SHIELD Illinois Overview

University of Illinois System

ABOUT OUR TEST

SHIELD ILLINOIS

UNIVERSITY OF ILLINOIS SYSTEM

SHIELD Illinois offers a PCR screening testing program utilizing the University of Illinois' innovative saliva test.

WHAT IS SHIELD ILLINOIS?

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- SHIELD Illinois' expansion goal is to help safely restart Illinois' economy by providing another layer of protection to universities, K-12 schools and businesses so they can return to in-person operations.
- Delivering the SHIELD Illinois program is an example of the University of Illinois' land-grant mission to serve the citizens of Illinois with excellence.
- SHIELD Illinois utilizes a cost recovery model, attempting to recoup the investment by the U of I System in developing the test and infrastructure.

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Low Cost	The cost of the saliva-based test for K-12 school districts is $20, compared to $100+ for many other tests.
Fast Results	Results will be sent to the school district and IDPH through a HIPAA-secure health records portal within 24 hours of samples reaching our lab.
Identify Infection	SHIELD Illinois' saliva test looks for 3 genes of the SARS-CoV-2 virus, which allows it to identify pre-symptomatic and asymptomatic individuals, as well as new variants.
High Accuracy	In a recent clinical trial, SHIELD Illinois' sensitivity was 96.8% and specificity was 98.9%.
CLIA Certified	All of SHIELD Illinois' tests are processed in CLIA labs, meaning they meet federal standards for accuracy and reliability
Standalone Test	SHIELD Illinois is a PCR screening test, meaning individuals who test positive don't need to seek out a second test to confirm the result.
FDA Authorization	SHIELD Illinois is pursuing an emergency use authorization (EUA) from the FDA.

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To safely open a campus of 50,000 people in Fall 2020, a team of scientists at UIUC developed a PCR test for SARS-CoV-2.

Shield Testing Data

Results for University of Illinois, Urbana-Champaign.
Direct linking to this site will not work. To share please use https://go.illinois.edu/COVIDTestingData
View this webpage for more explanation of the data displayed in the dashboard. https://covid19.illinois.edu/on-campus-covid-19-testing-data-dashboard/

July 6, 2020 – February 3, 2021

Total Test Results

1,271,547

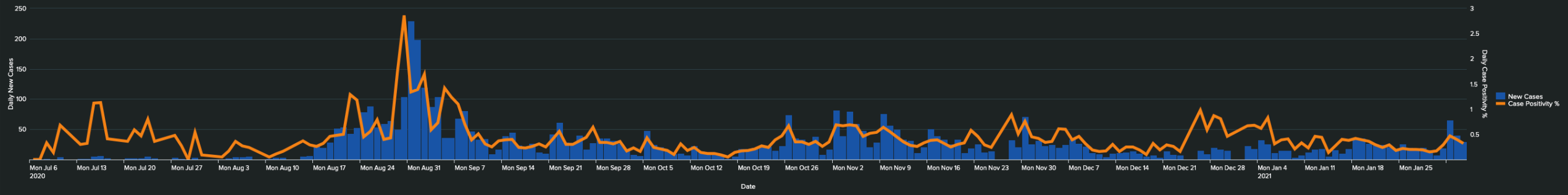
Past 7-Day Case Positivity Rate

0.30 %

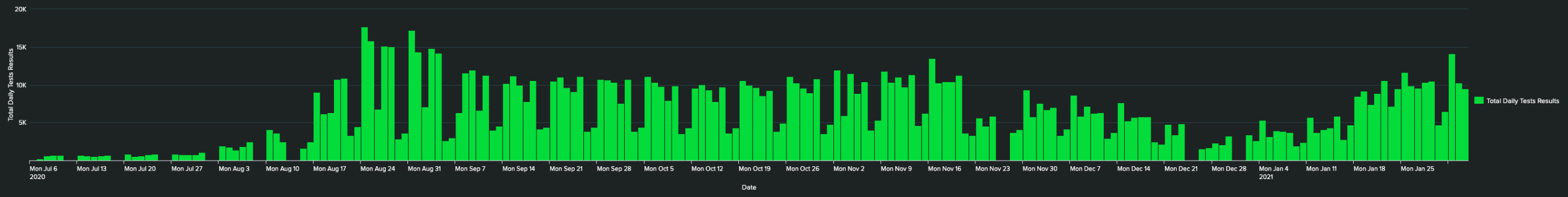
Case positivity is unique new cases/total number of test results.

Unique New Cases

Unique New Cases are the first time an individual is detected COVID-19 positive by the SHIELD saliva test



Total Number of Daily Tests



For more information about COVID 19 testing at the University of Illinois at Urbana-Champaign please visit https://covid19.illinois.edu/.

For more information on COVID-19 in Champaign County please visit https://www.c-uphd.org/champaign-urbana-illinois-coronavirus-information.html.

TYPES OF COVID-19 TESTING

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SHIELD Illinois' test is a highly sensitive molecular RT-PCR saliva-based test.

TYPES OF COVID-19 TESTING

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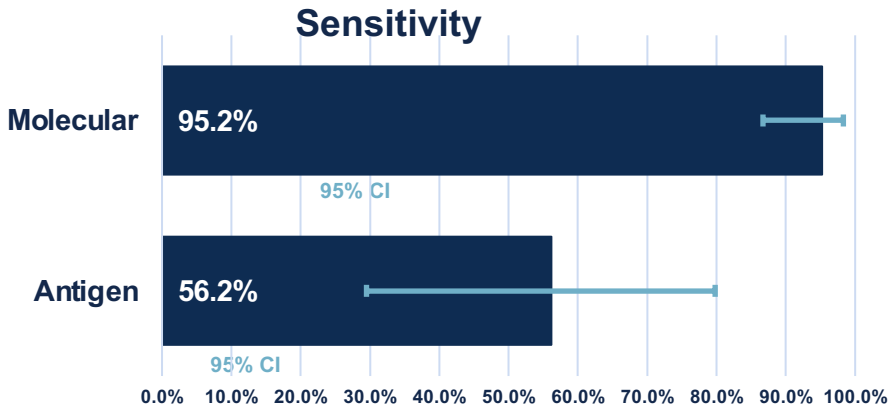
Molecular tests

- Earlier virus detection than antigen tests
- Greater sensitivity than antigen tests

Antigen tests

- Often faster results than molecular tests
- Often less expensive than molecular tests



PCR: A HIGHLY SENSITIVE TEST

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- PCR (polymerase chain reaction) creates a chain reaction that replicates viral genetic material, allowing detection of even low viral loads.
- The SHIELD test identifies three genes of the SARS-CoV-2 virus, which makes it extremely accurate in detecting positive and negative results.
- As the virus mutates, SHIELD's test may have superior detection abilities compared to a one-gene approach and can screen for variants of concern.
- To optimize functionality, SHIELD partnered with Thermo Fisher, the leading supplier of reagent material for PCR tests.
    - Thermo Fisher regularly updates its reagent to identify variants of the SARS-CoV-2 virus.
    - The CDC says that SHIELD's test is only one of 3 available that is able to identify new variants.

IMPORTANCE OF FREQUENT TESTING

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Testing *everyone* is critical because ~50% of spread is done by asymptomatic or pre-symptomatic individuals

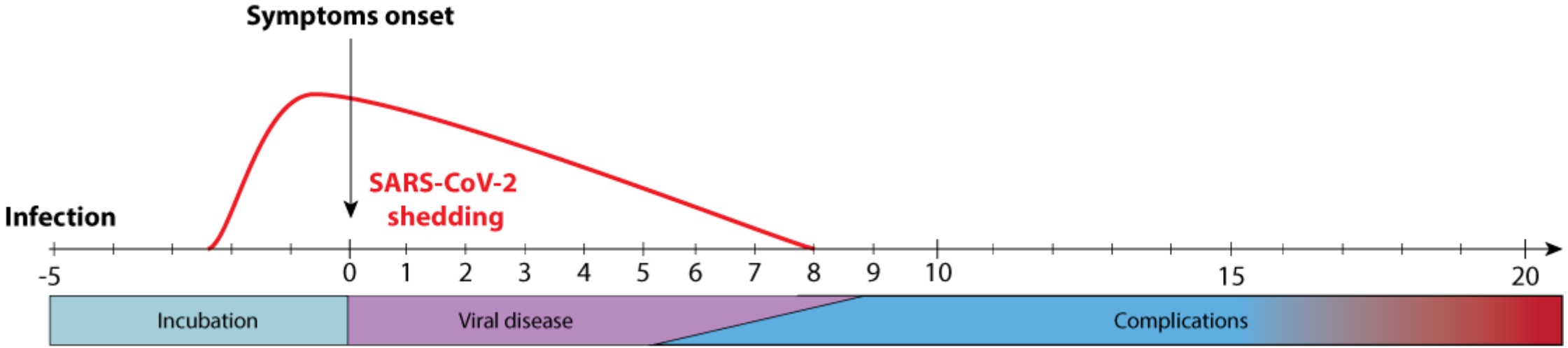

Figure from https://viralzone.expasy.org/9116

Individuals become contagious before symptoms appear

SHIELD Illinois test detects the virus before it becomes transmissible

HOW INFECTIONS SPREAD

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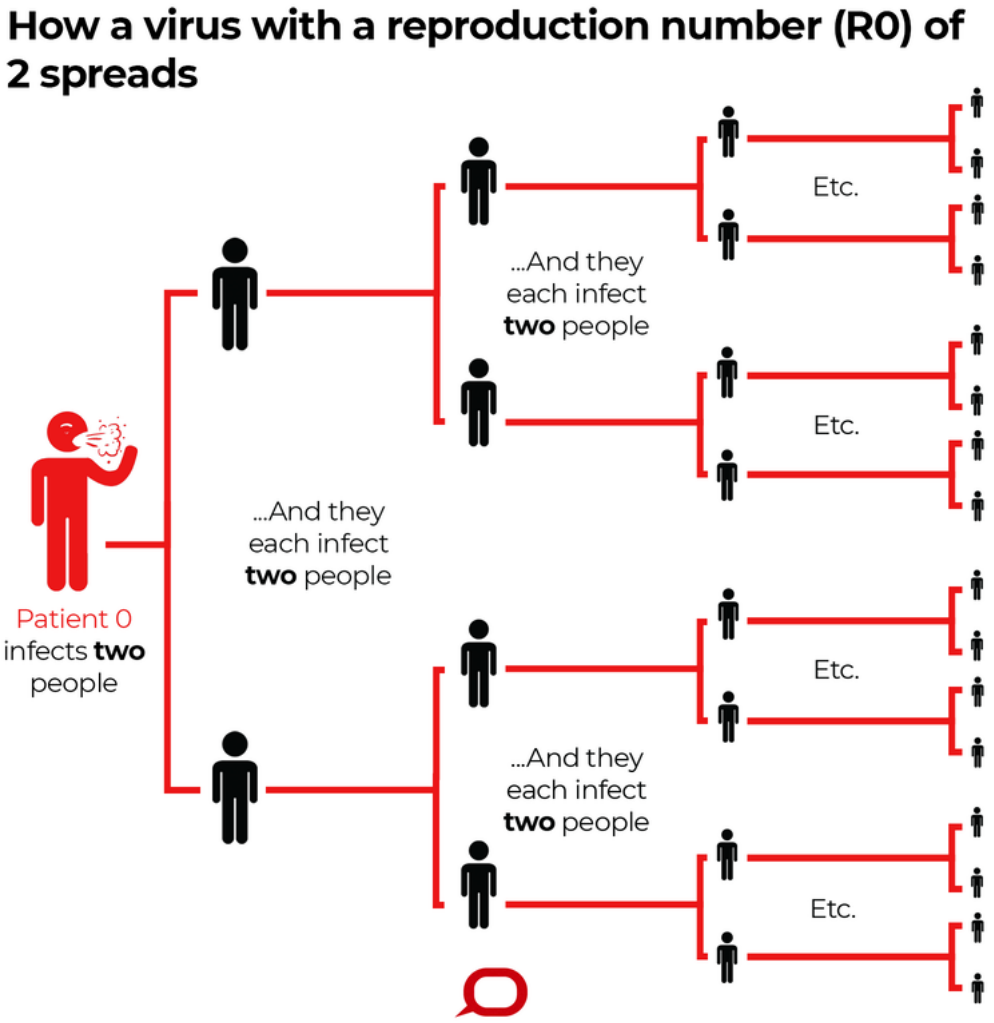
- A November 2020 study in the journal PLOS One stated the R0 of SARS-CoV-2 to be 2.87, even higher than this graphic.
- Identifying infections early and isolating infected individuals breaks the chain of infection and prevents the virus from spreading.



Source: The Conversation, Jan. 28, 2020

IMPORTANCE OF FREQUENT TESTING

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- Without testing, you don’t know who is infected and who can spread the virus. Many infected individuals report no symptoms.
- SHIELD is best used to test large groups of people, a proactive approach to catch asymptomatic and pre-symptomatic individuals
- This enables quicker isolation of infected individuals, which reduces community spread

ACCURACY SETS SHIELD APART

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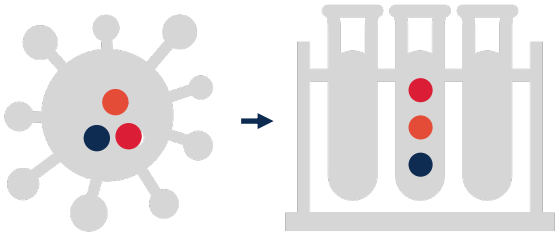
The SHIELD Illinois advantage

- SHIELD's sensitivity is 96.8% (very few false negatives) and specificity is 98.9% (very few false positives).
- SHIELD detects 3 genes of the SARS-CoV-2 virus instead of 1 like most tests.
- At least 2 genes must be present to label a sample as "positive."
- Allows identification of pre-symptomatic and asymptomatic individuals.
- Identifies virus mutations and variants.



3 genes identified by SHIELD's test

1 gene identified by other saliva tests

COLLECTION PROCESS

SHIELD Illinois' collection process is quick, self-administered and non-invasive.

METHODS OF COLLECTION

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VS.

Sample Collection

Saliva or nasal?

- Saliva captures more copies of virus DNA than nasopharyngeal swabs.
- Saliva tests have shown to detect the virus sooner than nasal swab tests.
- Saliva doesn't require medically trained collection staff.
- Saliva tests don't detect dead virus like nasal swabs do.

HOW TO DROOL

IS SALIVA TESTING SAFE?

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- When proper mitigation efforts are followed, such as mask wearing, social distancing, proper ventilation and hygiene, testing sites do not pose a risk for spread.
  - The University of Illinois has been testing indoors since October with no indication of spread within testing sites.
- Drooling, when done properly, does not create aerosols.
  - The individual should not spit. Instead, it should be a passive approach that allows the saliva to pool into the person's mouth and fall into the funnel.

RESULT REPORTING PROCESS

SHIELD reports results to the school district and IDPH within 24 hours of samples reaching the lab. No follow up testing is needed.

SECURITY AND HIPAA COMPLIANCE

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- SHIELD Illinois utilizes two of the leading health records providers in the country to ensure HIPAA and security compliance.

- No samples are used for research purposes unless consent is explicitly given.