WHO-China Joint Mission on COVID-19

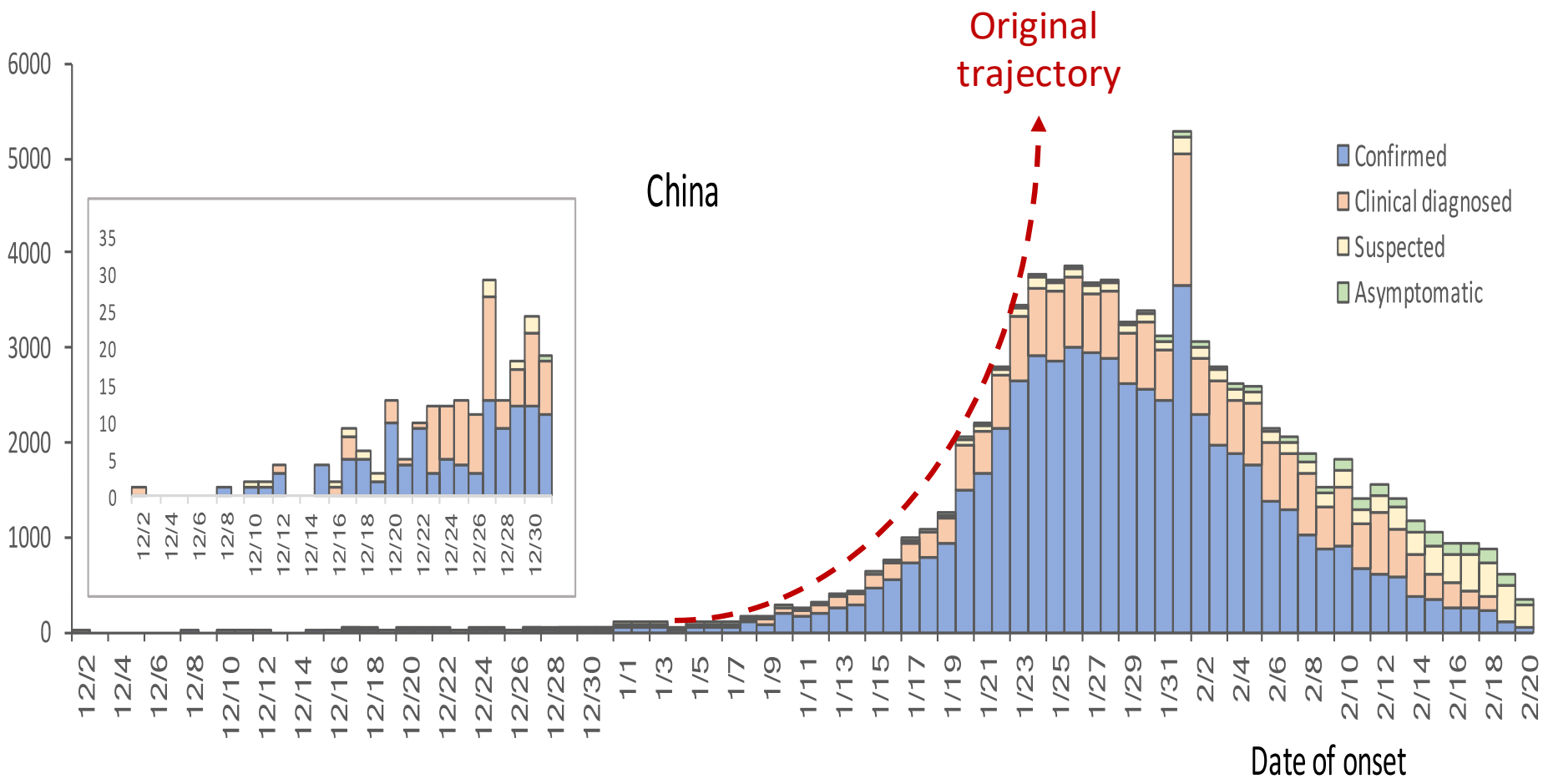
Key Findings

at 3 March 2020

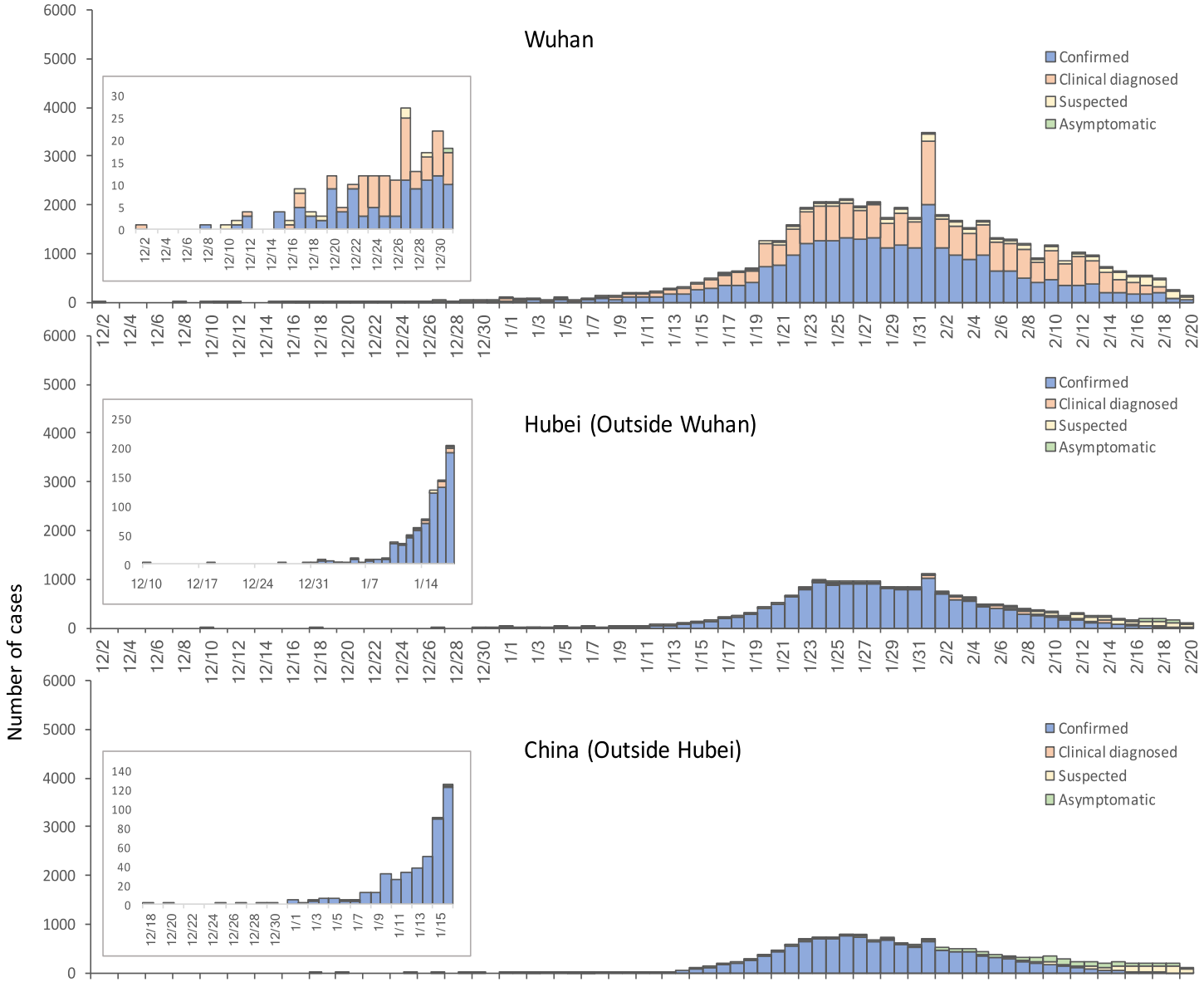
The Team & the Mission

The Mission – 4 provinces, China

China proves it can change the course of COVID-19 outbreaks

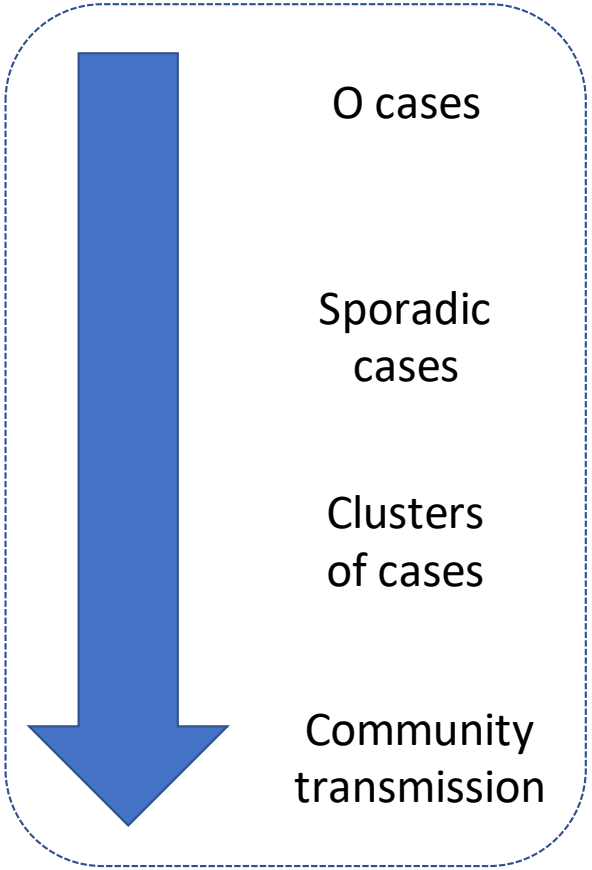


China's differentiated approach averted 100,000s of cases



China is using fundamental public health measures…

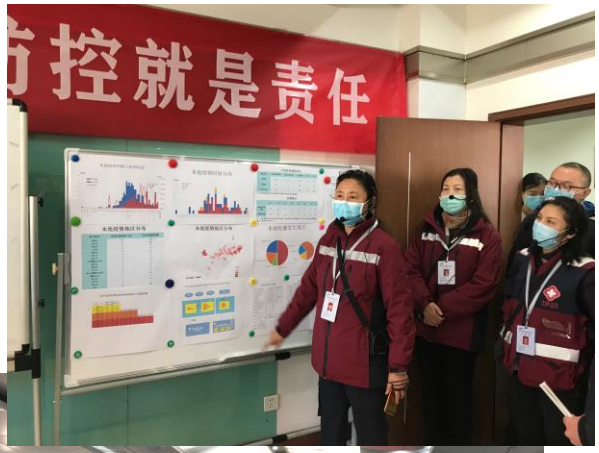
- Universal population measures
- Case isolation & management
- Close contact quarantine
- Suspension of public gatherings
- Movement restrictions



Case Finding & Contract Tracing, China

Case Finding

Contact Monitoring & Support



Case Management, China

Mild cases

Severe cases

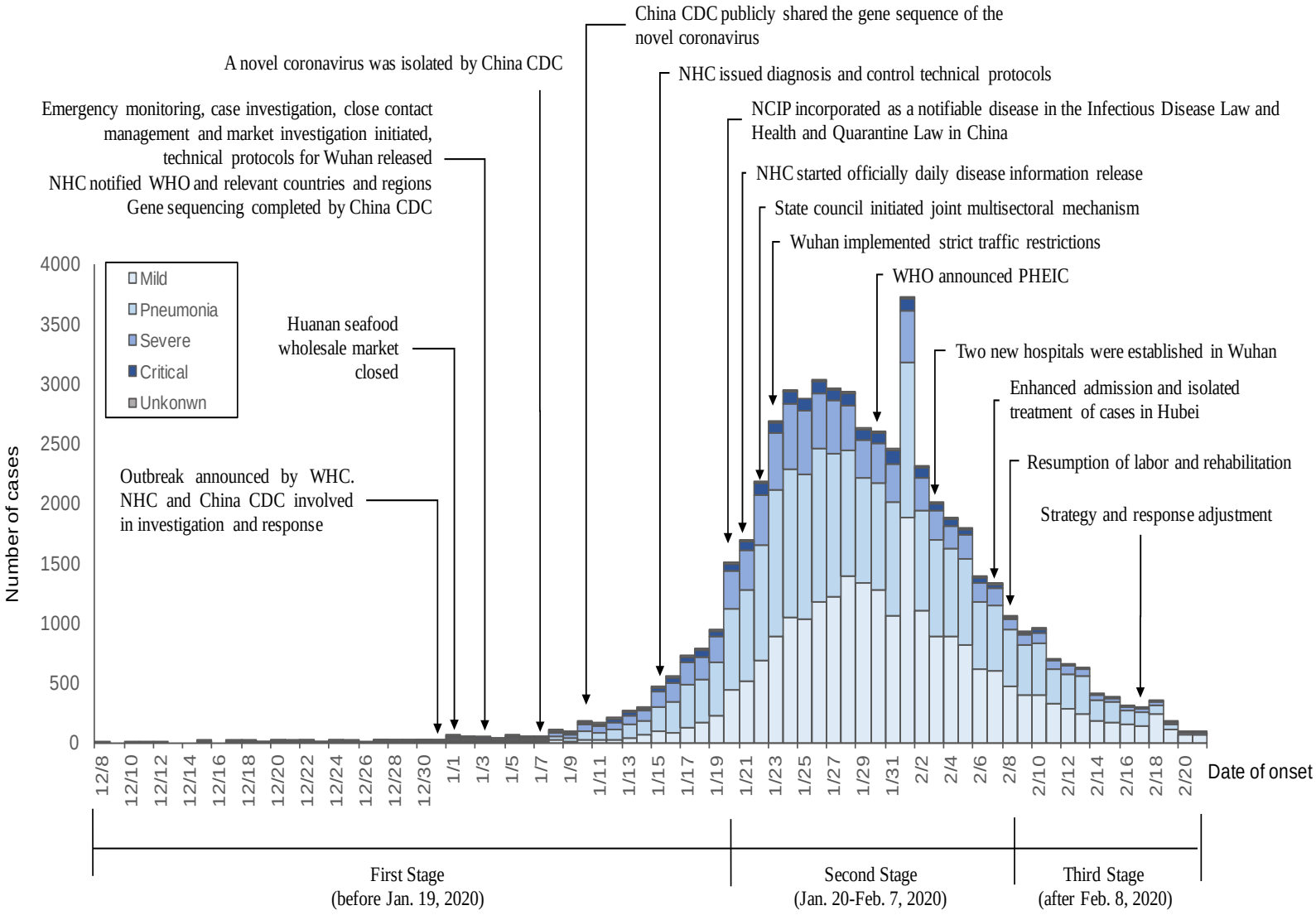

Wuhan
好莱客


Wuhan
Hilton

…with 5 key approaches to optimize for sustainability

- **differentiating** to each context
- mobilizing **collective action**
- **repurposing** the machinery of Government
- ‘turbo-charging’ with **technology**
- agile driving with the **latest science**

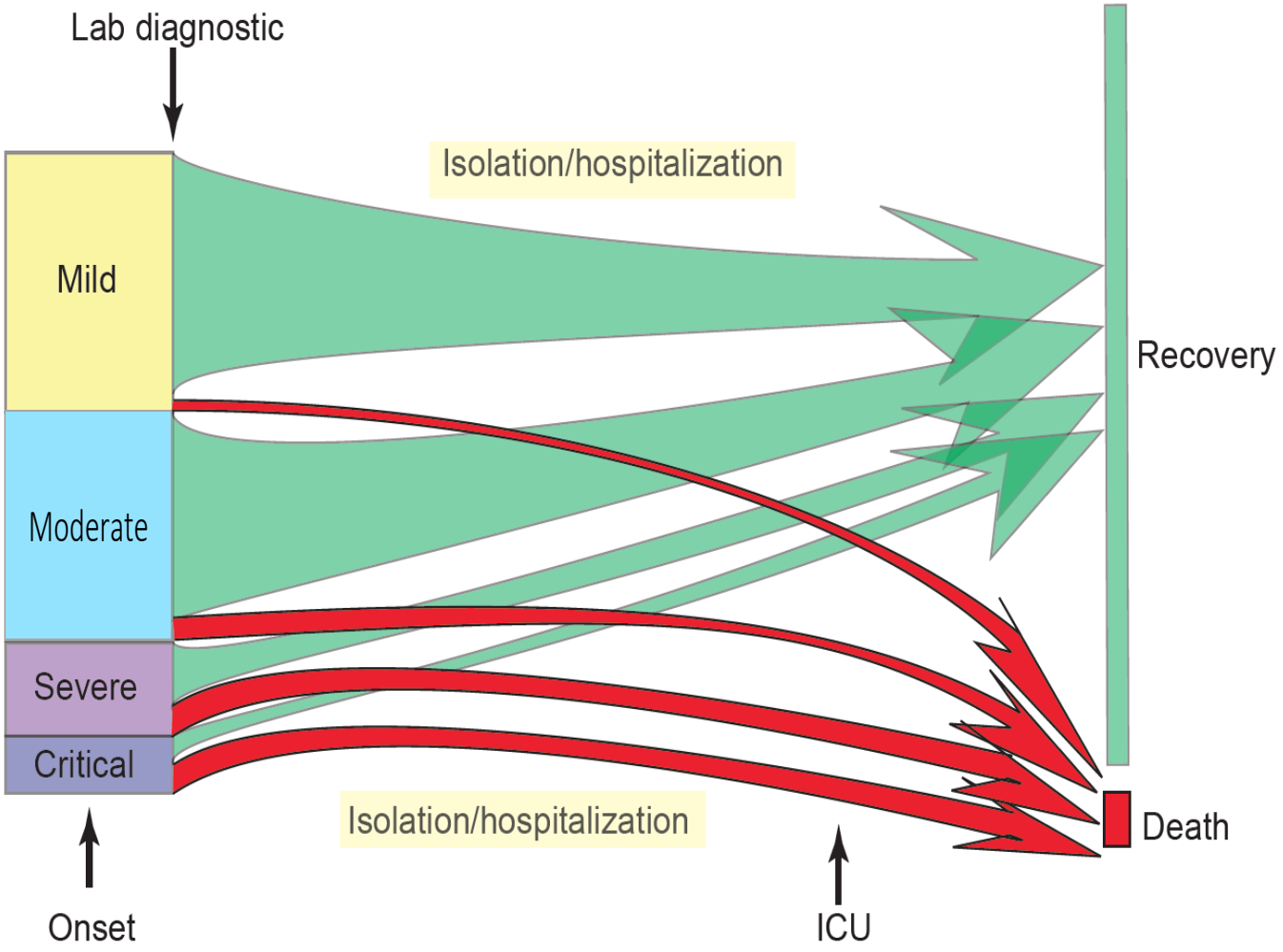
What China's approach looks like in practice



Why China's approach seems to work

- **COVID-19 is not SARS & its not influenza**
- longer serial interval than flu (1-2 vs. 4-5 days)
- 2º attack rate of 3-10% (15%?)
- low prevalence in community samples
- vast majority of cases in close contacts
- potentially smaller role of children

China rapidly adapts strategy to its understanding of COVID-19



In China, COVID-19 readiness goes beyond pandemic flu preparedness

- the ‘readiness mindset’
- immediate capacity (beds, oxygen, lab, CTs, PPE)
- massive workforces for case finding/contact tracing
- a fully aware & engaged population
- access to the best expertise

The big takeaway:

COVID-19 can & should be contained

Some Epidemiologic & Technical Insights, China

Some key epi/technical insights from China (1 of 3)

Transmission dynamics:

- there does not appear to be substantial virus circulation in **the community** (e.g. only 0.14% of 320,000 samples in Guangdong from Jan-Feb)
- the vast majority of cases arise from **close contacts** of symptomatic cases; 1-5% of 38,000 close contacts develop COVID-19 (based on carefully followed contacts in 3 areas)
- transmission in most settings is driven by **family-clusters** (i.e. 75-85% of clusters); we found no examples of children transmitting to adults
- the most careful studies of **2^0 household attack rates** suggest it was 10% early in the outbreak and fell to 3% with faster isolation
- transmission in other **closed settings** is happening but is not the major driver in China (e.g. nosocomial infections, nursing homes, prisons, restaurants)
- **school** outbreaks have not been a feature of this outbreak – this may simply be because of the closure of schools during most of this outbreak

Some key epi/technical insights from China (2 of 3)

Natural history:

- at **diagnosis**: approx. 80% are mild/moderate; 15% severe; 5% critical
- **progression**: approx. 10-15% of mild/moderate cases become severe, and approximately 15-20% of severe become critical
- **average times:**
  - from exposure to symptom onset is 5-6 days after infection;
  - from symptoms to recovery for mild cases is 2 weeks;
  - from symptoms to recovery for severe cases is 3-6 weeks;
  - from symptoms onset to death is from 1 week (critical) to 2-8 weeks.
- truly **asymptomatic** infection appears to be rare (e.g. 1-3%)
- an estimated 75% of 'asymptomatic' cases soon progress to disease
- **children** tend to have milder disease than adults; although COVID was less frequent in children & we did not see onward transmission from children, this may be an artifact due to school closures & other factors

Some key epi/technical insights from China (3 of 3)

Virology

- virus shedding is highest early in the course of disease (vs. SARS shedding which peaks at least 5 days post onset)
- virus shedding can be detected in the 24-48 hours prior to disease onset
- virus can be isolated from stool but there is not epidemiologic evidence of fecal-oral transmission
- virus shedding usually continues for 7-12 days in mild/moderate cases, and for >2 weeks in severe cases