Executive Overview

Dr. Mazziotta
COVID-19 Update

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First Cases and Spread

• December 31, 2019 Chinese officials noted a cluster of cases of acute respiratory illness in persons who visited the Hunan animal and seafood market in the city of Wuhan, Hubei province, in central China.

• January 7, 2020 Chinese officials confirmed that a novel coronavirus was associated with this outbreak.
  • January 23, 2020 movement in and out of Wuhan was limited.

• By January 30, 2020 there were over 7,711 confirmed cases with 170 deaths in China.
  • 83 cases in 18 countries
  • WHO declared a Public Health Emergency of International Concern.
Spread within China

Confirmed Cases Outside Hubei (n=8,656)
- Wuhan-Related Exposure
- Wuhan-Unrelated Exposure

Date of Symptom Onset

China CDC Weekly Report February 17, 2020
COVID-19 Incubation Period

Average 5 day incubation period
Range 2-14 days

Guan NEJM 2020
### Age of Confirmed Patients in China
**2/11/20**

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Cases N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9 years</td>
<td>416 (0.9)</td>
</tr>
<tr>
<td>10-19 years</td>
<td>549 (1.2)</td>
</tr>
<tr>
<td>20-29 years</td>
<td>3,619 (8.1)</td>
</tr>
<tr>
<td>30-39 years</td>
<td>7,600 (17.0)</td>
</tr>
<tr>
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<td>8,571 (19.2)</td>
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<td>50-59 years</td>
<td>10,008 (22.4)</td>
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<tr>
<td>60-69 years</td>
<td>8,583 (19.2)</td>
</tr>
<tr>
<td>70-79 years</td>
<td>3,918 (8.8)</td>
</tr>
<tr>
<td>≥80 years</td>
<td>1,408 (3.2)</td>
</tr>
</tbody>
</table>

*China CDC Weekly Report February 17, 2020*
COVID19 Clinical Symptoms

• Fever (83-98%)
• Cough (46-82%)
• Myalgia or fatigue (11-44%)
• Shortness of breath (31%)
• Less common symptoms: diarrhea, productive sputum
• Potential for worsening clinical course during second week of symptoms

Chen Lancet 2020; Huang Lancet 2020; Guan NEJM 2020
COVID-19 Disease Severity

- 36,160 cases (81%) reported mild symptoms
- 6,168 cases (13.8%) reported severe symptoms
- 2,087 cases (4.7%) were critically ill
- Case fatality higher among those with comorbid conditions (2-12%) compared to those with no comorbidities (0.9%)
- Case fatality higher in Hubei province (2.9%) compared to other provinces (0.4%)

China CDC Weekly Report February 17, 2020
## Mortality of Confirmed Patients in China

2/11/20

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Cases N (%)</th>
<th>Deaths N (%)</th>
<th>Case Fatality Rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>44,672</td>
<td>1,023</td>
<td>2.3%</td>
</tr>
<tr>
<td>0-9 years</td>
<td>416 (0.9)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10-19 years</td>
<td>549 (1.2)</td>
<td>1 (0.1)</td>
<td>0.2</td>
</tr>
<tr>
<td>20-29 years</td>
<td>3,619 (8.1)</td>
<td>7 (0.7)</td>
<td>0.2</td>
</tr>
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<td>30-39 years</td>
<td>7,600 (17.0)</td>
<td>18 (1.8)</td>
<td>0.2</td>
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<td>40-49 years</td>
<td>8,571 (19.2)</td>
<td>38 (3.7)</td>
<td>0.4</td>
</tr>
<tr>
<td>50-59 years</td>
<td>10,008 (22.4)</td>
<td>130 (12.7)</td>
<td>1.3</td>
</tr>
<tr>
<td>60-69 years</td>
<td>8,583 (19.2)</td>
<td>309 (30.2)</td>
<td>3.6</td>
</tr>
<tr>
<td>70-79 years</td>
<td>3,918 (8.8)</td>
<td>312 (30.5)</td>
<td>8.0</td>
</tr>
<tr>
<td>≥80 years</td>
<td>1,408 (3.2)</td>
<td>208 (20.3)</td>
<td>14.8</td>
</tr>
</tbody>
</table>

*China CDC Weekly Report February 17, 2020*
COVID-19 Treatment

- Corticosteroids
- Gamma globulin
- Chloroquine
- Lopinavir + ritonavir
- Inhaled alpha interferón
- Ribavirin
- Arbidol (aka Umifenovir)
- Remdesivir

Xu BMJ 2020
COVID-19 Recovery

- Median hospital duration 12 days
  - ARDS 3.4%
- Median time from onset to recovery is 2 weeks for mild illness
  - 3-6 weeks for severe or critical illness

Figure 2: Timeline of 2019-nCoV cases after onset of illness

Guan NEJM 2020; Huang Lancet 2020; WHO report
COVID-19 Transmission

• Based on knowledge of other coronaviruses (SARS and MERS)

• Person to person via respiratory droplets among close contacts
  • Within 6 feet of a patient with SARS-COV-2 for a prolonged period of time
  • Having direct contact with infectious secretions from a patient with SARS-COV-2 (sputum, serum, blood, respiratory droplets)
  • SARS-COV-2 has been detected in stool but clinical significance is unknown
  • No reports of airborne transmission

• Routine environmental cleaning and disinfection is appropriate

• $R_0 \sim 2$

Asymptomatic Transmission

Figure: Chronology of symptom onset and identification of positive SARS-CoV-2 findings on qRT-PCR and CT among the family cluster
qRT-PCR=quantitative RT-PCR.

Pan Lancet Inf Dis 2020; Zhu NEJM 2020; Bai JAMA 2020
WHO data

Figure 2. Epidemic curve of COVID-19 cases (n=249) identified outside of China, by date of onset of symptoms and likely exposure location, 21 February 2020
First case of community transmission

Coronavirus cases of unknown origin found in California, Washington and Oregon

There's now a "strong possibility" of local transmission in the US

By Mary Beth Griggs | Updated Feb 29, 2020, 9:08am EST

A researcher works on developing testing for the novel coronavirus at a lab in New Jersey. Photo by Kena Betancur/Getty Images
Current Los Angeles Area COVID-19 cases

• Los Angeles County Department of Public Health (LACDPH) confirmed 6 cases in LA County during their press release today
  • Cases are all linked exposures with travel or someone who has traveled
  • No community spread at this time
  • To date, there have been 7 confirmed cases in LA County
  • No confirmed cases at UCLA Health at this time
• LACDPH declared a local public health emergency to support response efforts
## COVID-19 screening: Persons Under Investigation

<table>
<thead>
<tr>
<th>Clinical Features</th>
<th>Epidemiologic Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever or signs/symptoms of lower respiratory illness (e.g., cough or shortness of breath)</td>
<td>Any person, including health care workers, who has had close contact with a laboratory-confirmed COVID-19 patient within 14 days of symptom onset</td>
</tr>
<tr>
<td>Fever and signs/symptoms of a community-acquired lower respiratory illness (e.g., cough or shortness of breath) requiring hospitalization</td>
<td>A history of travel from affected geographic areas (see below) within 14 days of symptom onset</td>
</tr>
<tr>
<td>Fever with severe acute community acquired lower respiratory illness (e.g., pneumonia, ARDS) requiring ICU care without alternative explanatory diagnosis. (Must have negative rapid, influenza/RSV tests; and a negative molecular respiratory panel if this testing is available at the facility)</td>
<td>No source of exposure has been identified</td>
</tr>
</tbody>
</table>

**Affected Geographic Areas* with Widespread or Sustained Community Transmission:** China, Iran, Italy, Japan, and South Korea. Last updated February 28, 2020

*Affected areas are defined as geographic regions where sustained community transmission has been identified. Relevant affected areas will be defined as a country with at least a CDC Level 2 Travel Health Notice. See all [COVID-19 Travel Health Notices](https://www.cdc.gov/travel/covid-19/).


2. The LAC DPH COVID-19 evaluation criteria differ from the CDC’s and are intended to prioritize SARS-CoV2 testing in a setting of limited local testing capacity. Providers should keep in mind that these evaluation criteria were developed to identify patients at the highest risk for COVID-19.

COVID-19 Preparedness at UCLA

• Screening all patients in emergency room and ambulatory clinics for travel history and symptoms

• All patients with fever and respiratory symptoms should be provided a mask to wear on arrival to Ambulatory Clinics and the ER

• Emergency Operations Plan has been activated and Command Center opened
COVID-19 Infection Prevention Precautions

• Identify, Isolate, Inform
• Negative pressure isolation
  • If room not available, immediately isolate patient in a room with a closed door
• Recommended PPE
  • N-95 or PAPR
    • Surgical mask if not available
  • Face shield
  • Gloves and gown
If patient meets CDC PUI definition, the EID IP physician on-call will review and coordinate testing with LACDPH

- Clinic identification → EID IP physician on-call will provide appropriate direction on patient transport

- Emerging Infectious Disease (EID) Response is activated

- Safety monitor oversight

- Just-In-Time training on PPE and safety protocols
Diagnosis of COVID-19

- RT-PCR
  - Upper respiratory: Nasopharyngeal swab and oropharyngeal swab
- Done in coordination with EID team
- Testing is currently only done by local public health laboratory and only for symptomatic patients who meet the CDC definition

http://publichealth.lacounty.gov/acd/docs/nCoVChecklist.pdf
Masking

• Masks should be provided to patients with fever and respiratory symptoms while they are in a health care setting

• Masks should only be worn when providing patient care for patients on droplet precautions and N95 respirators for airborne precautions

• It is not appropriate to remove masks, N95 respirators, or other supplies for personal use outside of UCLA Health facilities

• CDC and other public health agencies do not recommend use of masks outside of a health care setting
Prevention

• Perform good hand hygiene
• Continue to screen patients for respiratory symptoms and travel history
• Use droplet and contact precautions for any patient with respiratory illness
  • Modify precautions based on diagnosis and IC 002 policy
• If patient meets CDC PUI definition, notify the EID IP physician on-call
COVID-19 Next Steps

• Communication
  • FAQs and Call Center activation

• Diagnostic testing capacity
  • Worried well requesting testing

• Coordination with UCLA undergraduate and graduate campus

• PPE supply management

• Education & training
Where to get more information?

• Email updates will be regularly sent
• UCLA Health COVID-19 webpage(s):
  • Internal – Mednet homepage banner
• UCLA Campus Bruin Safety Online (BSO):
  • https://www.bso.ucla.edu/
• CDC and LACDPH websites for COVID-19
Transmission in Health Care Workers

• As of 2/20/20 2,055 COVID-19 laboratory confirmed cases among HCW in 476 hospitals across China
  • 88% in Hubei
  • Outside of Hubei more frequent

• Healthcare settings do not appear to be a major source of transmission to HCW
  • Many exposed at home

• However transmission within long-term care facilities, prisons, and other group settings are a concern

WHO Joint Mission on COVID19.