

# Parallel Session 3: Preparedness for the Next Pandemic

## T3e - Investigation of Hong Kong's Early Detection, Assessment and Response (S-EDAR) System to the New Emerging Infectious Disease Outbreak COVID-19

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**Introduction and Project Objectives:** Our study aims to inform policy makers how Hong Kong's system of early detection, assessment and response (S-EDAR) to COVID-19 can be enhanced for control during the course of the pandemic at different transmission scenarios, and to inform future preparedness and response plans.

**Methods:** Relevant documents from WHO and other international public health organizations and scoping review of the international literature are used to evaluate the effectiveness and implementation of S-EDAR in Hong Kong with input from policy-makers and relevant stakeholders and comparative case study of government responses to provide real-time input for adjustments in pandemic control (Stage 1); and for an enhanced S-EDAR informed by international and local experts, and a Delphi survey for the feasibility and applicability (Stage 2).  
Inputs from:

- Comparative case studies of government responses in Hong Kong, Japan, Malaysia, South Korea, Shanghai, and Singapore;
- 35 local key informants including policy-makers, healthcare administrators and professionals in public and private sectors, business organizations, and general public/patients;
- 17 local and international experts;
- Analysis of infection surveillance and control data from Centre of Health Protection and Hospital Authority, and assessing effectiveness of screening strategies for inbound travellers

### Results:

#### 1. Comparative case studies

The key lessons from the six jurisdictions highlighted the need for an on-going surveillance system, broaden screening, comprehensive preparedness plans and regular drills, information technology, capacity for testing, contact tracing, isolation and quarantine. Measures should be proportionate to the stages of the outbreak to reduce socio-economic impacts. Relaxation of measures should be based on risk assessment stratified by environmental settings, implemented in stages, and reversible when needed.

#### 2. System dynamics modelling

The simulation suggested that both PCR-polymerase chain reaction test (with a 7-day quarantine) and rapid antigen test screening for inbound travelers is insufficient to control local transmissions at travel volumes in 2019. However, travel volumes at the lower level 1 month before the entry ban of all countries can be controlled.

#### 3. Development of an Enhanced S-EDAR for Hong Kong

From findings of key informant interviews and expert workshops, an Enhanced three component S-EDAR has been developed 1) "Preparedness plan and resilience system", 2) "Readiness system" to mobilize resources, enhance surge capacities and scale-up response, and 3) "Response system" with implementation strategies at government, healthcare and community levels for response actions to be taken by different sectors.

**Conclusion:** The Enhanced S-EDAR will be a robust evolutionary system to enable preparedness, readiness and timely response to the rapidly changing transmission scenarios and dynamic context in the control of COVID-19 and emerging infectious diseases. Its feasibility and applicability will be scrutinized in the Delphi survey of local experts.

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