TAG
50-State Risk Matrix
Covid-19
Update June 15, 2020
Data Sources for Risk Matrix Model

- **Social Distancing and Epidemiological Measures**
  - **Social Distancing Index**
    - University of Maryland Transportation Institute
    - Based on previous modeling done for
    - Creates a “Social Indexing” score for each state that reflects people’s actual behavior
    - Uses daily feeds of mobile device location data, representing movements of more than 100 million anonymized device
    - Integrated with COVID-19 case data from John Hopkins University and census population data to monitor the mobility trends in United States and study social distancing behavior
    - Data will be updated to compare changes over a weekly basis (Friday to Friday)
  - **Effective Reproductive Rate (Rt)**
    - Modeling by Rt.live
      - Data available for all states
      - Updated daily
      - Data from The Covid Tracking Project
  - **Number of tests per confirmed case**
    - Covid Tracking Project
  - **Deaths per 100K population by state**
    - Measure of outbreak severity
    - Covid Tracking Project
  - **Current State Reopening Status**
    - US Chamber of Commerce

https://data.covid.umd.edu/
Interpreting the Risk Scenario Matrix

• Placement of a state along the Y-axis represents how much social distancing is being practiced by people in that state
• Placement of the state along the X-axis represents the current velocity of the outbreak and testing capacity in that state
• Placement of these states in the matrix allows risk comparisons between states at a point in time
• A state’s placement in the risk matrix may not align with current government reopening or social distancing orders
• Placement of a state in a quadrant may inform next steps and not prescribe them
• As data change over time, patterns will emerge that show the relationship between social distancing, policy, and disease transmission among states

https://data.covid.umd.edu/
Data Update – June 14, 2020

• Several states stayed in the Highest Risk Quadrant including:
  • South Carolina, Arizona, and Utah. These states have been reported in the news as having significant increases in illness and are experiencing sustained outbreaks.

• The following states moved from the “Zone of Concern” in the Medium Risk Quadrant into the Highest Risk Quadrant:
  • Texas, Mississippi, Alabama, and Arkansas

• Several states moved left out of the Highest Risk Quadrant or the border of Medium to Highest:
  • Georgia, North Carolina, Michigan, and Kentucky
  • Florida, Washington State, Oregon, and Oklahoma all moved right to the midline between the Medium and Highest Risk Quadrants.

• The following states have a test positive rate greater than 13%:
  • South Carolina – 43%
  • Mississippi – 21%
  • Arizona – 16%
  • Alabama – 13%

https://data.covid.umd.edu/
**TAG Covid-19 US Risk Scenario Matrix**

### Lower Risk:
- More social distancing
- Outbreak under relative control

**Impacts:**
- Workers return to office settings
- Non-essential visitors may return with wellness screenings
- Continued Wellness Screening* and PPE for staff
- Onsite regular testing of employees?
- Freer movement of travel within state

### Medium Risk:
- Less social distancing
- Outbreak being controlled

**Impacts:**
- Workers return to office settings (some physical/social distancing)
- Continued Wellness Screening* and PPE for staff
- Onsite regular testing of employees?
- Quarantine travelers coming from higher risk states or regions

### High Risk:
- More social distancing
- Outbreak gaining control

**Impacts:**
- Continue to work from home
- Manufacturing open only if essential
- Wellness Screening* and PPE for staff
- Increased absenteeism due to illness or employee concerns
- Limit travel within or between states or regions due to risk of transmission

### Highest Risk:
- Less social distancing
- Outbreak uncontrolled

**Impacts:**
- Relaxed social distancing may cause some office staff to return to work while some staff may be reluctant to return due to fear of illness
- Manufacturing may need to close due to absenteeism or illness
- Wellness Screening* and PPE for staff
- Need to highly enforce employee illness screening and close-contact quarantining due to increased community transmission
- Limit travel within state due to risk of transmission

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*Wellness Screenings should strictly follow all applicable legal and employee privacy requirements in the respective jurisdiction. Please consult with legal counsel for specific guidance.*
Total Positive Tests per 100K Population and Test Positive Rates
June 8 to 14, 2020

Test Positive Rate (June 8 to 14)
Per Capita Positive Tests (June 8 to 14) per 100K
Total Tests per 100K Population and Test Positive Rates
June 1 to 7, 2020
Total Tests per 100K Population and Test Positive Rates
May 25 to 31, 2020

Test Positive Rate (May 25-31)
Tests per 100K Population (May 25 to 31)
US 50 State Risk Scenario Matrix
Weekly Death Rate by State per 100K Population
Data updated 6/14/20 20:00 CDT

Lower Risk:
- More social distancing
- Outbreak under relative control

Medium Risk:
- Less social distancing
- Outbreak being controlled

High Risk:
- More social distancing
- Outbreak gaining control
- Outbreak uncontrolled

States that are partially reopened

US Social Distancing Average = 27

Weekly Death Rate per 100K
**US 50 State Risk Scenario Matrix**

**Weekly Death Rate by State per 100K Population**

Data updated 6/8/20 10:00 CDT

- **Lower Risk:**
  - More social distancing
  - Outbreak under relative control

- **Medium Risk:**
  - Less social distancing
  - Outbreak being controlled

- **High Risk:**
  - More social distancing
  - Outbreak gaining control
  - Outbreak uncontrolled

- **Highest Risk:**
  - Less social distancing
  - Outbreak uncontrolled

- **States that are partially reopened**

**US Social Distancing Average = 28**

- **Social Distancing Index**
- **Outbreak Index**
  - Effective Rate of Transmission (Rt) + Test Positive Rate

**Weekly Death Rate per 100K**

- **US 50 State Risk Scenario Matrix**
**US 50 State Risk Scenario Matrix**

Weekly Death Rate by State per 100K Population

Data updated 5/31/20 18:00 CDT

### Lower Risk:
- More social distancing
- Outbreak under relative control

### Medium Risk:
- Less social distancing
- Outbreak being controlled

### High Risk:
- More social distancing
- Outbreak gaining control
- Outbreak uncontrolled

### Highest Risk:
- Less social distancing
- Outbreak uncontrolled

**States that are partially reopened**

These states either stayed the same or saw an increase in the Outbreak Index compared to the previous week.

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**Effective Rate of Transmission (Rt) + Test Positive Rate**

**Weekly Death Rate per 100K**
US 50 State Risk Scenario Matrix
Weekly Death Rate by State per 100K Population
Data updated 5/18/20 10:00 CDT

**Social Distancing Index**

**Outbreak Index**

**Effective Rate of Transmission (Rt) + Test Positive Rate**

**Lower Risk:**
- More social distancing
- Outbreak under relative control

**Medium Risk:**
- Less social distancing
- Outbreak being controlled

**High Risk:**
- More social distancing
- Outbreak gaining control
- Outbreak uncontrolled

*States that have reopened
†States that have partially reopened

Weekly Death Rate per 100K

Weekly Death Rate by State per 100K Population

Data updated 5/18/20 10:00 CDT
US 50 State Risk Scenario Matrix
Cumulative Death Rate by State per 100K Population
Data updated 6/14/20 20:00 CDT

- **Lower Risk:**
  - More social distancing
  - Outbreak under relative control

- **Medium Risk:**
  - Less social distancing
  - Outbreak being controlled

- **High Risk:**
  - More social distancing
  - Outbreak gaining control
  - Outbreak uncontrolled

- **Highest Risk:**
  - Less social distancing
  - Outbreak uncontrolled

†States that are partially reopened: SC, 54; MS, 74; ID, 4; OR, 9; PA, 272; KS, 11; CO, 71; MO, 70; WA, 60; OK, 11; WY, 1; GA, 271.

US Social Distancing Average = 27

Effective Rate of Transmission (Rt) + Test Positive Rate

Cumulative Death Rate per 100K
US 50 State Risk Scenario Matrix
Cumulative Death Rate by State per 100K Population
Data updated 6/8/20 10:00 CDT

Lower Risk:
- More social distancing
- Outbreak under relative control

Medium Risk:
- Less social distancing
- Outbreak being controlled

High Risk:
- More social distancing
- Outbreak gaining control
- Outbreak uncontrolled

- States that are partially reopened

Effective Rate of Transmission (Rt) + Test Positive Rate
Cumulative Death Rate per 100K
US 50 State Risk Scenario Matrix
Cumulative Death Rate by State per 100K Population
Data updated 5/31/20 18:00 CDT

Lower Risk:
- More social distancing
- Outbreak under relative control

Medium Risk:
- Less social distancing
- Outbreak being controlled

High Risk:
- More social distancing
- Outbreak gaining control
- Outbreak uncontrolled

States that are partially reopened:
- AK, 1.4
- AL, 12.9
- AR, 4.4
- AZ, 12.4
- CA†, 10.7
- CO, 25.1
- CT†, 110.6
- DE†, 37.6
- FL, 11.8
- HI†, 1.2
- IA, 16.9
- ID, 4.6
- IL†, 42.5
- IN, 31.7
- KS, 7.1
- KY, 9.6
- LA, 60.0
- MA†, 99.3
- MD†, 41.9
- ME, 6.6
- MI†, 55.0
- MN, 18.6
- MO, 12.6
- MS, 24.7
- MT, 1.6
- NC†, 8.4
- ND, 8.0
- NE†, 8.8
- NH†, 17.8
- NJ†, 131.7
- NM†, 16.7
- NV, 13.5
- NY†, 122.9
- OH†, 18.4
- OK, 8.4
- OR, 3.6
- PA†, 43.4
- RI, 67.8
- SC, 9.6
- SD, 7.0
- TN, 5.3
- TX, 5.8
- UT, 3.5
- VA†, 16.1
- VT†, 8.8
- WA, 14.7
- WI, 10.2
- WV, 4.2
- WY, 2.8

Effective Rate of Transmission (Rt) + Test Positive Rate
Cumulative Death Rate per 100K Population

- 0
- 50
- 100
US 50 State Risk Scenario Matrix
Cumulative Death Rate by State per 100K Population
Data updated 5/18/20 10:00 CDT

**US 50 State Risk Scenario Matrix**

- **Lower Risk:**
  - More social distancing
  - Outbreak under relative control

- **Medium Risk:**
  - Less social distancing
  - Outbreak being controlled

- **High Risk:**
  - Less social distancing
  - Outbreak uncontrolled

- **Highest Risk:**
  - Outbreak uncontrolled

**States that have reopened:**
- AK
- AL
- AR
- AZ
- CA
- CO
- CT
- DC
- DE
- FL
- GA
- HI
- IA
- ID
- IL
- IN
- KS
- KY
- LA
- MA
- MD
- ME
- MI
- MN
- MO
- MS
- MT
- NC
- ND
- NE
- NH
- NJ
- NM
- NV
- NY
- OH
- OK
- OR
- PA
- RI
- SC
- SD
- TN
- TX
- UT
- VA
- WA
- WI
- WV
- WY

**States that have partially reopened:**

- Data updated 5/18/20 10:00 CDT
US 50 State Risk Scenario Matrix
Cumulative Death Rate by State per 100K Population
Data updated 5/12/20 20:00 CDT

Lower Risk:
- More social distancing
- Outbreak under relative control

Medium Risk:
- Less social distancing
- Outbreak being controlled

High Risk:
- More social distancing
- Outbreak gaining control
- Outbreak uncontrolled

*States that have reopened
†States that have partially reopened

Social Distancing Index

Outbreak Index

Effective Rate of Transmission (Rt) + Test Positive Rate

Cumulative Death Rate per 100K

US 50 State Risk Scenario Matrix
Cumulative Death Rate by State per 100K Population
Data updated 5/12/20 20:00 CDT

Lower Risk: More social distancing
Outbreak under relative control

Medium Risk: Less social distancing
Outbreak being controlled

High Risk: More social distancing
Outbreak gaining control
Outbreak uncontrolled

*States that have reopened
†States that have partially reopened

Social Distancing Index

Outbreak Index

Effective Rate of Transmission (Rt) + Test Positive Rate

Cumulative Death Rate per 100K
Medium Risk Scenario Quadrant
Weekly Death Rate by State per 100K Population
Data updated 6/14/20 20:00 CDT

Medium Risk:
Less social distancing
Outbreak being controlled

US Social Distancing Average = 27

Effective Rate of Transmission (Rt) + Test Positive Rate

Zone of Concern:
States in this area could quickly move to highest risk quadrant

The Outbreak Index in these states increased from the previous week

Social Distancing Index

Outbreak Index

†States that are partially reopened

Weekly Death Rate per 100K Population
Medium Risk:
- Less social distancing
- Outbreak being controlled

Zone of Concern:
States in this area could quickly move to highest risk quadrant

Outbreak Index in these states increased from the previous week

US Social Distancing Average = 28

States that are partially reopened:
- WA
- OR
- PA
- TX
- ID
- CO
- KS
- OH
- ME
- MO
- ND
- OK
- WI
- SD
- NY
- MA
- CA
- NV
- IL
- LA
- WI
- SD
- CT
- RI
- MA
- NM
- MN
- AK
- WY
- WV
- NJ
- NY

Weekly Death Rate by State per 100K Population
Data updated 6/8/20 10:00 CDT
Medium Risk Scenario Quadrant
Weekly Deaths per 100K population
Data updated 5/31/20 18:00 CDT

Medium Risk:
Less social distancing
Outbreak being controlled

Zone of Concern:
States in this area could quickly move to highest risk quadrant

The Outbreak Index in these states increased from the previous week

States that are partially reopened

Medium Risk:
Less social distancing
Outbreak being controlled

States in this area could quickly move to highest risk quadrant

The Outbreak Index in these states increased from the previous week

Social Distancing Index
Outbreak Index
Weekly Death Rate per 100K Population
Effective Rate of Transmission (Rt) + Test Positive Rate
Medium Risk:

- Less social distancing
- Outbreak being controlled

Medium Risk Scenario Quadrant
Weekly Deaths per 100K population
Data updated 5/25/20 18:00 CDT

Zone of Concern:
States in this area could quickly move to highest risk quadrant

†States that are partially reopened

The Outbreak Index in these states increased from the previous week
Medium Risk Scenario Quadrant

Weekly Death Rate by State per 100K Population

Data updated 5/18/20 10:00 CDT

Medium Risk:
- Less social distancing
- Outbreak being controlled

*States that have reopened
†States that have partially reopened