

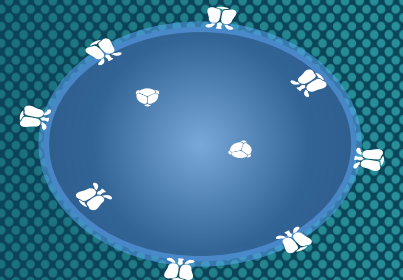


University of Washington
Public Health Capacity Building Center



ITECH Discussion of COVID-19: April 6, 2020

Matthew Golden, MD, MPH
Director, PHSKC HIV/STD Program
Professor of Medicine, University of Washington
Faculty, I-TECH



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I-TECH

International Training and Education Center for Health

Agenda

- Evolving evidence related to asymptomatic infections
- Review changing guidelines on PPE use

WHO Guidelines

- Updated March 27, 2019 – No significant changes
 - Sick patients to prevent contamination of the surrounding area when they cough or sneeze.
 - Healthcare workers - During discrete episodes of direct patient care that may result in close contact to patients with respiratory symptoms - doff after each interaction.
 - Not outside of direct patient care or housekeeping.
 - Conserve PPE

PPE: Who Needs PPE?

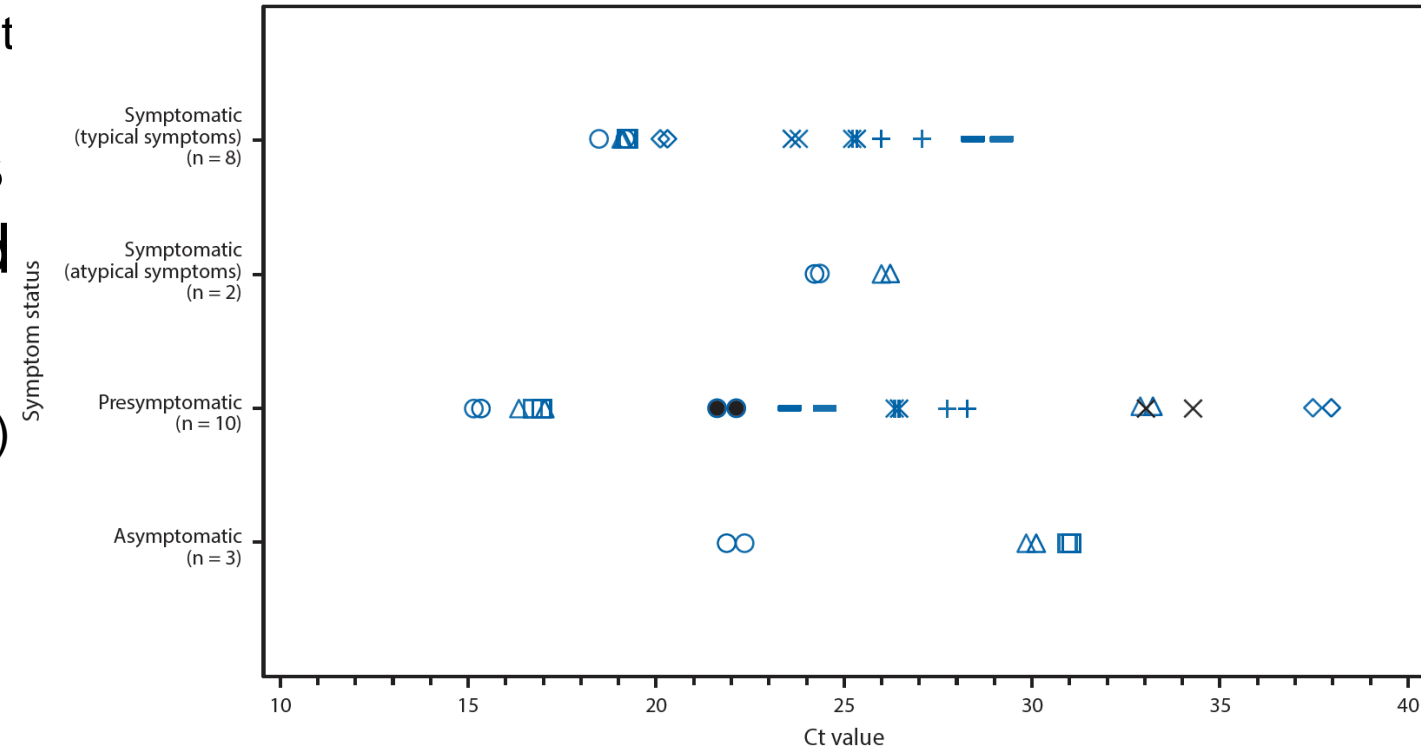
	PPE Recommended*
Clinical care & visitors symptomatic persons	Yes
Cleaners rooms of patients with Covid-19	Yes
Triage of patients for symptoms as they enter healthcare facility	No
Care of asymptomatic patients	No
Driving in a car with other healthcare workers	No
Administrative staff in healthcare facilities	No

PPE includes masks, gloves, gown and eye shield

For more detailed description see WHO guidance: Rationale use of PPE for Covid19 – on intranet site

Increasing Evidence that Covid-19 Can be Transmitted by Persons who are Symptomatic

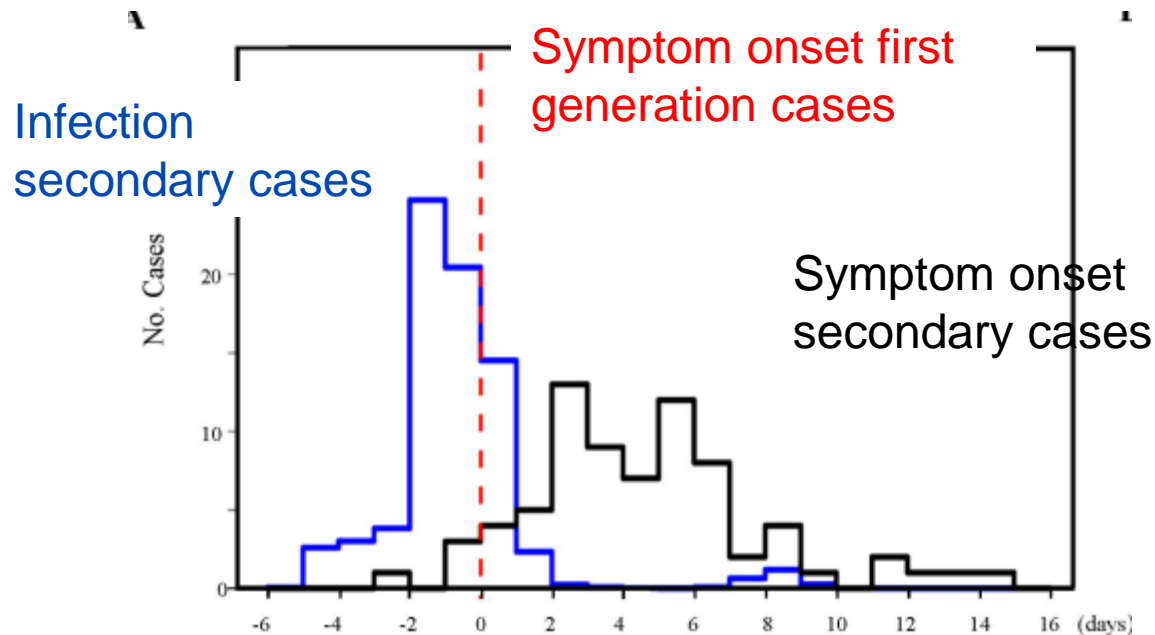
- Viremia present 1-2 days prior to onset of symptoms (Anderson R. Lancet 2020)
- Cruise ship outbreak – 634 cases – 52% asymptomatic when tested – ~17.9% never developed symptoms (Mizumoto K. Euro Surv. 2020)
- Nursing home outbreak King County – 13 (57%) of 23 cases asymptomatic – 7/10 asymptomatics developed symptoms in the next 7 days (Kimball MMWR 2020)



Quantity of viral shedding not clearly associated with presence of symptoms

Increasing Evidence that Covid-19 Can be Transmitted by Persons who are Symptomatic

- Analysis of subset of cases with well-defined exposure (3d period) while visiting Wuhan or time limited contact to a case
- 50 1st generation cases and 74 second generation cases
- Back calculate onset of infectiousness based on estimated incubation period
- Estimated 73% cases transmitted by infected people before symptom onset



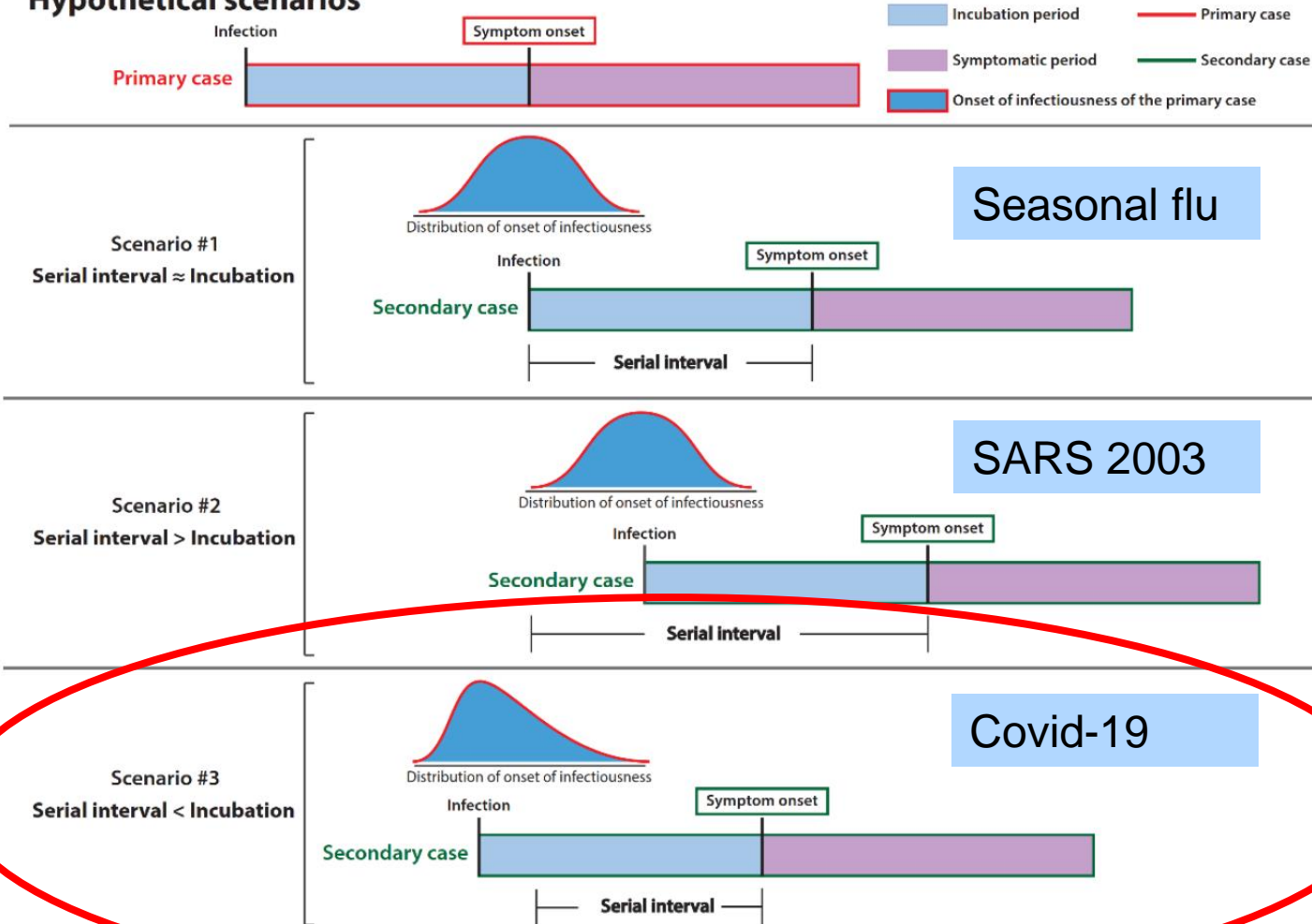
The number and percentage of secondary cases with infectious date before or after the symptom onset of their the first-generation cases.

Time interval	No. Cases	Percentage (%)
On symptom onset date	14	18.9
Before	54	73.0
1 day	20	27.0
2 days	25	33.8
3 days	4	5.4
> 3 days	5	6.8
After	6	8.1
1 day	2	2.7
2 days	1	1.4
3 days	0	0.0
> 3 days	3	4.1

Xia, et al. medRxiv
2020.03.06.20031955.

Pre-Symptomatic Transmission May be Common

Hypothetical scenarios

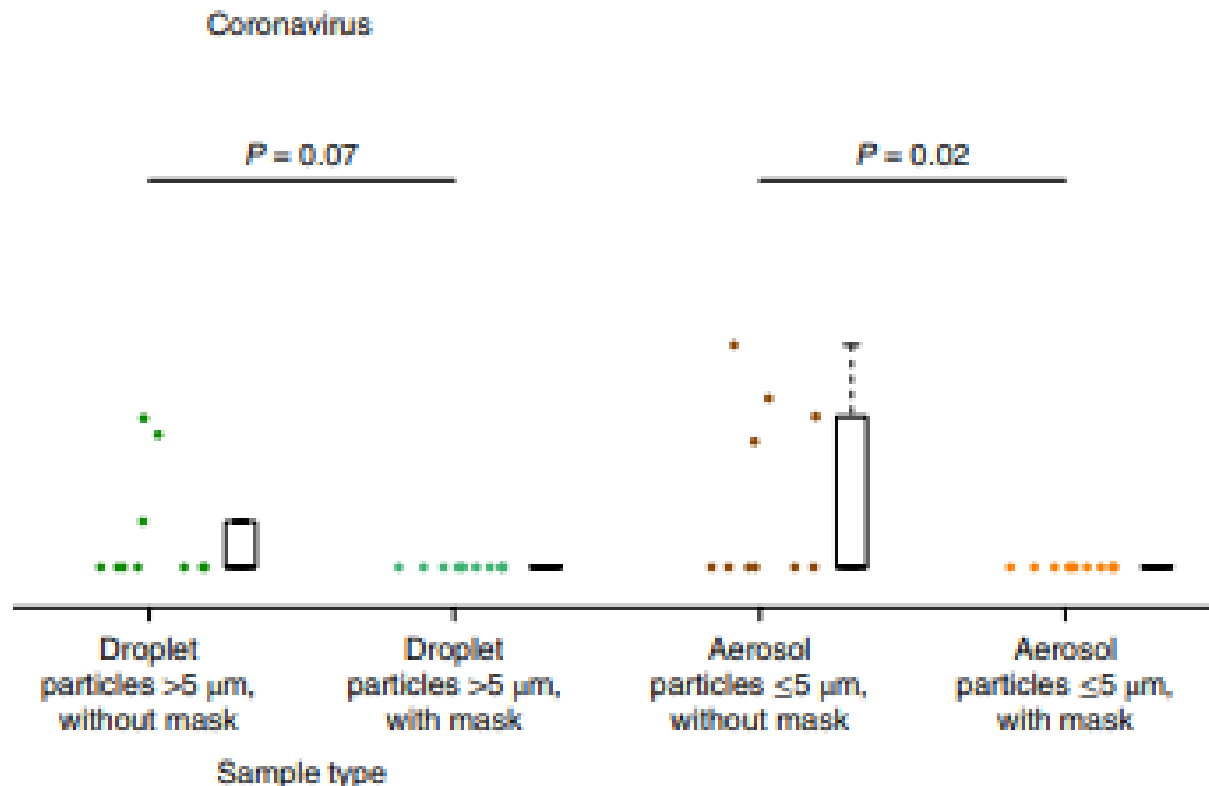


Key Idea – If the time between symptom onset in linked cases is shorter than the incubation period (time infection to symptoms), then some of the transmission has to occur prior to the transmitting case's onset of symptoms

Coronavirus May be in Aerosols (Not Just Droplets) but is Blocked by Surgical Masks

NATURE MEDICINE

BRIEF COMMUNICATION



- Patients with symptoms of acute respiratory virus infections enrolled
- Breath into a bioaerosol collecting device – distinguishes >5μm (droplet) from ≤5μm (aerosol) particles
- Bad news: Seasonal coronavirus detectable in aerosols
- Good news: Surgical masks decrease detection
- Is Covid-19 the same?

Implications of Asymptomatic Shedding & Transmission

- Transmission before onset of symptoms appears to be common in at least some instances
 - Studies evaluating the percentage of cases transmitted prior to development of symptoms may not be generalizable
 - Seems likely that some significant number of infections are transmitted by people who are asymptomatic
- Isolating symptomatic persons will not avert all transmission
- Suggests need for broader-based interventions
 - We were already doing that – social distancing
 - Some of the change in PPE policy is driven by science, and some of it is being driven by other things – need to be responsive to the population's desire to do something

New Policies in the US

- 3/27/20 – WHO – No change in recommendations
- 3/29/20 - UCSF – All staff and visitors should wear a medical mask while in the hospital
- 4/1/20 - UW – Optional use of medical mask by all staff – 1 mask per shift
- 4/3/20 - CDC
 - CDC recommends wearing cloth face coverings in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies) especially in areas of significant community-based transmission.

Implications of Evolving Standards

- Anticipate continued increase in demand for PPE and staff concerns
- Need to conserve and expand supply of PPE
 - Procure PPE as possible
 - Reuse of sterilized N95s
 - Develop cloth PPE as a last resort (if legal)
- New ITECH general guidance document on intranet

DISCUSSION



The NEW ENGLAND JOURNAL *of* MEDICINE

Perspective

Universal Masking in Hospitals in the Covid-19 Era

Michael Klompas, M.D., M.P.H., Charles A. Morris, M.D., M.P.H., Julia Sinclair, M.B.A.,
Madelyn Pearson, D.N.P., R.N., and Erica S. Shenoy, M.D., Ph.D.

As the SARS-CoV-2 pandemic continues to explode, hospital systems are scrambling to intensify their measures for protecting patients and health care workers from the virus. An

tients. There are two scenarios in which there may be possible benefits.

The first is during the care of a patient with unrecognized Covid-19. A mask alone in this