contingency strategies for outbreak prevention materials include closely monitoring the consumption and reserve situation of PPE in hospitals through MIS, emergency requisition of PPE to expand the central reserve, formulating PPE allocation and replenishment principles to replenish hospitals, and inviting hospitals to assess the actual needs and improvement of safety reserves, etc. We found that the consumption of protective clothing, N95 masks and isolation gowns in the hospitals from January to July 2020 had increased by at least 10 times compared with those during the same period in 2019. The original 30-day PPE safety reserve in the hospitals gradually increased. As of July 2020, the actual inventory of N95 masks in

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hospitals was 2.3 times of the safety reserve, 10.6 times higher for surgical masks, and 1.7 times higher for protective clothing. Comparing the safety reserves in hospitals and medical centers, the adjusted PPE amount in medical centers had increased the most, and the amount of PPE allocated to each medical staff in medical centers had also increased the most. Obviously, the response strategy fulfilled the needs for medical and outbreak prevention in the early COVID-19 outbreak.

**Keywords:** COVID-19, personal protective equipment, Management Information System