

Investigators	Key Findings	Interpretation
<p><u>Controlling Outbreaks Using Isolation and Contact Tracing</u> Objective: Examination of projected effectiveness of case isolation and contact tracing.</p>	<p>In early stages of a local epidemic ~80% of symptomatic contacts must be traced and isolated to control over 80% of outbreaks in the model (control was defined as no new infections between 12 and 16 weeks after the initial cases).</p>	<p>Contact tracing and isolation of cases can be effective in controlling outbreaks. Effectiveness will be lower with intense transmission, more asymptomatic spread and inability to identify cases and contacts in a timely manner.</p>
<p><u>Early Dynamics of Transmission & Control</u> Objective: Characterize early dynamics of transmission in Wuhan, China and exploration of seeding potential</p>	<p>Transmissibility varied during the observation period, with an estimated decline in the time-varying reproductive number [January 23rd 2020] (from R_t 2.4 to ~ 1). Observed cases were substantially less than expected based on pre-intervention, but they were still substantial. Transmissibility measures increased after two weeks, but estimates were less precise. Four or more independent introductions into a new community will lead to at least a ~50% probability of local community outbreaks.</p>	<p>Intense travel restrictions and community interventions including forced isolation and quarantine of cases and contacts, and intense social distance measures modified transmission parameters. Multiple interventions would be needed to mitigate pandemic impact. Early external seeding potential was demonstrated.</p>
<p><u>Huazhong University - Evolving Epidemiology & Non-pharmaceutical interventions</u> Objective: Characterize early dynamics of transmission in Wuhan, China.</p>	<p>Transmissibility was reduced after implementation of travel restrictions and strict population control measurements (time-varying reproductive number, R_t 3.86-3.88 to 1.26 [after Jan 23rd] and 0.32 [after Feb. 2]).</p>	<p>Intense travel restrictions and community interventions including forced isolation and quarantine of cases and contacts, and intense social distance measures including centralized quarantine modified transmission parameters. Role of centralized quarantine needs to be examined in context of the recently implemented measurements. Multiple interventions would be needed to mitigate pandemic impact.</p>
<p><u>Guangzhou Medical University/University of Hong Kong - Viral Shedding</u> Objective: Characterize role of asymptomatic shedding before disease onset on transmission in China.</p>	<p>Substantial shedding demonstrated 2-3 days before disease onset indicating transmission potential. This likely explains the observations of serial intervals (time between disease onset of infector-infectee pairs) shorter than incubation time (time from infection to disease onset).</p>	<p>Contact tracing efforts should consider presymptomatic periods (2-3 days prior to disease onset). Enhanced personal hygiene and social distancing measurements will be important for transmission control.</p>