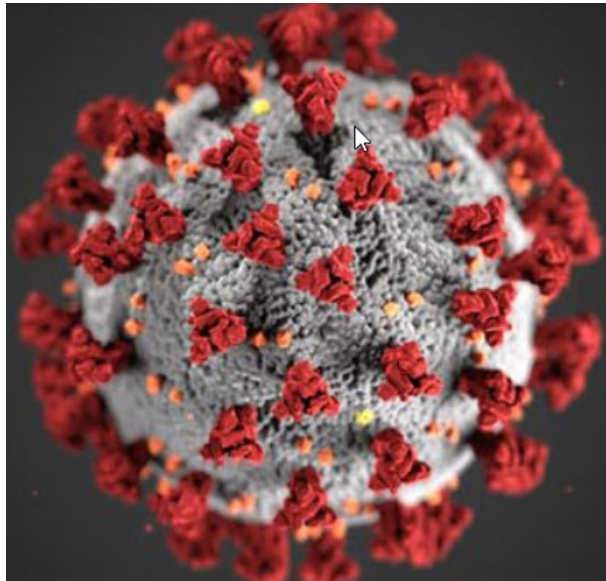




COVID-19 Clinical Update: *What Business Leaders Need to Know*

May 20, 2020



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St. Luke's Care Network



- 10 Counties, PA & NJ
- 11 Hospitals
- >1900 Physicians and Advanced Practitioners
- 300+ Outpatient Sites
- 18 Urgent Care Centers
- Skilled Nursing Facility Network
- Home Health Care Network
- Surgical Centers
- DME Supplier
- 261K Attributed Lives in Value-Based Contracts



Current Numbers

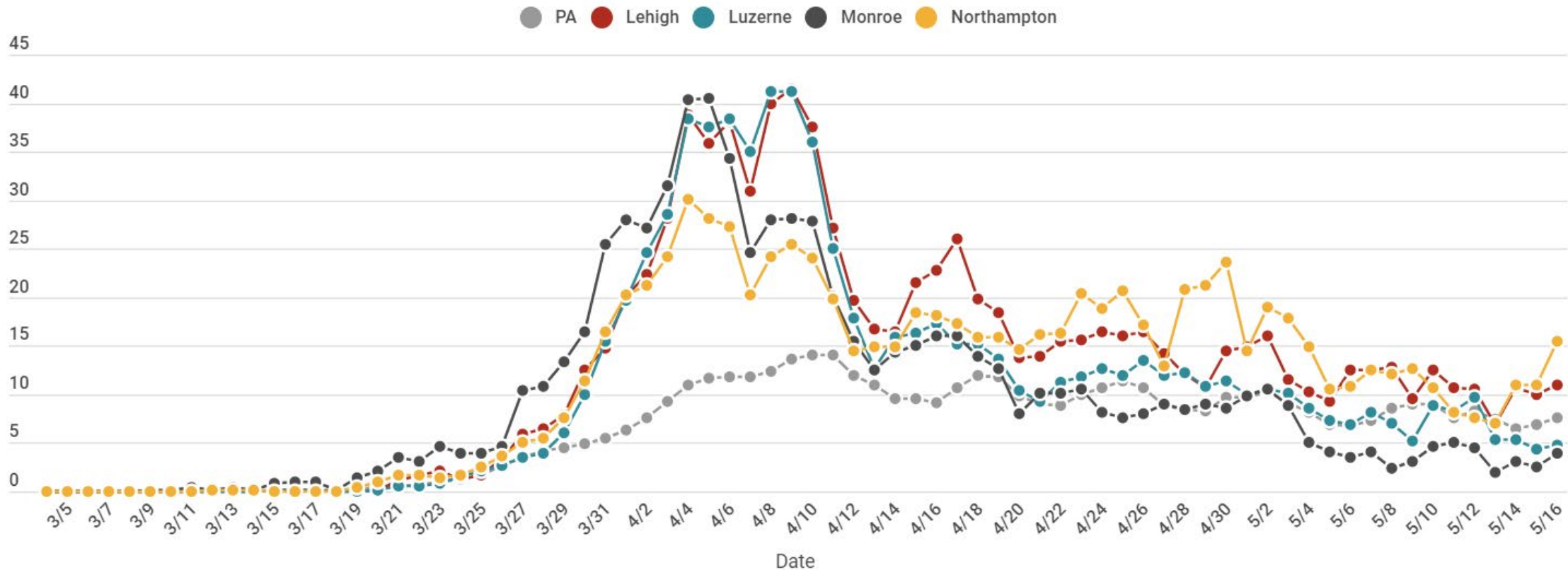


New Cases per 100,000 Population (5-16-20)



New Cases per 100k

3 Day Rolling Average



<https://www.mcall.com/coronavirus/mc-nws-pa-coronavirus-cases-deaths-20200422-mpchujol6rcjrcjg2sw7xdg4mu-htlstory.html>



St. Luke's Service Area Cases and Deaths (5-18-20)



SLUHN Service Area COVID-19 Total Positive Cases and Deaths by Location						
Location	Total Number of Positive Cases	Total Number of Deaths	Non-Nursing Home Only Mortality Rate	Nursing Home Only Mortality Rate	Overall Mortality Rate (#Deaths / #Cases)	% Overall Mortality Rate from Nursing Homes
Berks County	3719	248	3.3%	17.9%	6.7%	61.3%
Bucks County	4516	417	2.7%	19.5%	9.2%	82.5%
Carbon County	214	22	6.0%	20.6%	10.3%	59.1%
Lehigh County	3491	173	2.3%	13.9%	5.0%	63.6%
Monroe County	1259	88	5.0%	18.2%	7.0%	39.8%
Montgomery County	6012	566	1.2%	22.0%	9.4%	92.2%
Northampton County	2727	171	2.3%	15.5%	6.3%	74.9%
Schuylkill County	529	20	3.8%	3.8%	3.8%	20.0%
Pennsylvania	63,056	4,505	3.0%	19.6%	7.1%	68.5%
Warren, NJ	1086	121			11.1%	
New Jersey	148,039	10,435			7.0%	

Table 1. Summary: SLUHN COVID-19 service area snapshot as of May 18th, 2020

Data Sources: PA DOH, NJ DOH



Virus Profile



Symptoms

Infectivity

Death Rates



CDC Expanded List of COVID-19 Symptoms



Symptoms

Appear 2-14 days after exposure

- Cough
- Shortness of breath or difficulty breathing

OR at least two of these symptoms

- Fever
- Chills
- Repeated shaking with chills
- Muscle pain
- Headache
- Sore throat
- New loss of taste or smell

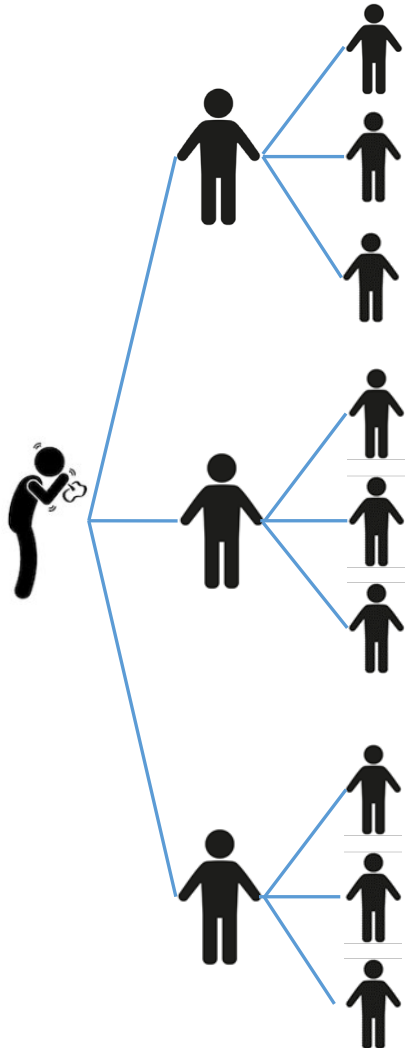
25-50% of COVID-19 Infections

- Minimal symptoms
- OR**
- Atypical symptoms (not on the list)
- OR**
- No symptoms (up to 25%)

<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>



Infectivity and Death Rate



Infectivity - Contagiousness

- Actual infectivity may be higher from asymptomatic spreading
- Compare to:
 - Measles 1 → 12-15
 - Influenza 1 → 2-3 (without community immunization)
 - Influenza 1 → <1 (with community immunization)

Death Rate

- 1.3% (0.5-3.6% range by counties across the US)
- Likely overestimated - lack of knowledge about the prevalence of asymptomatic cases (don't know the denominator)

References:

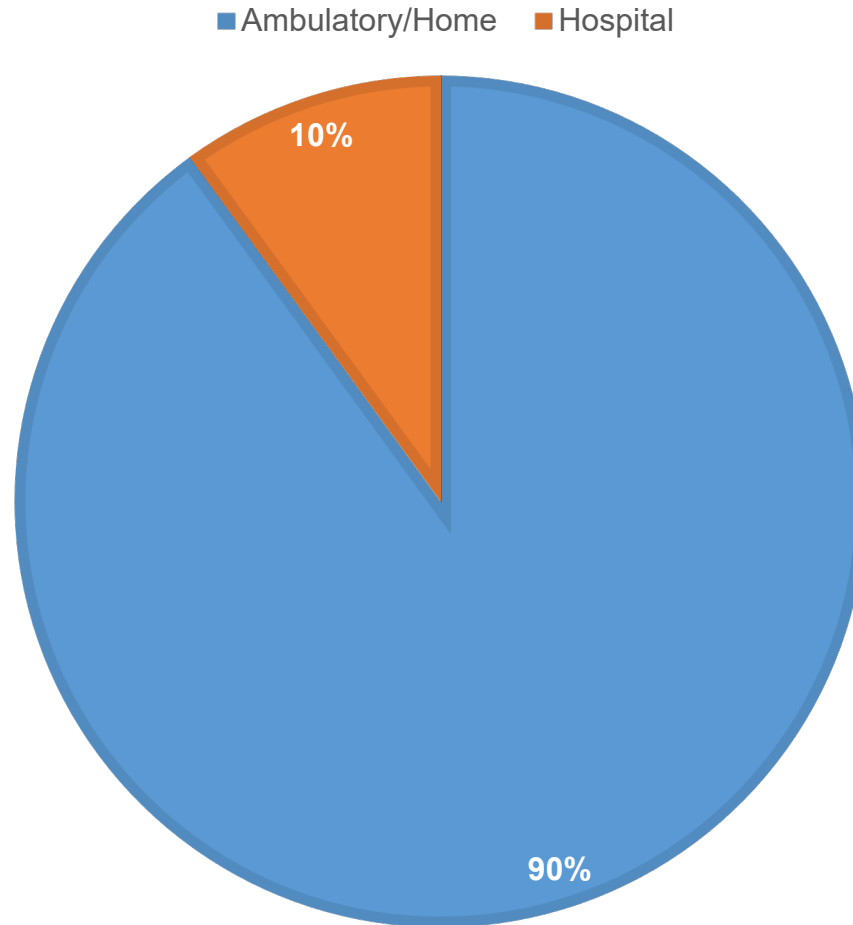
- <https://labblog.uofmhealth.org/rounds/how-scientists-quantify-intensity-of-an-outbreak-like-covid-19>
- <https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.00455>



Where Do People with COVID-19 Get Treated?



LOCATIONS OF TREATMENT



*Of those who require hospitalization, around **10%** require ICU treatment



Testing

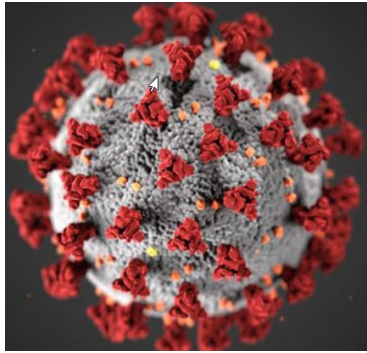


Molecular (Diagnostic)

Serologic (Antibody)

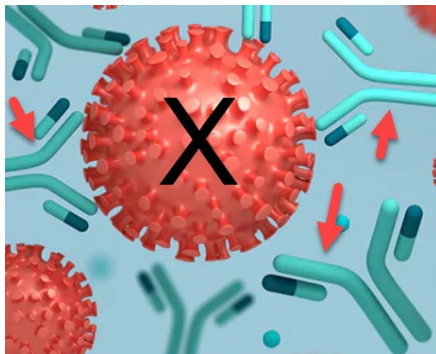


Testing - Defining the Difference



- **Molecular - Diagnostic**

- Detects virus particles
- Used for diagnosis of infection
- Collected by swabbing nose and/or back of throat

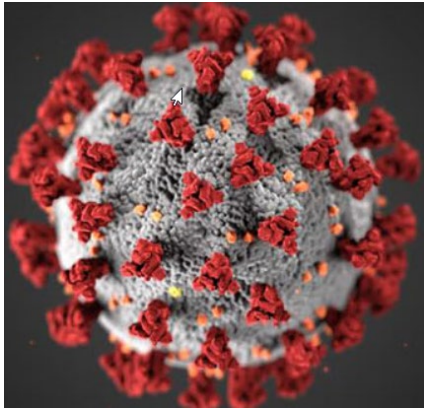


- **Serologic – Previous Exposure**

- Detects the body's response to previous infection – antibodies
- Blood test
- Useful epidemiologically to estimate prevalence of infection in the community
- NOT used for diagnosis



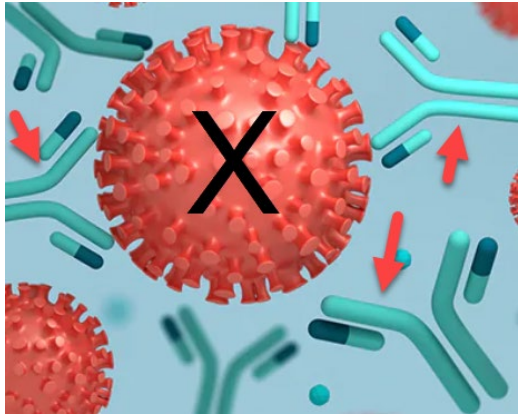
Molecular Testing - Challenges



- Availability and turn-around time
- Initially tested only those with classic symptoms – fever, cough, shortness of breath
 - Many with COVID-19 infection have milder symptoms or no symptoms
- Significant number of false negatives – test is negative but the person has the infection
 - Test can be negative today and positive tomorrow
- All tests on the market have FDA Emergency Use Authorization (EUA) only



Serologic Testing - Challenges



- Useful
 - To estimate the prevalence of COVID-19 infection in a community
 - Pre- and post-testing in vaccine development trials
- Not useful or unknown
 - Not for the diagnosis of acute COVID-19 infection
 - Not for return-to-work decisions
 - NJ DOH and Infectious Disease Society of America have issued statements against using antibody testing for return-to-work
 - A positive test does NOT guarantee immunity to re-infection
 - Not for decisions about PPE needed upon return to work
 - Serological tests were initially marketed without any FDA approval – approximately 8 have Emergency Use Authorization (EUA)

Prediction value of a test is dependent on the prevalence of the infection in the community.

- Assume a test that has 98% sensitivity and 98% specificity rate
- If prevalence is 5% - test has a positive predictive value of only 72%
- If prevalence is 10% - test has a positive predictive value of only 85%



**A facility is COVID-free only
until it isn't!**



PA Governor's Plan – Phased Reopening



COVID-19 REOPENING PHASES		
	WORK & CONGREGATE SETTINGS	SOCIAL SETTINGS
RED PHASE	<ul style="list-style-type: none">• LIFE-SUSTAINING BUSINESSES ONLY• RESTRICTIONS IN PLACE FOR PRISON + CONGREGATE CARE• SCHOOLS CLOSED FOR IN-PERSON INSTRUCTION• MOST CHILD CARE CLOSED	<ul style="list-style-type: none">• STAY AT HOME ORDERED• LARGE GATHERINGS PROHIBITED• RESTAURANTS/BARS LIMITED TO CARRY-OUT + DELIVERY• ONLY TRAVEL FOR LIFE-SUSTAINING PURPOSES
YELLOW PHASE	<ul style="list-style-type: none">• TELEWORK MUST CONTINUE WHERE FEASIBLE• BUSINESSES WITH IN-PERSON OPERATIONS MUST FOLLOW SAFETY ORDERS• CHILD CARE OPEN WITH WORKER + BUILDING SAFETY ORDERS• RESTRICTIONS IN PLACE FOR PRISON + CONGREGATE CARE• SCHOOLS CLOSED FOR IN-PERSON INSTRUCTION	<ul style="list-style-type: none">• STAY AT HOME RESTRICTIONS LIFTED IN FAVOR OF AGGRESSIVE MITIGATION• LARGE GATHERINGS PROHIBITED• IN-PERSON RETAIL ALLOWED CURBSIDE/DELIVERY PREFERRED• INDOOR RECREATION, HEALTH AND WELLNESS FACILITIES (SUCH AS GYMS, SPAS), AND ALL ENTERTAINMENT (SUCH AS CASINOS, THEATERS) REMAIN CLOSED• RESTAURANTS/BARS LIMITED TO CARRY-OUT + DELIVERY
GREEN PHASE	<ul style="list-style-type: none">• ALL BUSINESSES MUST FOLLOW CDC AND PA DEPARTMENT OF HEALTH GUIDELINES	<ul style="list-style-type: none">• AGGRESSIVE MITIGATION ORDERS LIFTED• INDIVIDUALS MUST FOLLOW CDC AND PA DEPARTMENT OF HEALTH GUIDELINES



Mitigation



Universal Masking

Gloves

Temperature Checks

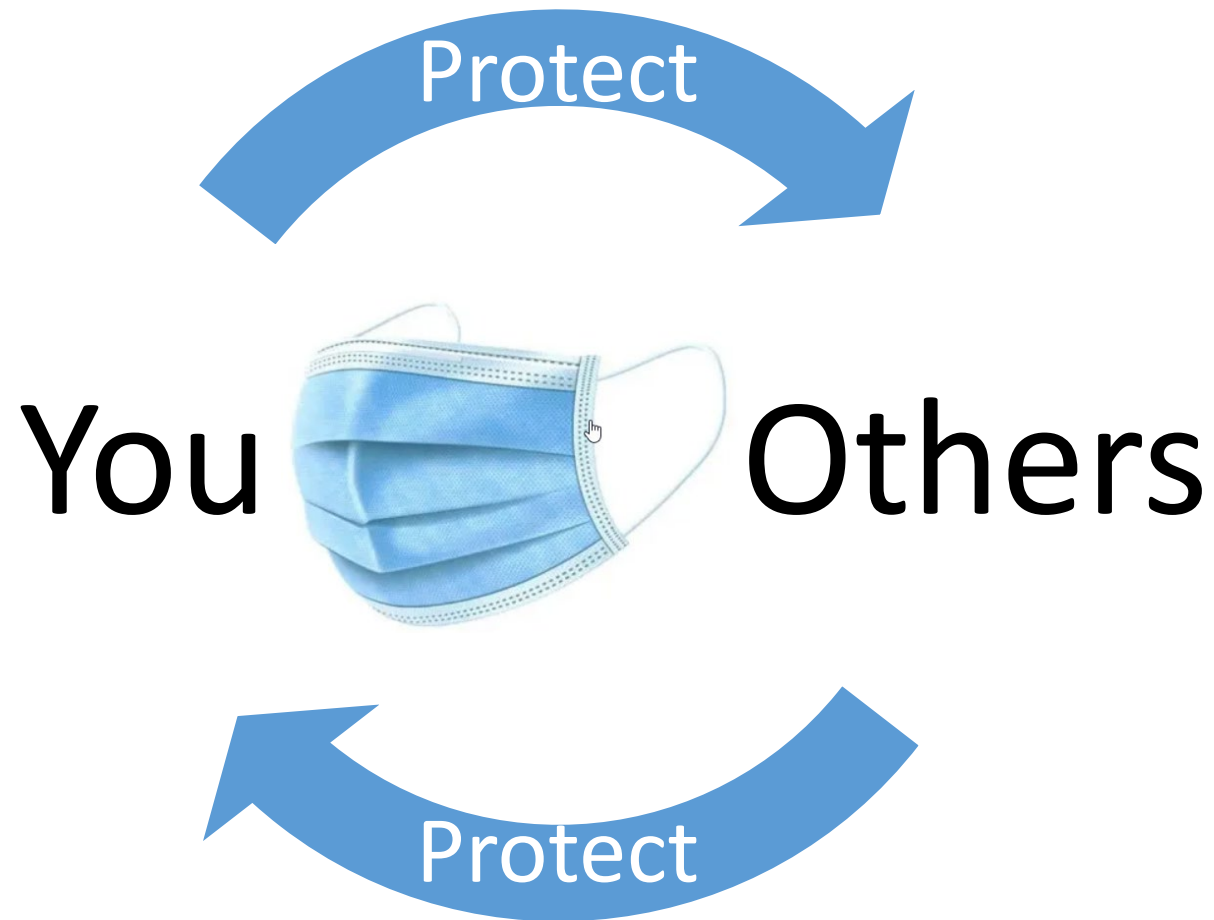
Social Distancing

Sanitation

Contact Tracing



Universal Masking





Gloves - False Sense of Security?



- Gloves become an extension of your skin
- COVID-19 does *NOT* enter the body by passing through the skin of the hands
- COVID-19 **DOES** enter the body when contaminated hands or gloves touch the face near the eyes, nose or mouth
- Hand sanitation is the most important factor
- Wearing gloves may remind people to not touch their faces



=





Temperature Checks



- #1 – Stay home if not feeling right
- Demonstrates concern and intent to maintain a healthy workplace
 - U.S. Equal Employment Opportunity Commission (EEOC) – employers can check temperatures (March 17, 2020)
 - EEOC also cautioned that patients with COVID-19 may not have a fever
- If done, do in way that does not interfere with social distancing
- Does *NOT* replace masking and other mitigation measures
- Not failsafe – 25-50% of people with COVID-19 infection have minimal to no symptoms especially early in their infection
- PA Department of Health discourages employee self-monitoring of temperature as an alternative to employer screening



CDC Website for Reopening



Major Update May 14, 2020

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

[All A-Z Topics](#)

Search

Coronavirus ▾



Coronavirus Disease 2019 (COVID-19)

CDC > Coronavirus Disease 2019 (COVID-19)



🏠 Coronavirus Disease 2019
(COVID-19)

Symptoms

Communities, Schools, Workplaces, and Events

Guidance for Where You Live, Work, Learn, Pray, and Play

- <https://www.cdc.gov/coronavirus/2019-ncov/community/index.html>



CDC Workplaces Decision Tool



WORKPLACES DURING THE COVID-19 PANDEMIC



The purpose of this tool is to assist employers in making (re)opening decisions during the COVID-19 pandemic, especially to protect vulnerable workers. It is important to check with state and local health officials and other partners to determine the most appropriate actions while adjusting to meet the unique needs and circumstances of the local community.

Should you consider opening?

- ✓ Will reopening be consistent with applicable state and local orders?
- ✓ Are you ready to protect employees at higher risk for severe illness?

ANY NO



ALL YES

Are recommended health and safety actions in place?

- ✓ Promote healthy hygiene practices such as hand washing and employees wearing a cloth face covering, as feasible
- ✓ Intensify cleaning, disinfection, and ventilation
- ✓ Encourage social distancing and enhance spacing between employees, including through physical barriers, changing layout of workspaces, encouraging telework, closing or limiting access to communal spaces, staggering shifts and breaks, and limiting large events, when and where feasible
- ✓ Consider modifying travel and commuting practices. Promote telework for employees who do not live in the local area, if feasible.
- ✓ Train all employees on health and safety protocols

ANY NO



ALL YES

Is ongoing monitoring in place?

- ✓ Develop and implement procedures to check for signs and symptoms of employees daily upon arrival, as feasible
- ✓ Encourage anyone who is sick to stay home
- ✓ Plan for if an employee gets sick
- ✓ Regularly communicate and monitor developments with local authorities and employees
- ✓ Monitor employee absences and have flexible leave policies and practices
- ✓ Be ready to consult with the local health authorities if there are cases in the facility or an increase in cases in the local area

ANY NO



ALL YES

OPEN AND MONITOR



cdc.gov/coronavirus



PA Resources for Businesses Mitigation in the Workplace



**GUIDANCE FOR BUSINESSES PERMITTED TO OPERATE
DURING THE COVID-19 DISASTER EMERGENCY TO ENSURE THE
SAFETY AND HEALTH OF EMPLOYEES AND THE PUBLIC**



Order of the Secretary of the Pennsylvania Department of
Health Directing Public Health Safety Measures for
Businesses Permitted to Maintain In-person Operations



Order of the Secretary of the
Pennsylvania Department of Health
Directing Building Safety Measures

May 4, 2020

<https://www.governor.pa.gov/wp-content/uploads/2020/05/20200504-COVID-19-Business-Guidance.pdf>

April 15, 2020

<https://www.governor.pa.gov/wp-content/uploads/2020/04/20200415-SOH-worker-safety-order.pdf>

April 5, 2020

<https://www.governor.pa.gov/wp-content/uploads/2020/04/20200405-SOH-Building-Safety-Measures.pdf>



Return to Work After Infection



Patients *with* symptoms

- Symptom-based
- Test-based

Patients *without* symptoms

- Time-based
- Test-based



Returning to Work After COVID-19 Infection

CDC Recommendations



- Three CDC approaches
 - Symptom-based – return not based on testing
 - Test-based – use of diagnostic testing
 - Time-based – for asymptomatic infections
- Antibody (serologic) testing is *NOT* indicated
- All mitigation measures remain in place
 - Virus can be shed for a prolonged period of time after resolution of symptoms
 - Respiratory – 8 days or longer
 - Stool – 22 days
 - We don't know for sure how long a person with COVID-19 remains infectious

CDC: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/return-to-work.html>



Return to Work After Symptomatic Infection

Current CDC Recommendations



Symptom-Based Approach

1. ≥ 10 days have passed since symptoms first appeared
- AND**
2. ≥ 3 days (72 hours) with no fever without the use of medication for fever
- AND**
3. ≥ 3 days of overall improvement

Test-Based Approach

1. No fever for ≥ 24 hours without the use of fever-reducing medication
- AND**
2. Improvement in symptoms
- AND**
3. 2 consecutive diagnostic tests ≥ 24 hours apart are negative
 - If positive, start over in 7 days



Return to Work After Asymptomatic Infection

Current CDC Recommendations



Time-Based Approach

- ≥ 10 days have passed since first positive COVID-19 test
- **Note: From the CDC** - *"...it is possible that the duration of viral shedding could be longer or shorter than the 10 days after their first positive test"*

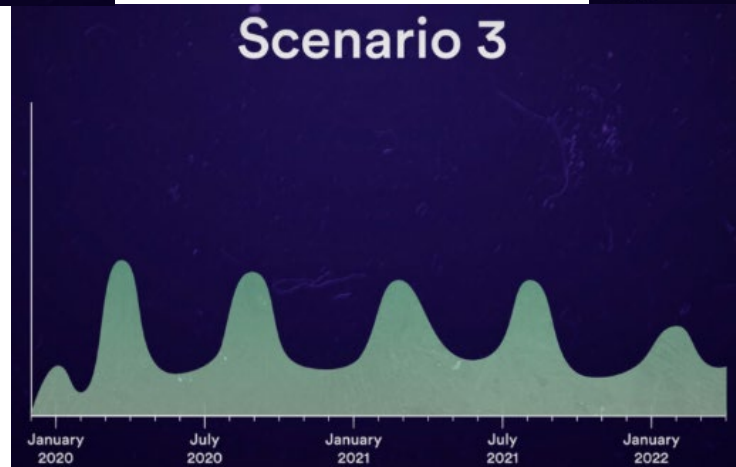
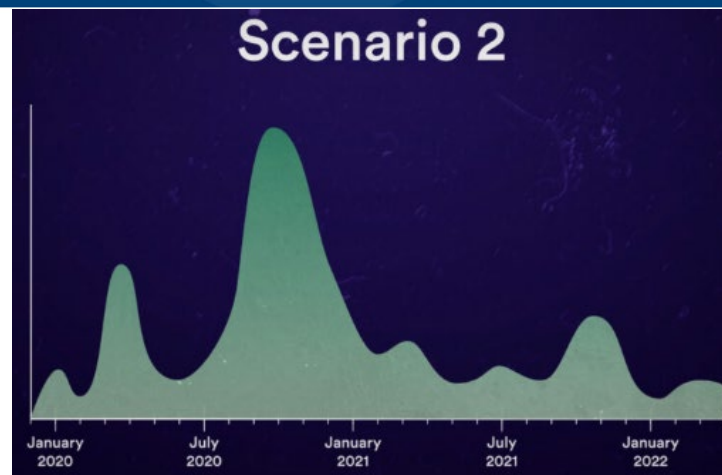
Test-Based Approach

- 2 consecutive diagnostic tests ≥ 24 hours apart are negative
 - St. Luke's recommends waiting **7 days** from the first positive test to start testing for return to work
 - If positive, start over in 7 days



COVID-19 Future - Before a Vaccine

We Will Live and Work with COVID-19 for the Foreseeable Future



Source: Michael Osterholm, University of Minnesota

State News, <https://www.statnews.com/2020/05/01/three-potential-futures-for-covid-19/>