



Dover Shores CERT Meeting

Focus on COVID-19

March 12, 2020



from: Hitch-hikers Guide to
the Galaxy by Douglas Adams

- Panic is not a helpful response.
- We're not all going to die.
 - Most Americans will have modest/minimal symptoms.
- A little fear is OK
 - If it reminds you to prepare and do the right things.

Agenda

- Useful information sources
- What we know about COVID-19
- Avoiding the disease
- If you get sick
- Planning for quarantine – if necessary
- What should CERT do to aid the community?
- Make your own hand sanitizer

Useful Information Sources

Stick with official primary sources – rumors do more harm than good

- [CDC \(HHS Center for Disease Control\)](#)
 - Very complete coverage
 - Descriptions, To do, US situation, specific audiences
- [Orange County Department of Health](#)
 - Local statistics, otherwise mediocre
- [LA County Department of Health](#)
 - LA statistics, better than OCDH
- [CA Dept of Public Health](#)
 - CA statistics, OK general information
 - Guidance documents, insurance info
- [New England Journal of Medicine](#)
 - Good articles for medical audience, COVID-19 articles free
- For the morbidly curious: [John's Hopkins Map](#)
 - Global map and statistics

All links available on <https://dovershorescert.org>

What do we know about COVID-19?

General Information

- Names
 - COVID-19 is the disease caused by the virus
 - CO: Corona VI: virus D: disease 19: year identified
 - SARS-CoV-2 is the official name of the virus
 - severe acute respiratory syndrome coronavirus 2
 - previously known as 2019 novel corona virus – 2019-nCoV
- Origin
 - Related to corona virus in bats but transmission path unknown
 - First observed in Wuhan, China Dec 1, 2019
 - Irrelevant – officially now more new cases outside China than inside
 - Interesting fact: suspected patient 0 had no connection to market (Lancet)
 - Conspiracy theory speculation is rubbish and irrelevant
- Distribution
 - Global - most active cases China, Italy, Iran, Korea
 - US: in most states but most widespread in WA, CA, NY
 - Distribution unknown because insufficient testing
 - OC: 2 presumptive, 4 confirmed cases as of 3/12

What do we know about COVID-19?

Symptoms

- Appear 2-14 days after exposure
- CDC:
 - Fever
 - Cough
 - Shortness of breath
- NEJM: 3/10 German Study:
 - 7/9 upper respiratory
 - 2/9 lower respiratory
 - Pharyngeal virus shedding peaks day 4
 - Sputum virus shedding persists
 - Can appear like common cold
- Complications
 - moderate to severe pneumonia
 - respiratory failure
 - septic shock / organ failure

- 88 percent had a fever
- 68 percent had a dry cough
- 38 percent had fatigue
- 33 percent coughed up phlegm
- 19 percent had shortness of breath
- 15 percent had joint or muscle pain
- 14 percent had a sore throat
- 14 percent headache
- 11 percent had chills
- 5 percent had nausea or vomiting
- 5 percent had nasal congestion
- 4 percent had diarrhea
- Less than one percent coughed up blood or blood-stained mucus
- Less than one percent had watery eyes

WHO China Joint Mission 2/20

What do we know about COVID-19?

Incubation / Contagion

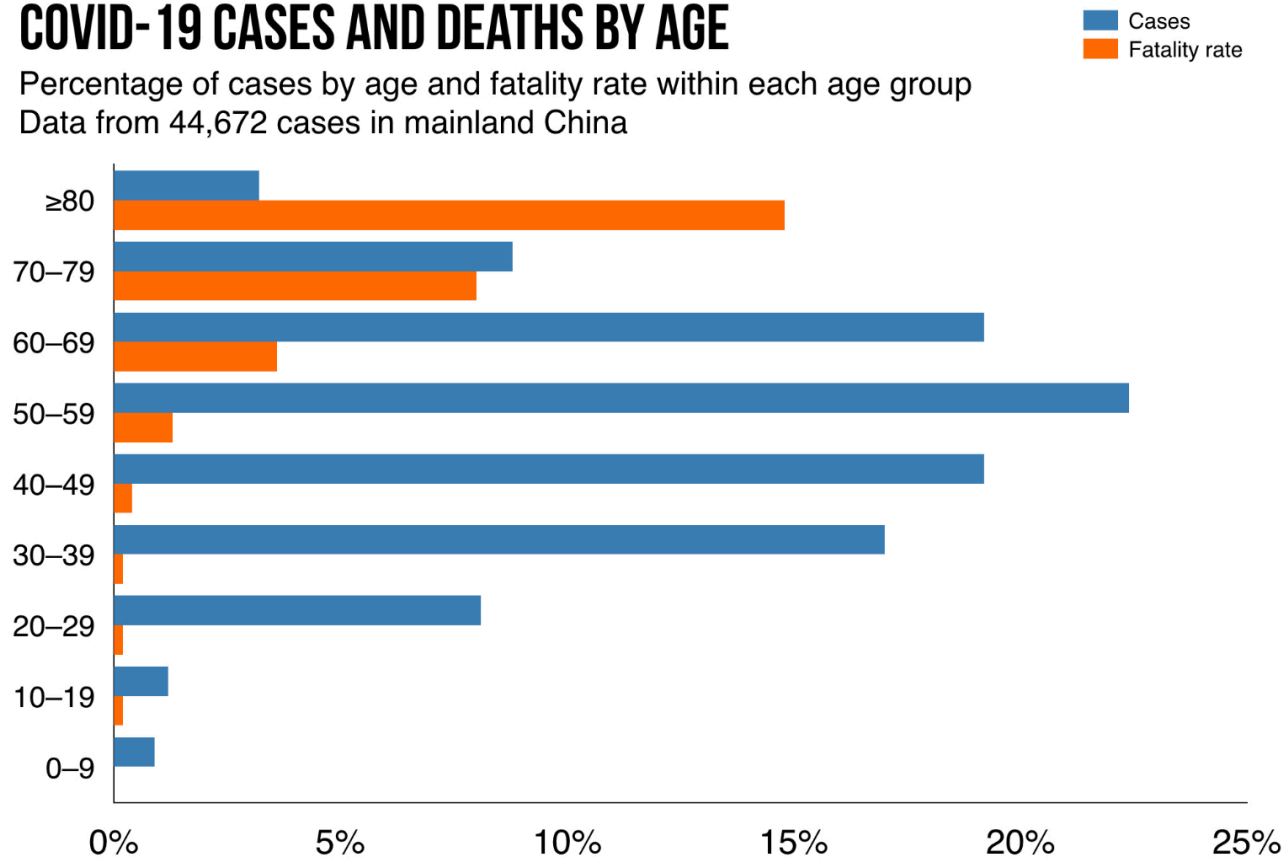
- Median incubation period: 5.1 days
- In 97.5% symptoms appeared with 11.5 days
 - Annals of Internal Medicine study of China data
- Contagion peaks on day 4 after symptoms
- Maximum period of viral shedding: 37 days
- How long are people sick?
 - Varies / unknown
 - Median hospitalization 12 days (China)

What do we know about COVID-19?

Mortality

COVID-19 CASES AND DEATHS BY AGE

Percentage of cases by age and fatality rate within each age group
Data from 44,672 cases in mainland China



Chinese CDC quoted by Ars Technica



What do we know about COVID-19?

Mortality per underlying health (Chinese data)

- Overall with no underlying health: 0.9% fatal
- Cardiovascular: 10.5% fatal
- Diabetes: 7.3% fatal
- Chronic respiratory disease: 6.3% fatal
- High blood pressure: 6.0% fatal
- Cancer: 5.6% fatal
- Overall men: 2.8% fatal, overall women: 1.7%
 - Other studies quoted cases: 58% men, 42% women

Data quoted in Ars Technica

What do we know about COVID-19?

Current Mortality

	Cases	Deaths	Mortality
US	1323	38	2.9%
Germany	2078	3	0.1%
Korea	7869	66	0.8%
Italy	12462	827	6.6%
Global	128343	4720	3.7%

John's Hopkins data as of 3/12 4:44 PM

Avoiding the Disease

How does SARS-CoV-2 spread?

- Spreads through respiratory droplets
 - From the mouth or nose when you breathe heavily, talk, cough, or sneeze
- Once in the air they descend rapidly
 - Typically 1 m (3 ft) rarely more than 2 m (6 ft)
 - Does not linger in the air
- Droplets still contagious when they land on surfaces
 - Persistence varies with surface, temperature, humidity
 - Risk of contagion declines over time
 - Typically 2-5 days, 9 days possible, >28 days in cold temps
 - Persists better in high humidity, cold temperatures
- Other ways to spread
 - Does exist in feces but appears not to be a major risk
 - Corona virus not typically spread through sex but risk unknown
 - Mother/fetal transmission is possible – risks not well understood
 - Handled food can transmit but does not appear a major factor
 - Heating or reheating rapid kills virus
- Other notes
 - Unlike flu asymptomatic do not appear to be major spreaders – [WHO](#)
 - China: 1% had no symptoms and 75% of those get symptoms in 2 days
 - Infection rate R_0 estimated at 2-2.5. Flu $R_0 \sim 1.3$. Measles $R_0 \sim 12-18$
 - Pets: 1 reported case of dog tested positive world wide – very low risk

Avoiding the Disease

Avoiding Acquiring Infection

- Disease enters the body through nose, eyes & mouth
- THINK – how do I keep droplets from those places?
 - Avoid infected people who can transmit through the air
 - Avoid transferring drops from surfaces to the face from your HANDS
- Keep the places you touch virus free
 - Sanitize whenever possible in public places, use tissues
 - Grocery carts, chairs, hand-rails, door-knobs
 - Especially places fingertips touch – keypads and screens
- Keep your hands clean
 - Wash your hands every time you touch un-sanitized surfaces
 - Wash for at least 20 seconds with SOAP (2 happy birthdays)
- Avoid touching your eyes, nose, mouth – *good luck with that*
- STAY HOME! Avoiding people minimizes risk
 - If you have to go out, stay at least 6 ft from ANYONE
- Get a flu shot
 - Flu shot does not protect from COVID-19 but avoids needless worry – flu is still active
 - Flu can lead to pneumonia which dramatically increases COVID-19 risk

Avoiding the Disease

Will a face mask protect me?

- Two kinds of masks: surgical and N95
- Think about the droplets – they are very small
 - Virus particles not filtered by surgical masks
- N95 mask alone is not enough
 - What about your face, hands, etc?
 - N95 must be properly fitted to do any good
 - You also need face shield, gloves and gown
 - And know how to use them...
- Recent meta-analysis suggests N95 no better than surgical
- Save the masks for the professionals
 - They are going to need them...
- Surgical masks do protect others from YOU - partly

If you get sick...

- Call your doctor
 - CDC:
 - If you think you have been exposed to COVID-19
 - AND... fever or respiratory illness (cough, breathing issues)
 - Call ahead before visiting doctor, ER, or prompt care
 - If you need emergency transport – warn 911 you are sick
- **STAY HOME!**
 - Avoid school, work, restaurants etc.
 - If you must go out, wear a face mask (*good luck finding one*).
 - If you test positive for COVID-19, stay home until approved to leave by doctor or authorities
- **Isolate yourself at home – 1 room, 1 bathroom**
 - Cover your face if possible
 - Dispose of tissues in lined trash can
 - Do not share dishes, utensils, towels, bedding or wash thoroughly with soap
- **Everyone in your home is at VERY HIGH RISK**
 - Consider moving healthy but vulnerable people out of the house – it may be too late – get tested
 - This includes home help – be considerate of their needs
- **CDC: limit contact with pets – no kissing or snuggling**
 - Unknown if COVID-19 can be spread by pets
 - Your pet might carry your germs elsewhere in the house

If you get sick...

Caring for someone with the virus

- Very high likelihood you have it too
 - Your symptoms may be delayed 2-14 days
 - Minimize outside contact
- Treat symptoms as you would flu – hydration, cold/flu pills
 - Call doctor if difficulty breathing
- Minimize close contact with patient – 6 ft
- Strict personal hygiene
 - Wash hands frequently
 - Sanitize surfaces with any possible exposure
- When is it safe to release patient from isolation?
 - Patient is free from fever without fever-reducing medications
 - Patient has no symptoms like cough
 - Tests negative on 2 consecutive respiratory specimens 24 hours apart
- Consider wearing gloves and disposable gowns
 - Remember CERT training on how to remove gloves
- Consider getting Alexa device like Amazon Show
 - Can "drop in" without requiring patient to answer



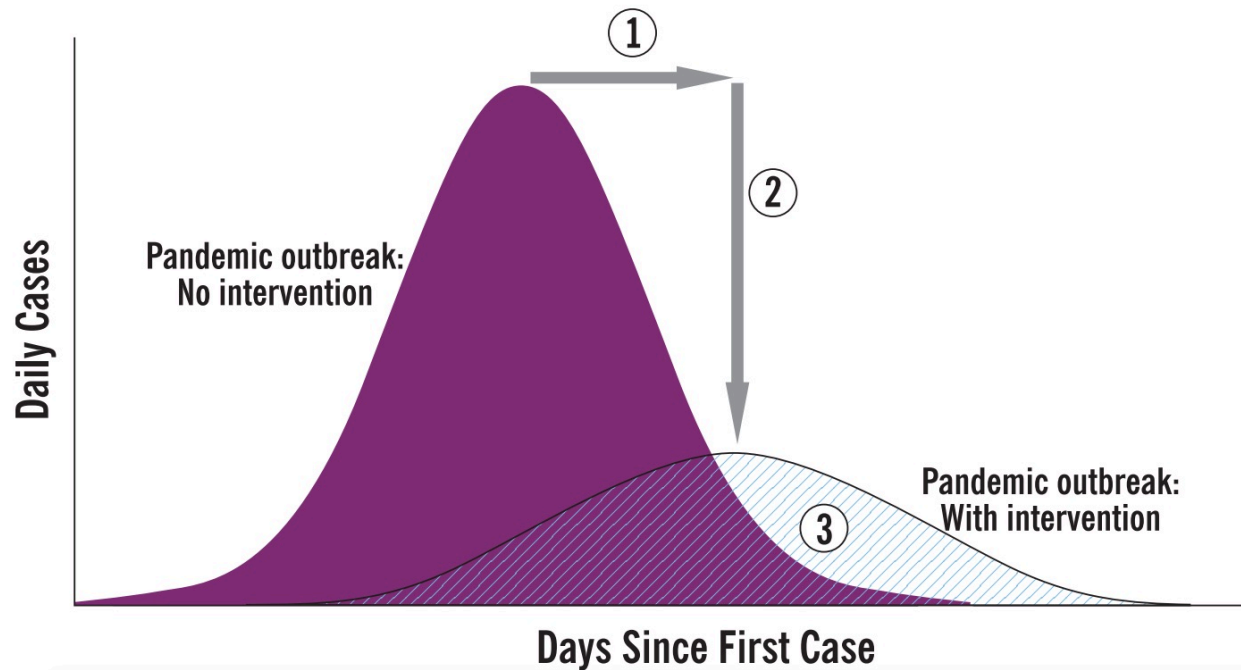
Planning for a Quarantine

Why do we quarantine?

Figure 1.

Goals of Community Mitigation

- ① Delay outbreak peak
- ② Decompress peak burden on hospitals / infrastructure
- ③ Diminish overall cases and health impacts



Planning for a Quarantine

Gather supplies

- How long will quarantine last?
 - Potential serial transmission – 12 days? per person
 - What if whole community on quarantine?
- Food supplies
 - Stock enough food to minimize external contact
 - Healthy choices, enough variety
 - Consider trying out food delivery services
- Cleaning supplies
 - Usual stuff, toilet paper, clothes and dish cleaners
 - Disinfectants: sprays and wipes
- Internet Connectivity
 - Internet will be your link to the world
 - Multiple devices so sick person and others have separate devices
- TV, books, games – especially for kids
- Medicine: over the counter and prescription
- Money
 - Cash for deliveries, tips

Planning for a Quarantine

Daily life under quarantine

- Nobody goes in or out
 - No visitors
 - No cleaning or service people
- Cleaning
 - May be on your own without help
 - Messy patients: bedding, dishes, etc
 - Heat kills virus – wash with hot as possible
- Paying bills
 - Consider Venmo or other cash transfer services
 - Capability to pay all bills online – no trips to post box
- Food / Drinks
 - Who cooks if everyone is sick?
 - GI symptoms not common but diarrhea reported - hydration

What can or should CERT do?

- We don't have the right equipment
- We're not trained to use it even if we did
- CERT members should never enter quarantined homes
- Potential: deliver stuff to quarantined homes
 - Leave supplies on stoop or porch
 - Don't go inside
 - Don't talk to patients through screens or open door
 - Use a tissue to ring doorbell – *remember fingertip safety*
- Be informed and answer questions
 - Talk to neighbors
- Should we create flyer?

Sanitizer

How to use

- Washing with soap for 20 seconds is better than sanitizer
- What doesn't work
 - DIY recipes based on essential oils
 - Anti-bacterials based on Benzalkonium chloride
 - Baby-wipes – no alcohol
 - Booze less than 120 proof – most is 80 proof
 - Botanicals
 - Kid-friendly options
 - Vinegar
- Using sanitizer – do's and don't
 - Dry your hands before using sanitizer
 - Wetness protects the virus
 - Don't apply sanitizer to dirty or greasy hands
 - Don't be stingy – cover all surfaces and rub till dry

Sanitizer

DIY: What works

- Alcohol > 60% after dilution
 - 91% isopropyl - use 2/3 alcohol with 1/3 additives
 - Add aloe vera or glycerin to avoid hand issues (sticky)
 - If you have 71% isopropyl use undiluted
- Bleach (sodium hypochlorite)
 - CDC: 1/3 cup bleach per gallon water
 - Harmful to hands – use gloves
- Hydrogen peroxide 3%
 - Can be sprayed on surfaces
 - Leave on surface for several minutes