Laboratory System Response to COVID-19 and Mpox

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GROUNDHOG DAY

"Those who cannot remember the past are condemned to repeat it." George Santayana

"Those that fail to learn from history are doomed to repeat it." Winston Churchill

"Insanity is doing the same thing over and over, but expecting different results." not Albert Einstein

CDC COVID DATA TRACKER

United States COVID-19 Cases, Deaths, and Laboratory Testing (NAATs) by State, Territory, and Jurisdiction

Maps, charts, and data provided by CDC, updates Mon-Fri by 8 pm ET

View Footnotes and Download Data

TOTAL TESTS REPORTED

1,031,498,888

TOTAL POSITIVE TESTS

98,380,361

7-DAY % POSITIVITY

6.63%

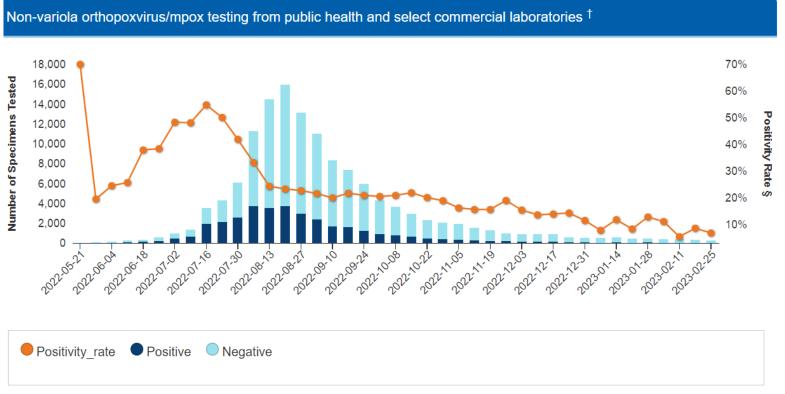
National totals as of: Mar 19 2023. National positivity date as of: Mar 19 CDC | Data as of: Wednesday, March 22, 2023 2:12 PM ET. Posted: Wednesday, March 22, 2023 3:13 PM

NON-VARIOLA ORTHOPOXVIRUS AND MPOX VIRUS LABORATORY TESTING DATA

Total Specimens Tested

Cumulative Positivity Rate

25.5%



LABORATORY SYSTEM RESPONSE TO COVID-19 AND MPOX

PUBLIC HEALTH

By Jay K. Varma, Jill Taylor, and Joshua M. Sharfstein

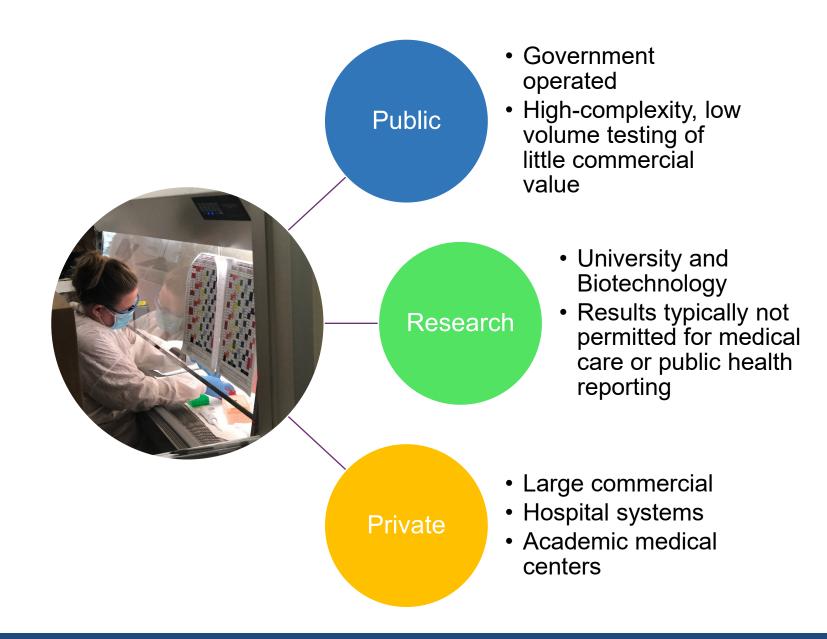
DOI: 10.1377/hlthaff.2022.01211 HEALTH AFFAIRS 42, NO. 3 (2023): 366-373 ©2023 Project HOPE— The People-to-People Health Foundation, Inc.

ANALYSIS

Planning For The Next Pandemic: Lab Systems Need Policy Shift To Speed Emerging Infectious Disease Warning And Tracking

"The pandemic exposed weaknesses in the design of the US laboratory system to respond to a fast-moving pathogen."

LABORATORY SYSTEM RESPONSE TO COVID-19 AND MPOX



PUBLIC HEALTH LABORATORY SYSTEM RESPONSE TO COVID-19



PHL MANDATE

Difficulty making shortterm decisions and determining long-term strategy amidst political interference and lack of guidance

JURISDICTIONAL LEADERSHIP

Leaders could facilitate creative problem solving and coordinate partnerships or sabotage response efforts with undue interference

FEDERAL MISMANAGEMENT & REGULATION

Regulatory hurdles exacerbated supply chain issues and there was no national strategy; guidance was limited and often changing

OUTSIDE LABORATORIES

Other laboratories
provided technical support
and problem solving, but
working with new or
inexperienced testing
partners was challenging

MATERIAL NEEDS

Inability to acquire and maintain supplies in sufficient quality or quantity, exacerbated by suppliers and the federal government; insufficient space to meet distancing and equipment needs

INFORMATION SYSTEMS

Qutdated systems including paper forms lead to slower testing
and data sharing as
well as difficulty
producing usable
analysis

WORKFORCE

Difficulty hiring & onboarding qualified staff; burn out; poaching by private sector; danger of COVID-19; fear of political backlash

FUNDING

Not enough funding; too much red tape around funding; slow disbursement or limited access to PHL funding

Identifying Operational Challenges and Solutions
During the COVID-19 Response Among US Public
Health Laboratories

Potter, Christina; Kaushal, Natasha; Wroblewski, Kelly; Becker, Scott; Nuzzo, Jennifer B.

Journal of Public Health Management and Practice: July 28, 2022

doi: 10.1097/PHH.0000000000001585

LABORATORY SYSTEM RESPONSE TO COVID-19 AND MPOX



Communication

Regulatory

- Multiple federal agencies
- Public Health Emergency and enforcement discretion
- Barriers for some, opportunities for others

Guidance

- National guidance slow to adapt/change with new data
- Patchwork of different guidance documents across local jurisdictions

Test

- Single point of failure initially
- Scalability
- Lack of diverse modalities
- Balancing sensitivity and specificity
- Sequencing and variant detection

Supply Chain

- Linked to
 - Regulatory
 - Test selection
- Global dependence
- Impact on non-COVID, non-mpox testing
- System capacity
- Procurement challenges

Data

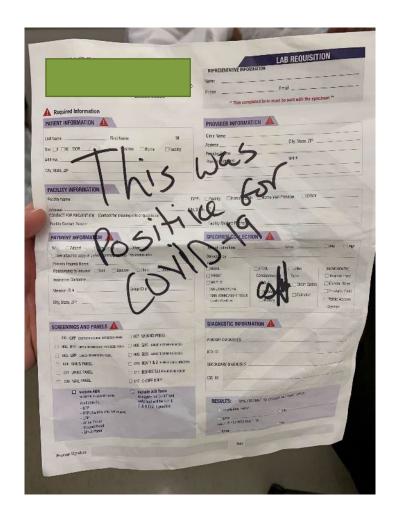
- Linked to
 - Regulatory
 - Guidance
- Old systems
- Paper-based
- Multiple fields requested

Workforce

- Technical and nontechnical
- Lack of investments in PH and medical laboratory professionals
- Competition between different parts of the system

Politization

UNIQUE EXPERIENCES

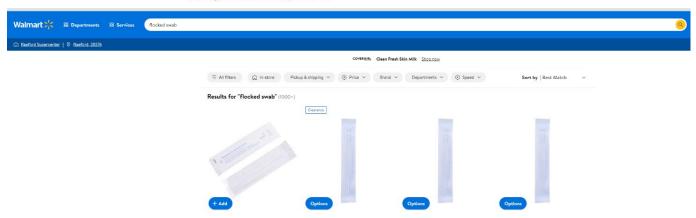


'It's Like Groundhog Day': Coronavirus Testing Labs Again Lack Key Supplies

Just weeks after resolving shortages in swabs, researchers are struggling to find the chemicals and plastic pieces they need to carry out coronavirus tests in the lab — leading to long waiting times.



A lab technician prepared coronavirus specimens for testing at a Quest Diagnostics facility in Chantilly, Va., in April. Erin Schaff/The New York Times





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