

# New Mexico School Reopening Modeling Scenarios

Prepared by Los Alamos National Laboratory

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# School scenarios

- **Normal school**
- **All students on-site with enhanced safety measures**
  - Transmission at school is reduced by a factor of 2 due to enhanced safety measures
- **Hybrid (with enhanced safety measures)**
  - Students: 2 days per week, teachers: 4 days per week
  - Some outside of school congregation (~20%)
  - Transmission at school is reduced by a factor of 3 due enhanced safety measures and space to spread out
- **On-line High School, all others on-site (with enhanced safety measures)**
  - No outside of school congregation
  - Transmission at school is reduced by a factor of 2.7 due enhanced safety measures and space to spread out
- **On-line only is presumed equivalent to present no-school situation**

# Specifics of Enhanced Safety Measures:

**Assumptions of factors of 2-3 reduction in transmission are based on PPE use, ventilation, distancing, and good hygiene reducing transmission**

- **Face shields**

- block *large particles* (~10-1000 microns) emitted in sneezes and cough
- some protection for nose, mouth and eyes

- **Properly worn cloth masks**

- block large particles and some of the small particles (small is < a few microns) emitted when breathing and talking
- protects nose and mouth

- **Wrap-around eye protection**

- Exposure thru the eyes is not well quantified, but could be significant (published for SARS-1)

- **Air handling, ventilation**

- critical to removing the smallest particles (< one micron)
- <https://city.umd.edu/covid-19> – an interesting animation of air flow and air-borne contamination (one example is a clean-room style design)
- <https://tinyurl.com/covid-esimator> - Section on building ventilation describes school rooms

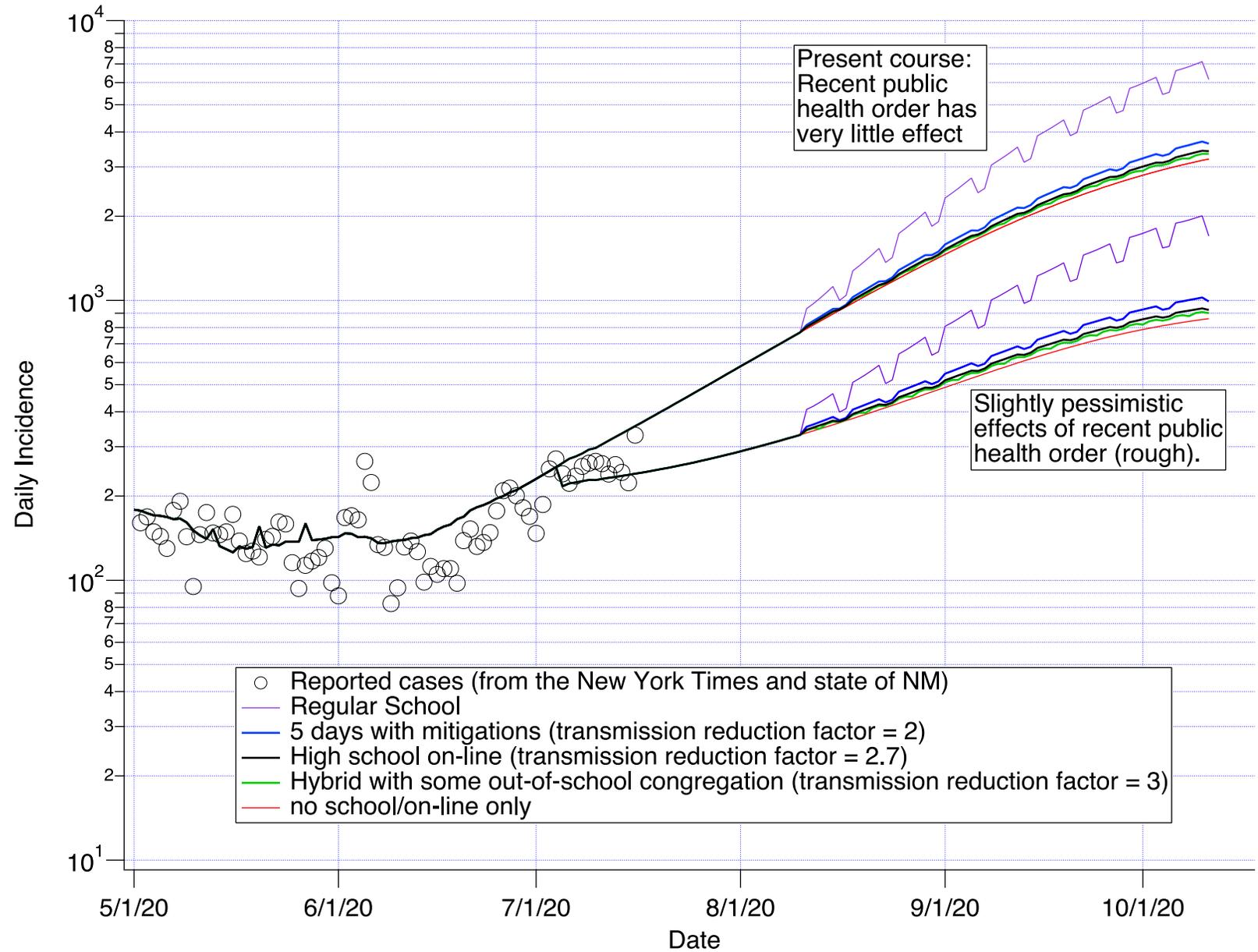
**Pre-symptomatic people transmit; the small particles emitted while breathing and speaking need to be removed, or filtered.**

## Specifics of Enhanced Safety Measures (continued):

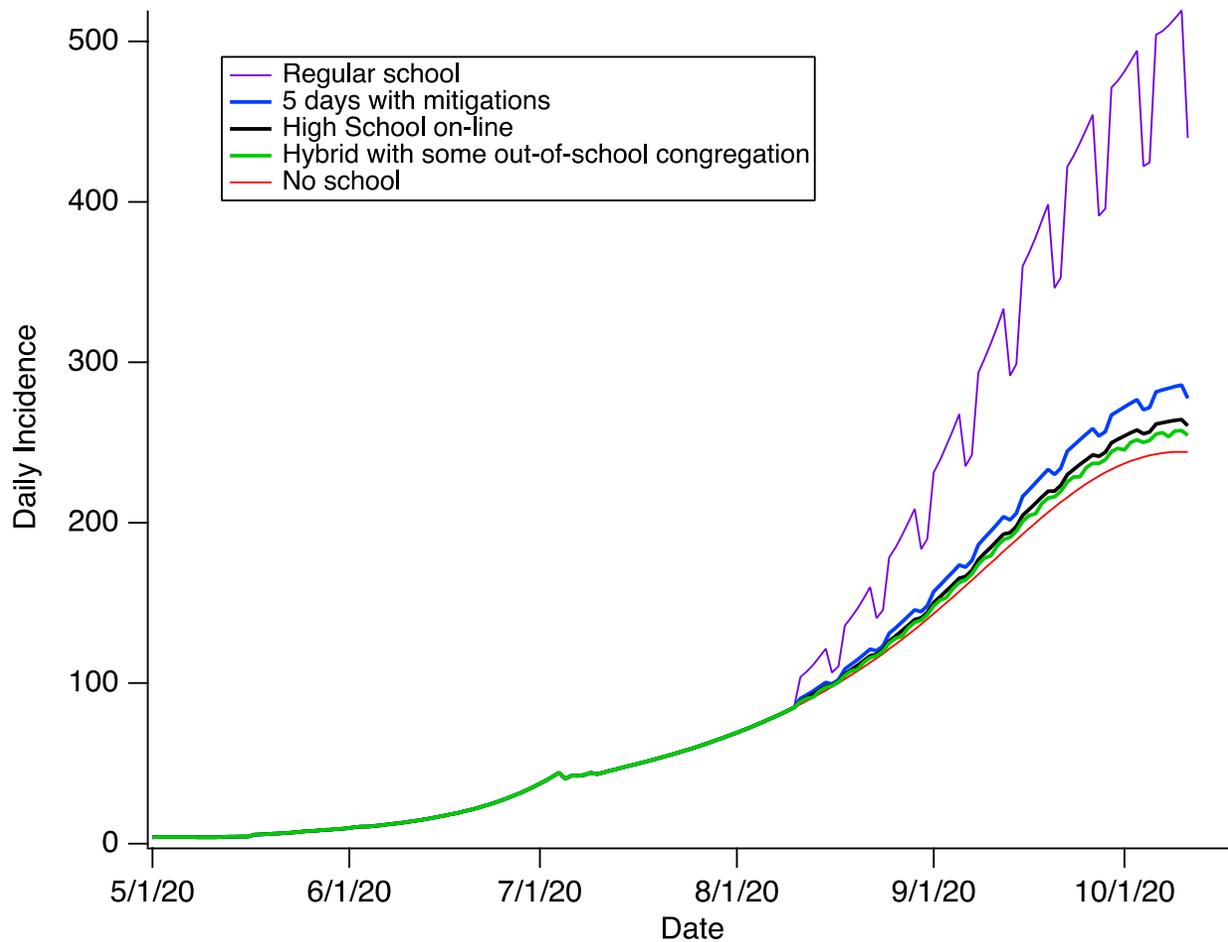
**Assumptions of factors of 2-3 reduction in transmission are based on PPE used, ventilation, distancing, and good hygiene reducing the transmission**

- **Hygiene/cleaning**
  - Coronavirus can survive for days on some surfaces (N.B. bathrooms!)
- **Distancing**
  - Distance should be maintained even when wearing masks
  - Distancing is particularly important when masks are off (eating)
- **Potentially sick children and teachers/staff must stay home**
  - Will student and teacher absences be handled differently?
  - Will districts have large available substitute pool?
  - Education of parents, teachers/staff
- **Rapid Contact Tracing of any sick children/staff/teachers**

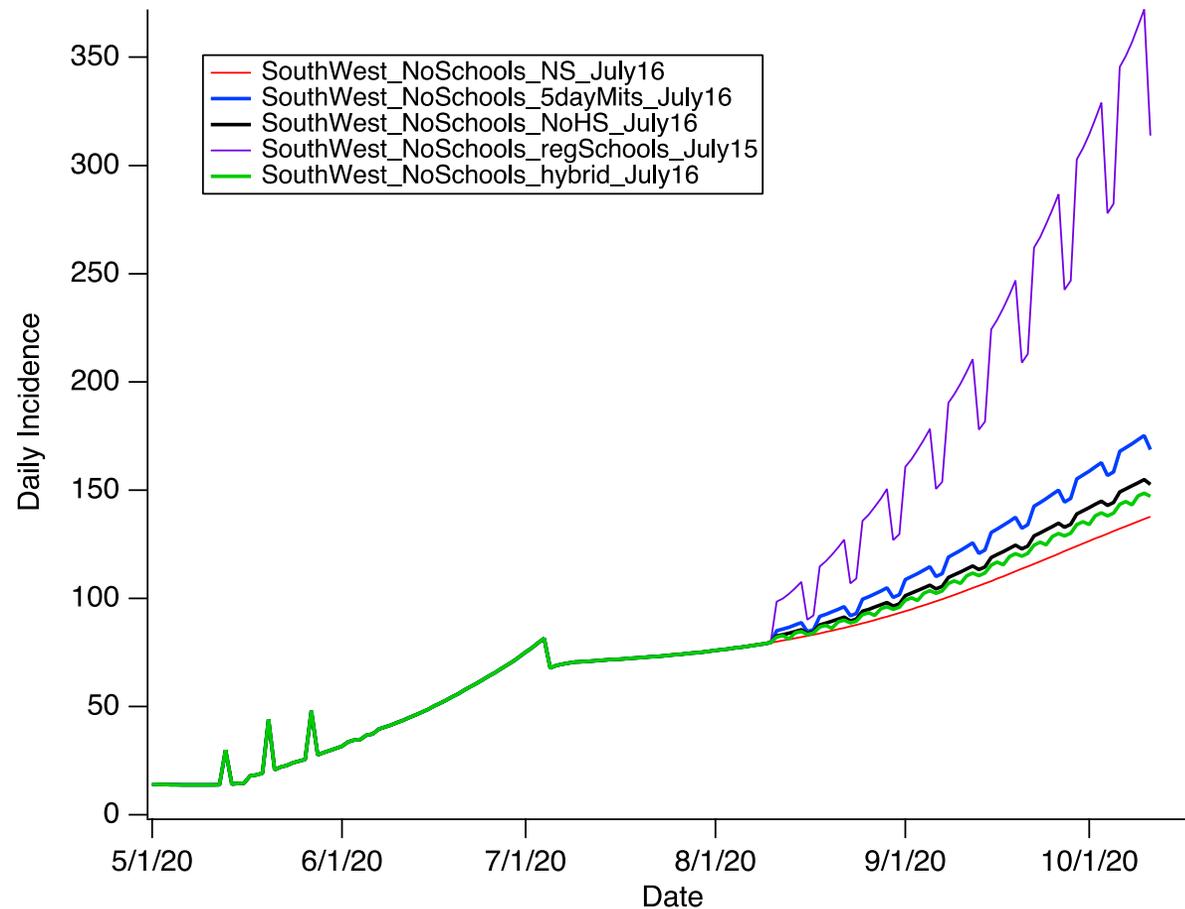
# Overview of results: Statewide



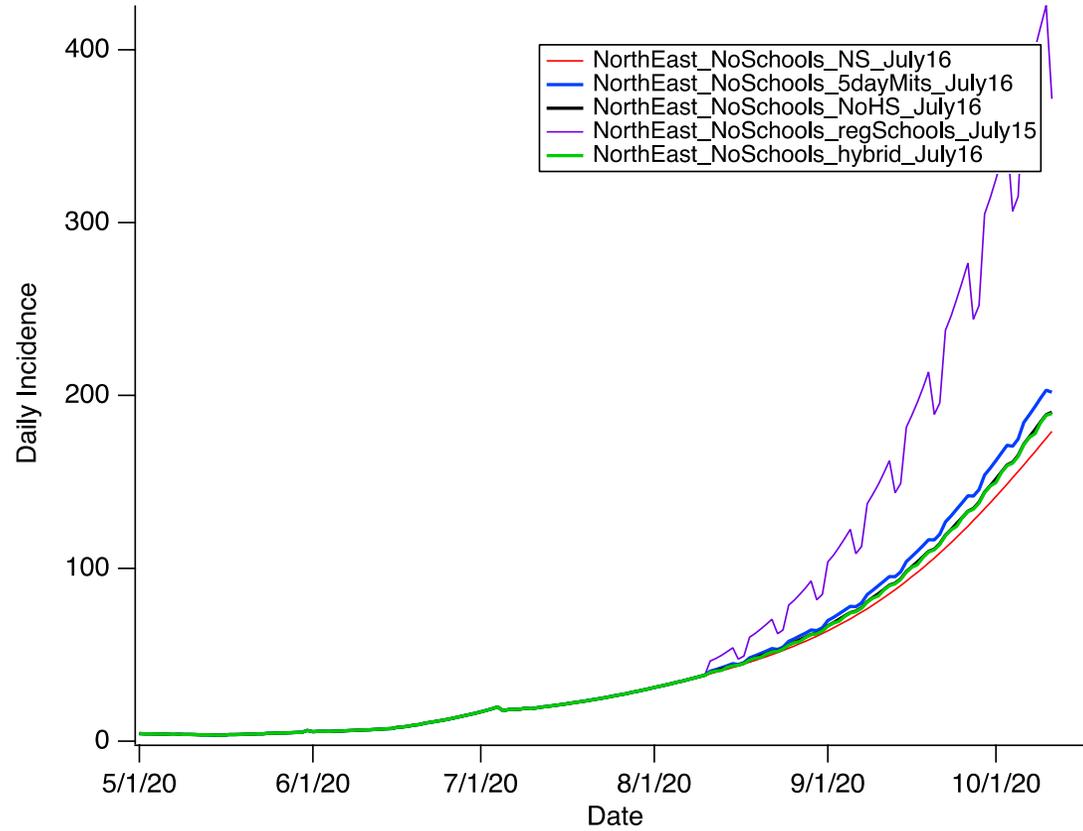
## SouthEast



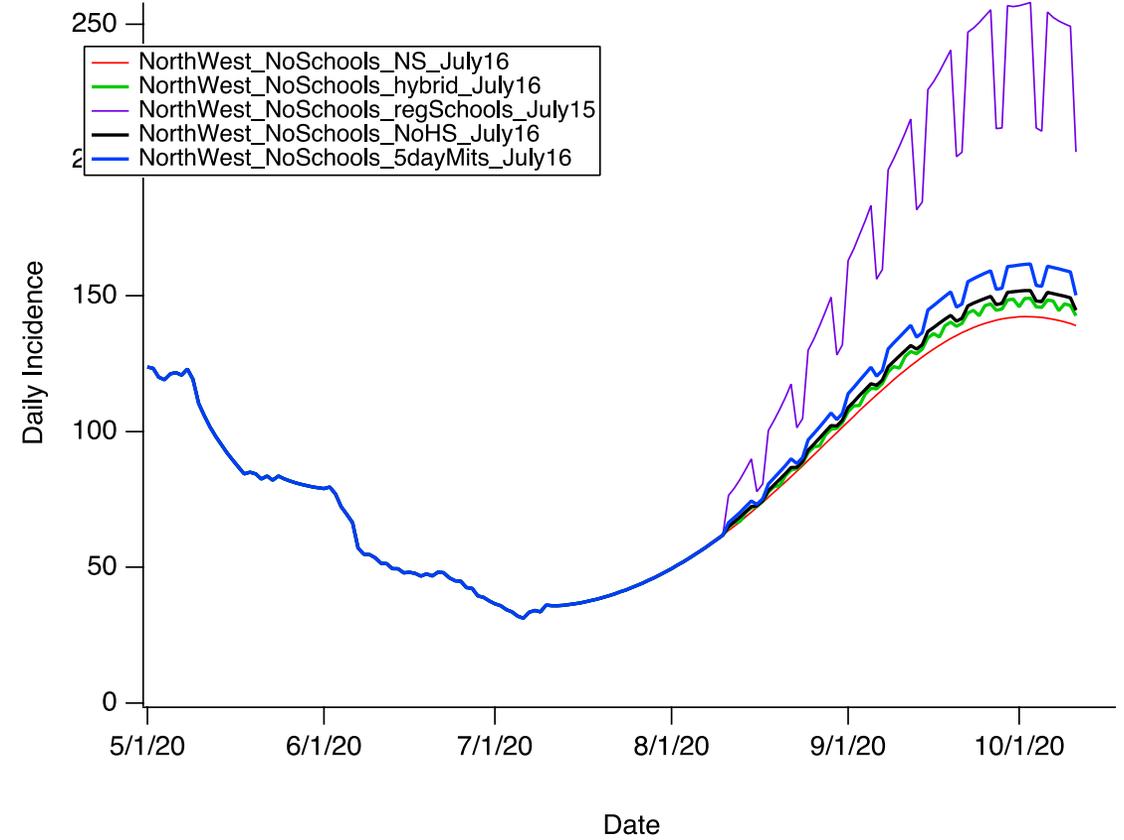
## SouthWest



## NorthEast



## NorthWest



# Central

