

Appendices for A Monitoring and Evaluation Guide for Government Response to COVID-19

Appendix 1. Summary of Case Studies

Title	Method	Notable Indicators
Comparison of UK and US in Implementing Nonpharmaceutical Interventions (NPIs) in reducing Mortality and Healthcare Demand ¹	-An individual based model was used to predict mortality and healthcare demand in the UK and US based on the implementation of NPIs	-Mortality rate (overall) -Proportion of cases that are severe and needing critical care -Proportion of total country ICU beds available to accommodate critical cases
Quantifying the impact of community quarantine on SARS transmission in Ontario: estimation of secondary case count difference and number needed to quarantine ²	-Statistical modelling approaches were used to evaluate the effectiveness of quarantine and contact tracing measure on SARS transmission	-secondary case count ratio, secondary case count difference, and number needed to quarantine
Evaluation of the Effectiveness of Surveillance and Containment Measures for the First 100 Patients with COVID-19 in Singapore ³	-Surveillance and containment measures for COVID-19 were evaluated using several indicators	-7-day moving average of time from symptom onset to isolation/quarantine
Impact assessment of non-pharmaceutical interventions against COVID-19 and influenza in Hong Kong: an observational study ⁴	-The transmissibility of COVID-19/Influenza was modelled, with two surveys being conducted during different time periods to evaluate behavioral changes due to implemented interventions and possible implications on transmissibility	-Reduction in incident cases (overall, in linked and unlinked groups, in high-risk groups) -Daily effective reproduction numbers (Rt) of diseases with similar transmission patterns before and after an implementation of NPIs -Number of contacts traced -Number of other secondary cases traced to a confirmed case
Monitoring the severe acute respiratory syndrome epidemic and assessing effectiveness of interventions in Hong Kong Special Administrative Region ⁵	-The infection curve of SARS was estimated using the back projection method to assess the effectiveness of interventions aimed at mitigating the spread for both the general population and some specific groups	-Comparison of incident cases relative to interventions implemented across a timeline with significant events locally and abroad (e.g., banning of flights in different countries) -Decreased average time in the delay of isolation or quarantine of a close contact

¹ Ferguson, Neil M., Daniel Laydon, Gemma Nedjati-Gilani, Natsuko Imai, Kylie Ainslie, Marc Baguelin, Sangeeta Bhatia et al. "Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand." *Imperial College, London*. DOI: <https://doi.org/10.25561/77482> (2020).

² Bondy, Susan J., Margaret L. Russell, Julie ML Laffèche, and Elizabeth Rea. "Quantifying the impact of community quarantine on SARS transmission in Ontario: estimation of secondary case count difference and number needed to quarantine." *BMC public health* 9, no. 1 (2009): 488.

³ Ng, Yixiang, Zongbin Li, Yi Xian Chua, Wei Liang Chaw, Zheng Zhao, Benjamin Er, Rachael Pung et al. "Evaluation of the effectiveness of surveillance and containment measures for the first 100 patients with COVID-19 in Singapore--January 2--February 29, 2020." (2020).

⁴ Cowling, Benjamin J., Sheikh Taslim Ali, Tiffany WY Ng, Tim K. Tsang, Julian CM Li, Min Whui Fong, Qiuyan Liao et al. "Impact assessment of non-pharmaceutical interventions against COVID-19 and influenza in Hong Kong: an observational study." *medRxiv* (2020).

⁵ Chau, P. H., and P. S. F. Yip. "Monitoring the severe acute respiratory syndrome epidemic and assessing effectiveness of interventions in Hong Kong Special Administrative Region." *Journal of Epidemiology & Community Health* 57, no. 10 (2003): 766-769.