

# R Naught and community spread explained

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- The reproductive number of a virus, or  $R_0$ , is the number of people (Secondary cases from the index case), on average, that one infected person will subsequently infect.
- The naught in  $R_0$  refers to the zeroth generation of a disease, as in "patient zero."
- A higher  $R_0$  means more people will be infected over the course of the outbreak. A lower number means fewer people will be infected over time. That replication will continue if there are no vaccinations against the illness or immunity in the population.
- Estimates of  $R_0$  for COVID = 2-2.7 compared to  $R_0$  for flu is 1-1.3

# R Naught Examples

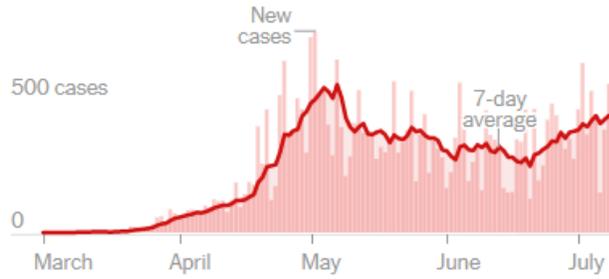
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- Measles  $R_0 = 15$
- If  $R_0$  is less than 1, each infected person infects less than one other person. An outbreak is not sustained
- If  $R_0$  is 1, each infected person infects just one other person, on average. Over time, the number of infected people will remain the same.
  - With an  $R_0$  of 15, every person infected with measles will go on to sicken 15 additional people.
- While  $R_0 = 1$  and  $R_0 = 2$  might seem close, the is huge, in terms of the number of people who will ultimately be infected.



# COVID-19 in Iowa

By The New York Times Updated July 9, 2020, 2:26 P.M. E.T.

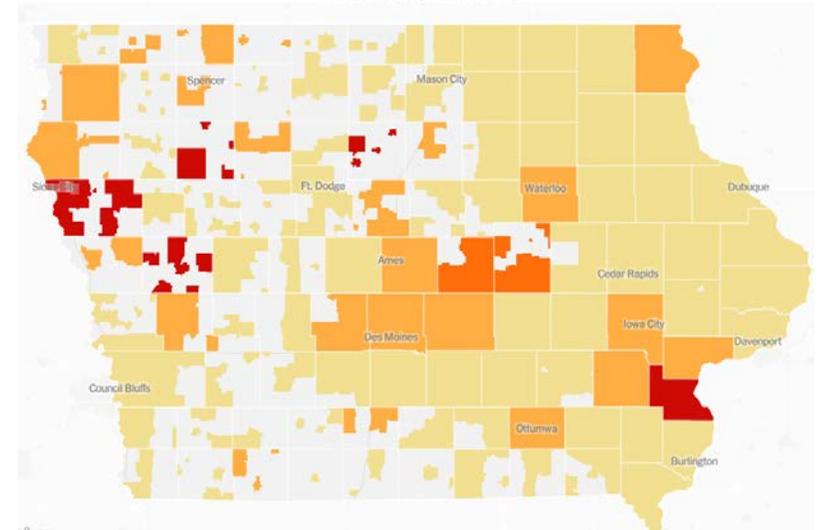


TOTAL CASES  
**33,123**  
DEATHS  
**739**

Includes confirmed and probable cases where available



Double-click to zoom into the map.



## COVID-19 Hospitalized Patients

**168**

Compared to Yesterday: 165

## COVID-19 Patients in ICU

**49**

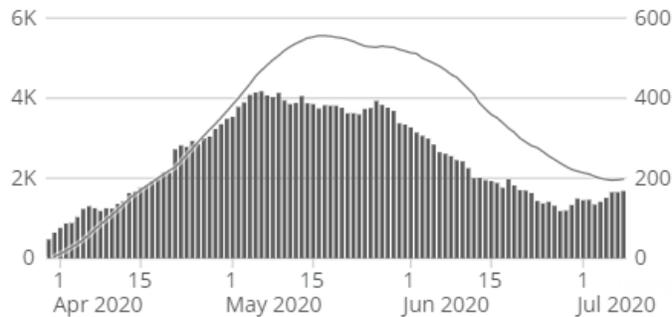
Compared to Yesterday: 44

## COVID-19 Admitted in Last 24 Hours

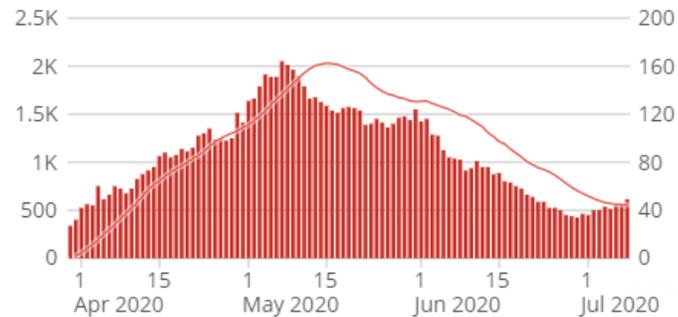
**32**

Compared to Yesterday: 23

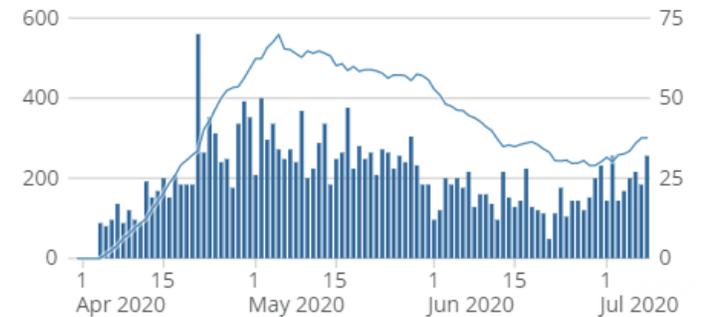
## COVID-19 Hospitalized Patients



## COVID-19 Patients in ICU

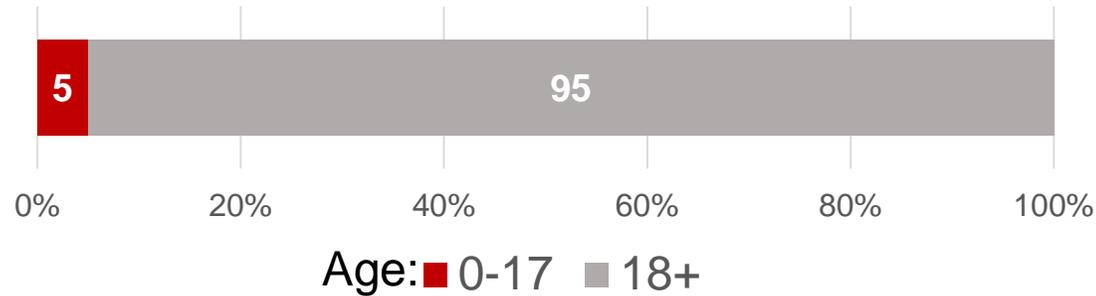


## COVID-19 Admitted in Last 24 Hours



# COVID-19 in Children

Iowa



Philadelphia: 424 COVID+ children

- 12% required hospitalization
- 3% required mechanical ventilation
- 0.5% died

## Multisystem inflammatory syndrome in children

- Rare complication of COVID-19
- Most cases have occurred in older children and adolescents
- Black and Hispanic children may be disproportionately affected
- 80% require ICU care

# Health Screening

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Symptoms alone don't do a good job of separating people with COVID from people without COVID

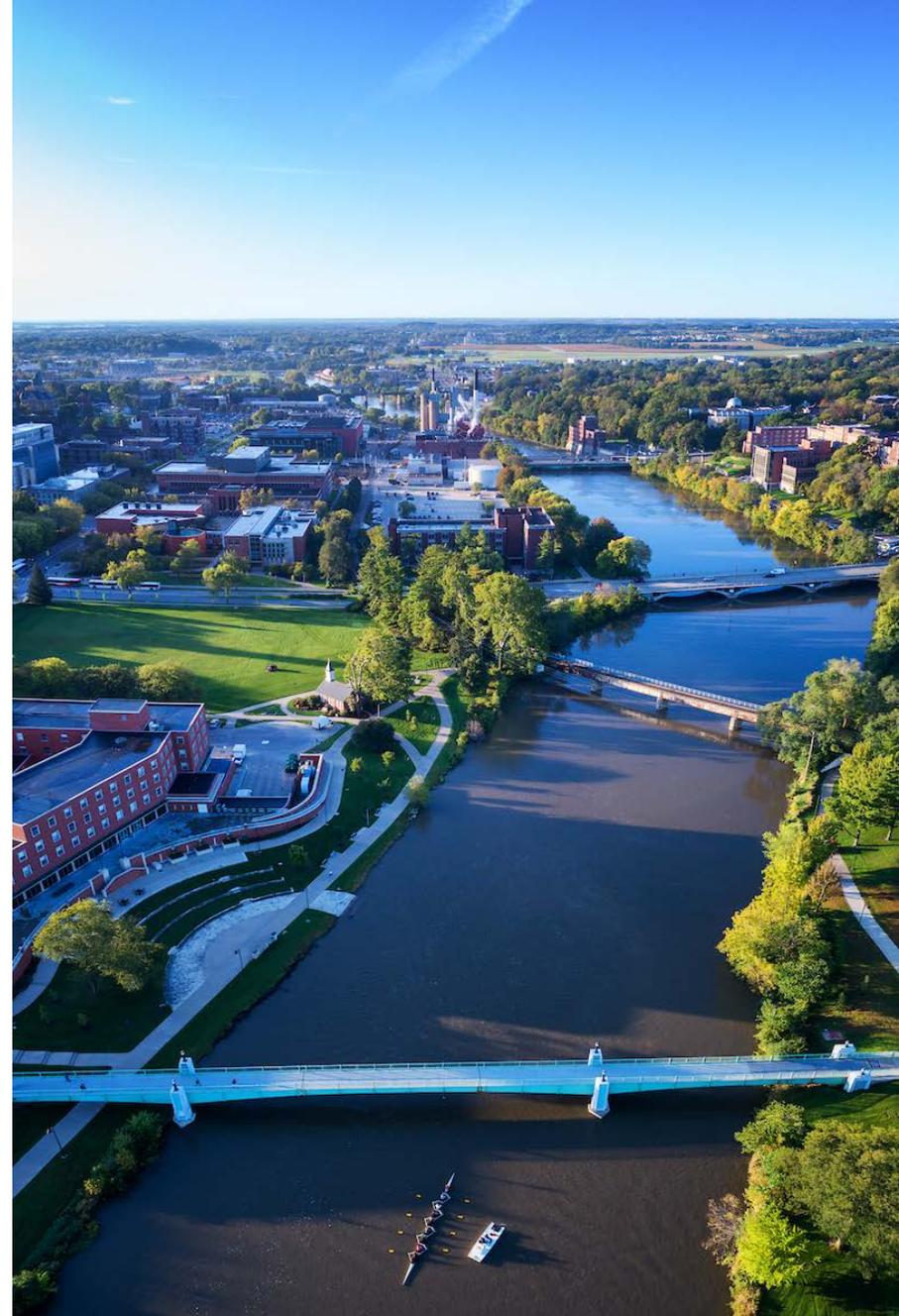
- Kids have milder symptoms
- Even among adults, a symptom questionnaire may identify ~60% of people with COVID infection, BUT, will also incorrectly exclude ~30% of people who are not infected

Symptoms per CDC, May 13, 2020

- New loss of taste or smell
- Fever or chills
- Cough
- Shortness of breath
- Fatigue
- Muscle or body aches
- ~~Headache~~
- ~~Sore throat~~
- ~~Congestion or runny nose~~
- ~~Nausea or vomiting~~
- ~~Diarrhea~~

# Health Effects of Wearing Cloth Face Covers

- Cloth face masks are safe for the vast majority of wearers.
- The only people who need to be concerned are people with severe lung disease or severe heart disease.



# Workspace Redesigns

## Organizing the day to enhance physical distancing

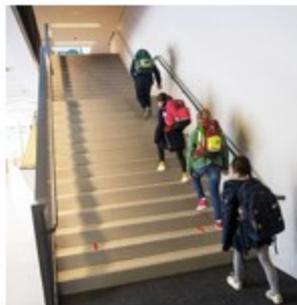


### Overarching Rules

Adopt 6-ft separation

Orient so not face-to-face

Minimize surface touches → minimize disinfection



BEFORE



AFTER



# Redesign - Room Type Considerations

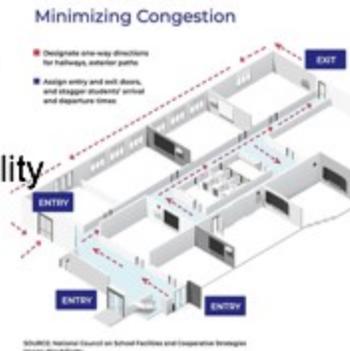
## Classrooms -

- Determine max capacity and use to re-set room
- Student Cohorts:  
*Throughout the day, keep students/educators together to minimize mixing*
- Barriers (plexiglass or other) -  
Area specific



## Hallways and Traffic Patterns -

- Establish flow directionality  
*Halls*  
*Stairs*



## Bathrooms -

- Limit capacity
- 6 ft separation: sink, urinals
- Remove hand dryers
- Ensure *ventilation* is ON
- Hands-free door openers
- Signs to demonstrate *hand washing*



## Buses - Playgrounds - Cafeteria/Food - Music - Library -

