

2019 NOVEL CORONAVIRUS

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- ▶ Found in animals
- ▶ RNA viruses - can mutate easily
- ▶ Seven strains infect humans
 - ▶ Four cause common cold
 - ▶ SARS 2002-3
 - ▶ MERS CoV 2012
 - ▶ 2019 nCoV

CORONAVIRUSES

- ▶ 12/30/19 – cluster of cases of unknown origin – Wuhan, China
- ▶ 1/1/20 – Wuhan “wet” Market closed
- ▶ 1/7/20 – novel coronavirus isolated
- ▶ 1/11/20 – first fatal case reported
- ▶ 1/12/20 – genome sequenced
- ▶ 1/13/20 – first case outside China
- ▶ 1/19/20 – first US case in WA
- ▶ 1/20/20 - first reports of HCW infections
- ▶ 1/30/20 – WHO declares PHEIC
- ▶ 1/31/20 – US declares PH emergency

TIMELINE 2019 CORONAVIRUS

- ▶ Member of the coronavirus family; not seen in humans previously
- ▶ Similar to virus found in bats
- ▶ Person to person transmission occurs
- ▶ Sx are similar to flu; some cases may present with GI sx
- ▶ Elderly, obese, those with co-morbid conditions at higher risk of dying

WHAT WE KNOW

- ▶ Person to person spread through droplets, personal contact, fomites – new report of spread by saliva, urine, feces
- ▶ Incubation period of 1-14 days, mean around 5 days
- ▶ More infectious than SARS but lower percent of deaths among those infected
- ▶ As with SARS, appear to be “superspreaders”

WHAT WE'RE PRETTY SURE WE KNOW

- ▶ About 15%-20% of infections are severe
- ▶ About 2% of those infected die
- ▶ R_0 between 1.5 and 3.5

WHAT WE OBSERVE NOW THAT WILL LIKELY CHANGE

- ▶ How effective mass scale quarantines are
- ▶ Role of immunogenetic factors in who gets infected, who dies
- ▶ What is average time to recovery
- ▶ What is role of asymptomatic infections in transmission
- ▶ When a person is most infectious
- ▶ Where in body virus replicates
- ▶ Best clinical management of cases

WHAT WE DON'T KNOW

- ▶ 43,138 confirmed infections – only 471 outside mainland China
- ▶ 1,018 Deaths – more than SARS; only two outside China
- ▶ Cases in 27 other countries, vast majority linked to travel; but 11 countries report secondary transmission
- ▶ Not a pandemic...yet but infodemic
- ▶ WHO to be allowed into China “very soon”; CDC not invited as of now

**WORLDWIDE SITUATION AS OF
11 FEBRUARY 2020**

- ▶ 13 cases; 11 linked to travel; 1 American death in Wuhan; 24 infected Americans aboard Diamond Princess
- ▶ CDC and other HDs using previous pandemic planning to prepare if widespread infection; contact tracing being done
- ▶ CDC distributing testing kits to state and other labs
- ▶ 11 airports screening passengers arriving from China
- ▶ Passengers from China quarantined in three US locations for 14 days
- ▶ Estimated 210,000 hospitalization and 12,000 deaths (78 children) from influenza since Oct 1 2019

US SITUATION AS OF 11 FEBRUARY 2020

- ▶ Monitor situation
- ▶ Limit person to person transmission; prevent further international spread
- ▶ Identify, isolate, care for patients early
- ▶ Identify and reduce transmission from animal source
- ▶ Accelerate development of diagnostics, therapeutics, vaccines
- ▶ Communicate critical information; counter misinformation
- ▶ Minimize social and economic impact

WORLD HEALTH ORGANIZATION RESPONSE STRATEGY

- ▶ Wash your hands with soap and water (20 seconds or two 'Happy Birthdays')
- ▶ If soap/water not available, use alcohol-based hand sanitizer
- ▶ Clean and disinfect frequently touched objects and surfaces
- ▶ Don't touch your face, nose, eyes
- ▶ Stay healthy – adequate sleep, good nutrition, reduce stress
- ▶ Stay away from sick people

HOW TO REDUCE YOUR (AND OTHER PEOPLE'S) RISK

- ▶ Cover your cough/sneeze – either crook of elbow or use tissue and dispose of in lidded receptable
- ▶ Stay home if you're sick
- ▶ Mask – evidence isn't there, may do more harm than good
- ▶ Get a flu shot every year
- ▶ Support public health funding

HOW TO REDUCE YOUR (AND OTHER PEOPLE'S) RISK NOW

- ▶ New diagnostics
- ▶ Vaccine
- ▶ Antivirals

MEASURES ARE SCIENTISTS WORKING ON



- ▶ Hard to predict
- ▶ If we see widespread community spread, may institute social distancing

WHAT'S GOING TO HAPPEN?

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Questions