

Covid 19/SARS-CoV 2

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HEIC team

Timeline

- December 31, 2019 – China CDC and WHO alerted for cluster of pneumonia – ruled out avian influenza, SARS etc
- January 7, 2020 - causative pathogen identified
- January 14, 2020 – First case in the US by date of illness
- January 23, 2020 – Chinese government limited movement Wuhan
- January 30, 2020 WHO declared this outbreak a Public Health Emergency of International Concern

Figure 1. Countries, territories or areas with reported confirmed cases of COVID-19, 08 March 2020

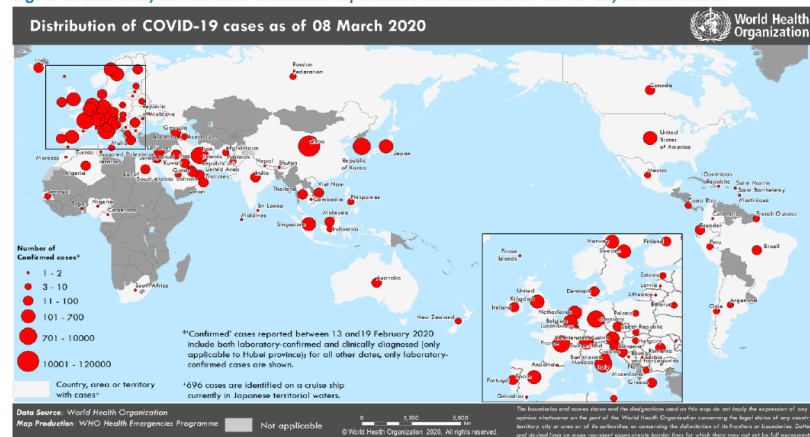
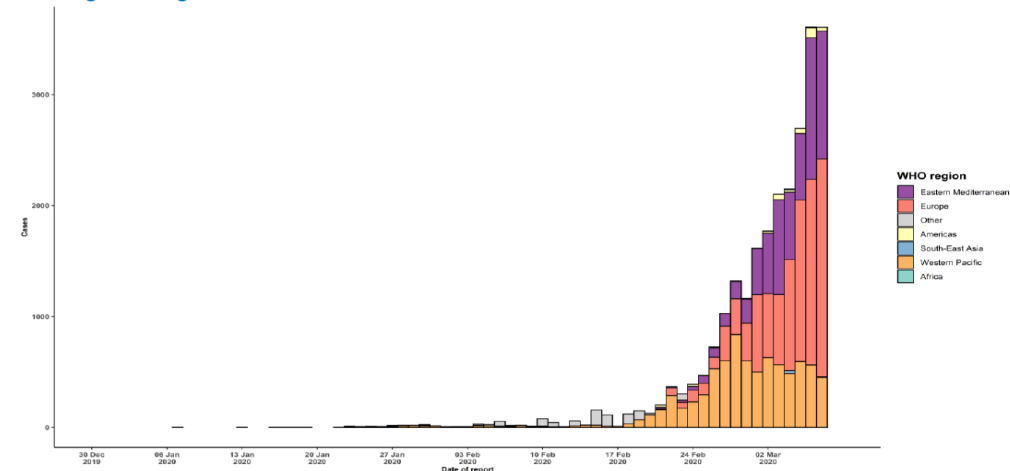


Figure 2. Epidemic curve of confirmed COVID-19 cases reported outside of China (n=24,727), by date of report and WHO region through 08 March 2020



Eastern Mediterranean,
Europe, Western Pacific

Epidemiology

- Incubation period – 5.6-7.7days travelers, 2-7days subset with known exposure, WHO report 5-6 days
- Severity – WHO report - 80% mild/asymptomatic, 13.8% severe, 6.1% critical
- Reproductive number – @ 2.2 -2.68
- Case fatality rate – China crude fatality rate 3.8% (17.3->0.7%), really 2%, lab confirmed 1.4%,
- Close contact transmission – Symptomatic - 10 pts, 445 close contacts active monitoring for sx 2/54 household contacts (10.5% of household contact), WHO report 3-10% household attack rate, 1-5% contacts, 0/11 HCW unprotected in Hong Kong no transmission
- Asymptomatic transmission – asymptomatic transmission case reports, serial interval 4.0-4.6 based on 20 pairs

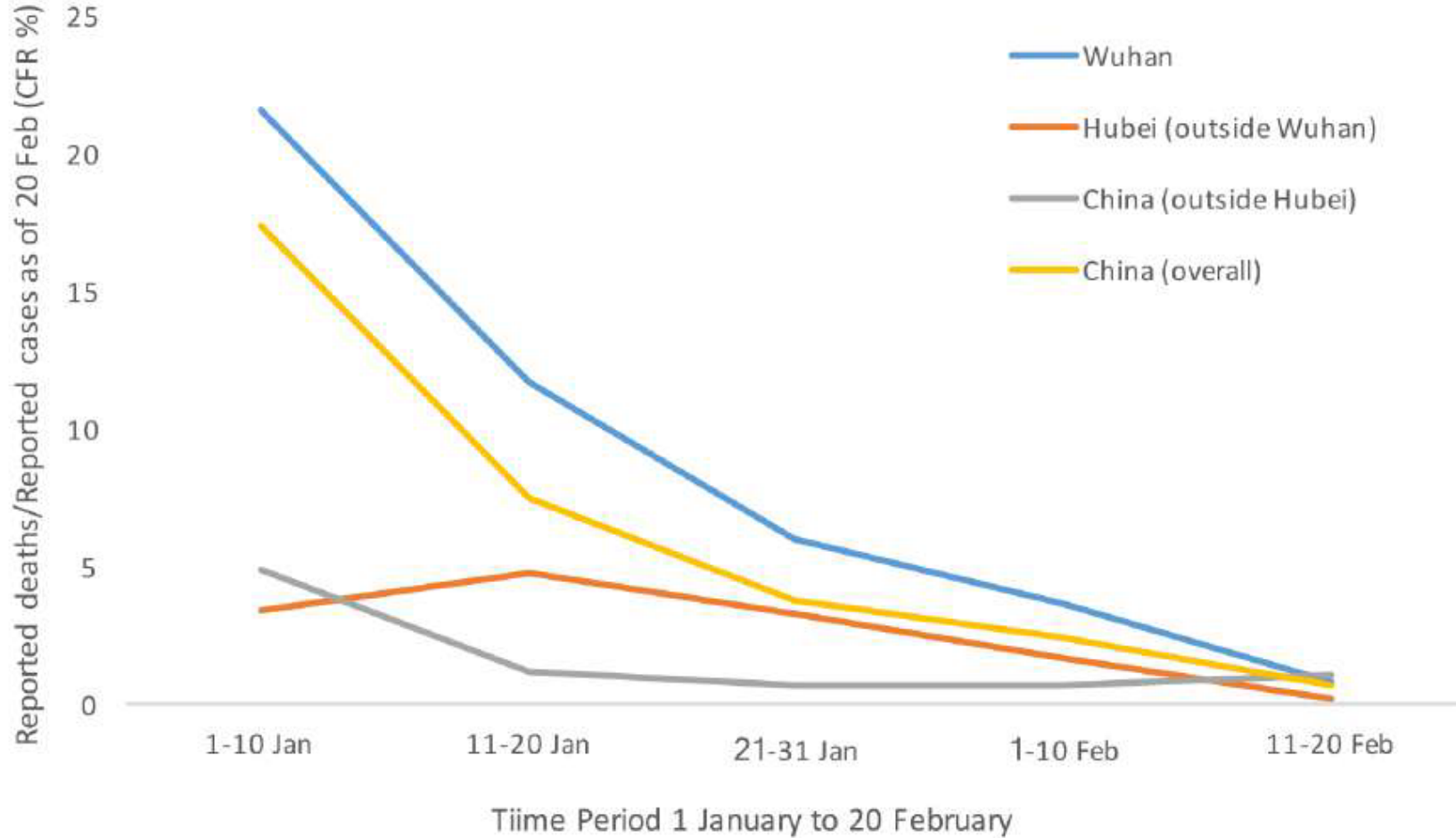


Figure 4 Case fatality ratio (reported deaths among total cases) for COVID-19 in China over time and by location, as of 20 February 2020

MDH prioritization

At this time, based on current local epidemiology, MDH is using the following criteria to prioritize testing at MDH:

- Person who had close contact with a laboratory-confirmed COVID-19 patient within 14 days of onset **AND** either fever or signs/symptoms of a lower respiratory illness
- Person with travel to a country with a CDC Level 2 or 3 Travel Health Notice or an area with confirmed ongoing community transmission within 14 days of onset **AND** has fever and signs/symptoms of a lower respiratory illness **AND** tested negative for influenza on initial work-up
- Person who resides in a nursing home or long-term care facility **AND** who has either fever or signs/symptoms of a lower respiratory illness **AND** who tested negative for influenza on initial work-up **AND** a respiratory virus panel negative for all pathogens **AND** no alternative diagnosis

When should you be thinking about it?

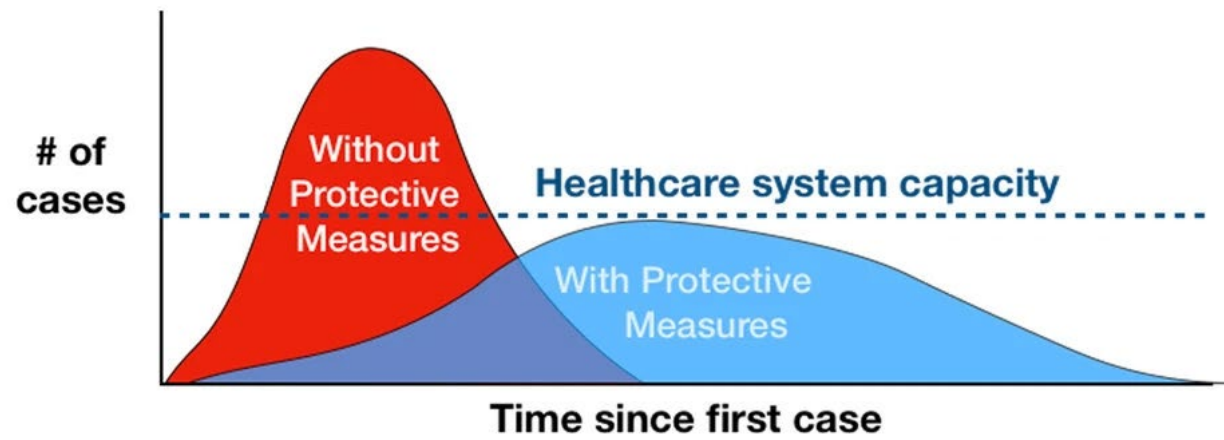
	Li NEJM 1/20/2020	Huang Lancet 1/24/2020	Wang JAMA 2/7/2020	WHO report with CCDC	Guan NEJM 2/28/2020
	n= 425	n=41	n=158	n= 55924	n= 1099
Risk factors					
male		73%	54%	51.10%	58%
Hunan market exposure		66%	9%		
smoking		7%			15%
Any comorbidity		32%			24%
Diabetes		20%	10%		7%
HTN		15%	31%		15%
CVD		15%	15%		3%
Age				median 51	median 47
COPD			3%		
Symptoms					
Fever		98%	99%	88%	44%/89%
Chills				11%	12%
Cough		76%	60%	68%	68%
Dyspnea		55%	31%	19%	19%
Myalgia		44%	35%	15%	15%
sputum production		28%	27%	33%	34%
Headache		8%	7%	14%	14%
Hemoptysis		5%		1%	1%
tachypnea		29%	median 20		
Fatigue			70%	38%	38%
Sore throat		14%	17%		14%
nasal congestion				5%	4%
anorexia			40%		

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Lab abnormalities					
WBC count			4.5K		4.7K
Lymphopenia			0.8K		1K
Platelet			163K		168K
CRP					61%
LDH elevation			median 261		41%
AST >40			median 24		22%
ALT >40			median 31		21%
CK			median 14		14%
elevated creatinine					2%
elevated D-dimer			median 203		46%
elevated bilirubin					10%
Radiology CT					
any			100%		86%
GGO					20%
bilateral patchy shadowing					52%

Laboratory testing

- RTPCR test
- MDH capacity
- JHH testing
- Commercial laboratory



Adapted from CDC / The Economist

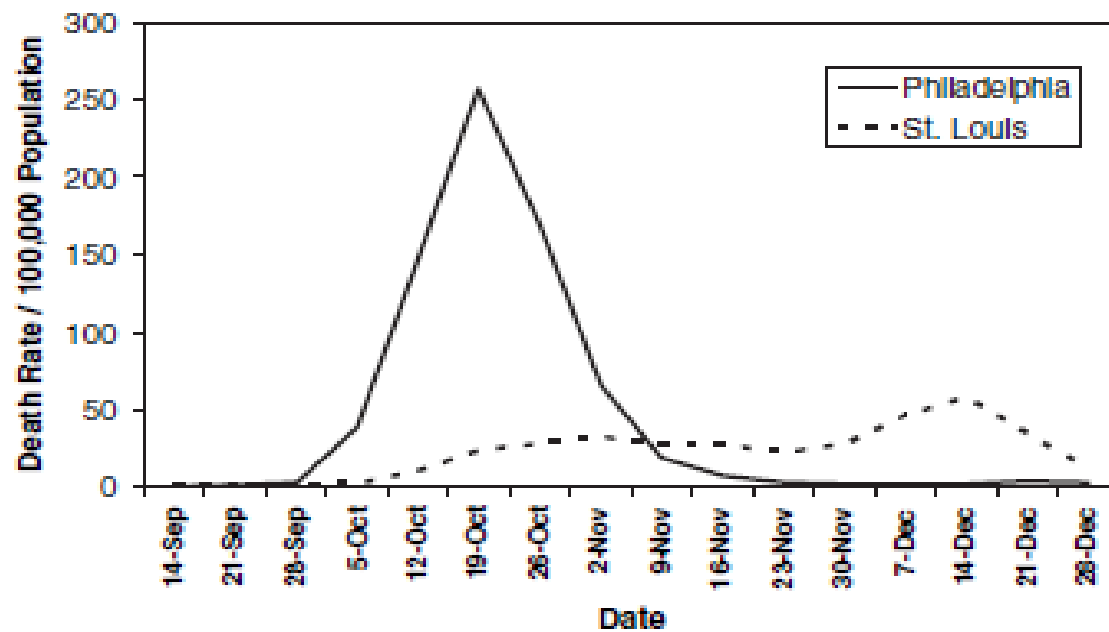


Fig. 1. Excess P&I mortality over 1913–1917 baseline in Philadelphia and St. Louis, September 8–December 28, 1918. Data are derived from ref. 10.

Pandemic planning

- Keep minimally ill covid pts outside hospital
- Reduce minimize elective visits/procedures – telehealth
- Operational capacity – workforce, space, covid and non covid supplies
- Social distancing
- Testing strategies
- Conserve supplies

Thank you!

Questions?



Neil Diamond: Hands
 CDC: Yes, wash them for at least 20 seconds
 Neil Diamond: Touching hands
 CDC: No, please don't touch hands
 Neil Diamond: Reaching out
 CDC: Avoid that too
 Neil Diamond: Touching me
 CDC: Oh hell
 Neil Diamond: TOUCHING YOU
 CDC: We're doomed

<https://ourplnt.com>

