

Pandemic Readiness: Can Your Lab Sustain a Surge?

Laboratory leader perspectives on surge capacity, staffing endurance, supply resilience, LIS readiness and preparedness funding.

Lab Managers / Supervisors / Directors · 2 countries · Global peer perspectives

7

Complete responses

10

Survey records

2

Countries represented

70%

Completion rate

THE PEER QUESTION

If testing demand doubled in 48 hours, what would fail first?

CDC's Laboratory Response Network is built around rapid testing, secure reporting, training and surge capability during public health emergencies. The MDForLives laboratory responses point to the same reality at an institutional level: readiness depends on more than molecular platforms. It also depends on reagents, specimen logistics, cross-trained staff, information systems and funding that survives the quiet years between crises.

CDC describes laboratory preparedness as an integrated capability that includes testing capacity, trained personnel, secure reporting, readiness exercises and the ability to support surge demand during public health emergencies.

Coverage: United States, Canada. Findings describe the opinions and reported practice or operating patterns of participating respondents. Question-level response bases vary because not every survey record answered every item.

EXECUTIVE SUMMARY

The pattern in one view

These laboratory responses suggest that preparedness can remain technically capable while becoming operationally fragile. Molecular assets and LIS capability may stay in place even as funding and workforce endurance weaken. The next diagnostic surge will test whether hospitals preserved a complete readiness system, not simply the instruments purchased during the last crisis.

01 / PEER SIGNAL

Two to four weeks of endurance

50.0% This is the most selected estimate for sustaining a high-volume surge.

02 / PEER SIGNAL

Stockpiling leads shortage strategy

50.0% A 30 to 60 day surplus is the most selected reagent mitigation approach.

03 / PEER SIGNAL

Cross-training is active

62.5% Routine bench staff can pivot across disciplines in a surge.

04 / PEER SIGNAL

LIS confidence is strong

50.0% Half strongly agree public-health reporting can be automated.

SECTION 01

The first failure point is split between supply and specimen flow

CONTEXT

When asked what would limit a 48-hour doubling of molecular throughput, respondents divide between reagent availability and specimen collection or transport.

DATA

33.3% name reagent availability as the primary surge bottleneck, matched by specimen collection and transport logistics. Response pattern: Reagents / consumables: 33.3%, Specimen collection / transport: 33.3%, Staffing shortage: 22.2%, LIS / reporting delays: 11.1%.

INSIGHT

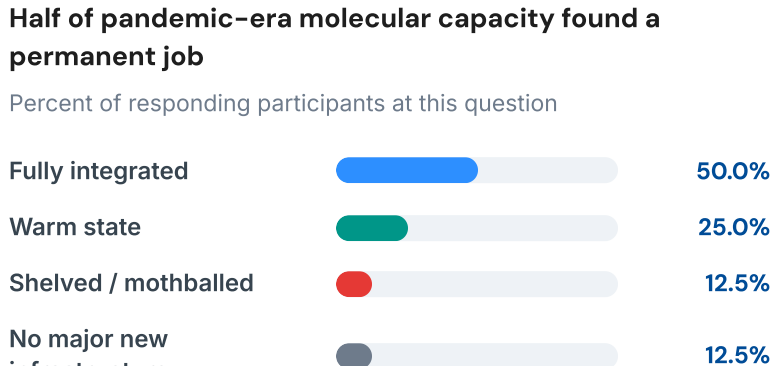
The bottleneck is not necessarily the analyzer. Capacity can be stranded upstream by collection logistics or downstream by supply and data flow.

WHY IT MATTERS

Surge planning should map the complete diagnostic pathway, from collection to reporting, instead of measuring readiness by instrument count alone.

The first failure point is split between supply and specimen flow

Percent of responding participants at this question



SECTION 02

Half of pandemic-era molecular capacity found a permanent job

CONTEXT

The strongest infrastructure signal is not mothballing. It is repurposing.

DATA

50.0% report pandemic-acquired molecular or PCR infrastructure is fully integrated into routine testing. Response pattern: Fully integrated: 50.0%, Warm state: 25.0%, Shelved / mothballed: 12.5%, No major new infrastructure: 12.5%.

INSIGHT

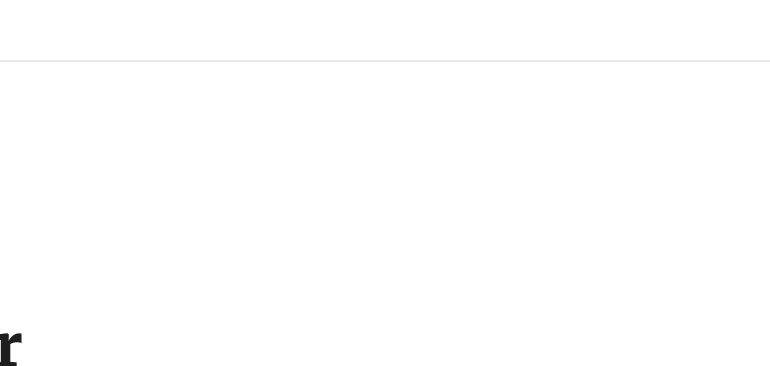
Repurposing surge assets into respiratory panels, STI testing or other routine work can preserve staff familiarity and justify maintenance costs.

WHY IT MATTERS

Infrastructure that earns its place in routine operations is easier to keep ready for the next surge.

Half of pandemic-era molecular capacity found a permanent job

Percent of responding participants at this question



SECTION 03

The information layer looks stronger than the funding layer

CONTEXT

Most respondents view their LIS reporting capability positively, even while dedicated preparedness funding appears fragile.

DATA

50.0% strongly agree their LIS can support automated public-health reporting without manual entry. Response pattern: Strongly agree: 50.0%, Agree: 25.0%, Disagree: 25.0%.

INSIGHT

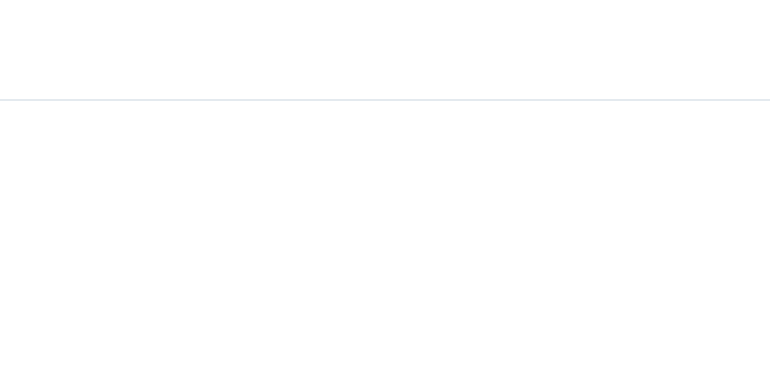
Digital reporting may be one of the better-preserved pieces of readiness in this small sample.

WHY IT MATTERS

A capable LIS reduces the administrative drag of a surge, but it cannot compensate for missing staff, reagents or maintenance budgets.

The information layer looks stronger than the funding layer

Percent of responding participants at this question



SECTION 04

Supply resilience is still being bought as inventory

CONTEXT

The most common shortage strategy is a 30 to 60 day surplus rather than platform diversification.

DATA

50.0% use on-site stockpiling as their primary reagent-shortage strategy. Response pattern: 30 to 60 day stockpile: 50.0%, Open-system / LDT validation: 25.0%, Platform diversification: 12.5%, Single-vendor priority agreement: 12.5%.

INSIGHT

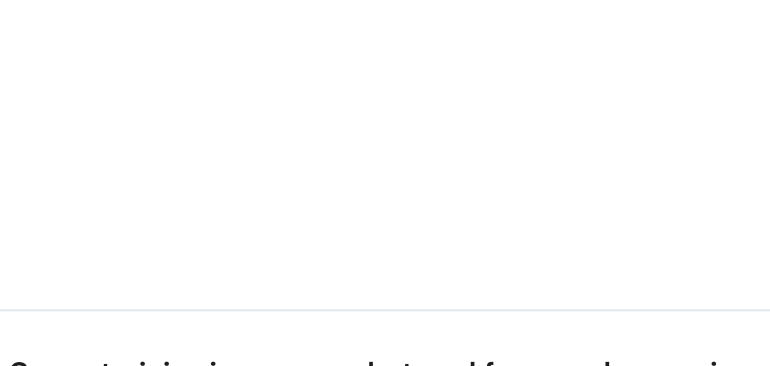
Inventory is the most immediate hedge, but it has storage, expiry and financing costs.

WHY IT MATTERS

Long-term resilience may require a portfolio approach that combines stock, vendor flexibility, alternative methods and validated backup workflows.

Supply resilience is still being bought as inventory

Percent of responding participants at this question



SECTION 05

Cross-training is common, but workforce endurance is short

CONTEXT

Most respondents report active cross-training, yet the same group signals that sustained surge staffing remains a vulnerability.

DATA

50.0% say their current team could sustain a high-volume surge for 2 to 4 weeks. Response pattern: Less than 2 weeks: 12.5%, 2 to 4 weeks: 50.0%, 1 to 3 months: 25.0%, 3+ months: 12.5%.

INSIGHT

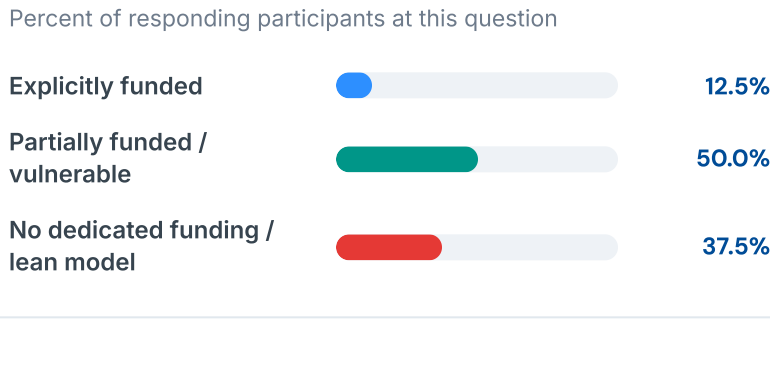
Cross-training improves elasticity, but it does not create additional people. A surge can still exhaust a flexible team if baseline staffing is thin.

WHY IT MATTERS

Preparedness plans need both skill mobility and staffing depth, including relief, retention and backup coverage.

Cross-training is common, but workforce endurance is short

Percent of responding participants at this question



SECTION 06

Preparedness budgets are the most fragile layer

CONTEXT

Only one respondent reports readiness as an explicitly funded priority.

DATA

50.0% report readiness funding is only partial and remains vulnerable to cost-cutting. Response pattern: Explicitly funded: 12.5%, Partially funded / vulnerable: 50.0%, No dedicated funding / lean model: 37.5%.

INSIGHT

The quiet period after a crisis creates a predictable governance problem: preparedness looks expensive precisely when it is not being visibly used.

WHY IT MATTERS

Readiness degrades gradually through expired stock, lapsed service contracts, staff turnover and lost competency long before the next emergency makes the gap obvious.

Preparedness budgets are the most fragile layer

Percent of responding participants at this question



OPEN-ENDED PERSPECTIVE

What respondents said when the answer choices disappeared

■

Supply chain resilience must be maintained between crises

Open comments return to reagent, PPE and vendor vulnerabilities, including the need for diversified supply and maintained stockpiles.

■

Laboratory capacity is broader than analyzer capacity

Respondents describe staffing, consumables, collection supplies and partnerships as part of the same readiness system.

■

Workforce endurance is a preparedness asset

Retention, cross-training and the physical and mental strain of sustained demand appear alongside technical capacity.

■

Preparedness should stay funded in non-crisis periods

The clearest qualitative warning is that resilience erodes when stockpiles, backup equipment and staffing investments are treated as temporary emergency costs.

PRACTICE PATTERN

What may be sitting underneath the responses

■

Readiness is a system, not an analyzer

Reagents, specimen flow, reporting, staffing and backup capacity fall together when one layer is weak.

■

Cross-training creates elasticity

A workforce that can move across benches gives laboratories more room to absorb sudden volume.

■

Preparedness erodes between crises

Service contracts, inventory and workforce investment are easiest to cut precisely when they are least visible.

CLOSING PERSPECTIVE

Pandemic Readiness: Can Your Lab Sustain a Surge?

These laboratory responses suggest that preparedness can remain technically capable while becoming operationally fragile. Molecular assets and LIS capability may stay in place even as funding and workforce endurance weaken. The next diagnostic surge will test whether hospitals preserved a complete readiness system, not simply the instruments purchased during the last crisis.

PEOPLE ALSO ASK

Clinical questions about Laboratory pandemic preparedness and diagnostic surge resilience

What does laboratory pandemic preparedness include?

Preparedness includes validated testing methods, trained staff, surge workflows, supply continuity, specimen logistics, biosafety, data reporting and the ability to scale operations during an emergency.

Why is surge capacity different from routine laboratory capacity?

Routine capacity is optimized for expected volume. Surge capacity must absorb sudden demand while maintaining turnaround time, quality and safety, often with disrupted supply chains and rapidly changing testing requirements.

Why is cross-training important in a diagnostic surge?

Cross-training gives laboratories more flexibility to redeploy staff when one discipline experiences a sudden volume spike. It works best when competencies are maintained and credentialing or scope requirements are addressed before an emergency.

What role does the LIS play in public health readiness?

The laboratory information system supports order intake, result management and electronic reporting. Automated interfaces can reduce manual entry and speed notification, but they still depend on reliable data standards and connections with public health systems.

Why do labs keep backup instruments in a “warm state”?

Keeping equipment maintained, serviced and occasionally used can preserve readiness while avoiding the cost of running full surge capacity every day. The trade-off is the ongoing expense of service contracts, competency and quality control.

How can labs reduce reagent and consumable shortages?

Common strategies include safety stock, multiple suppliers or platforms, validated alternative methods, vendor agreements and coordinated regional partnerships. The right mix depends on storage, shelf life, regulatory requirements and local risk.

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SELECTED EXTERNAL CONTEXT

- [CDC Laboratory Response Network](#)
- [CDC Laboratory Response Network for Chemical Threats](#)

Source note: External references provide clinical, operational or regulatory context. All MDForLives percentages and response counts come from survey SGID 8914810.

Visual Graphs and Backend Data

Percentages and counts are reproduced from MDForLives survey SGID 8914810. Question bases vary across partial completes.

Survey profile

Metric	Value
Completion rate	70%
Complete	7
Partial	3
Total survey records	10
Countries	United States, Canada

Section 01: The first failure point is split between supply and specimen flow

Response option	Percent	Responses
Reagents / consumables	33.3%	3
Specimen collection / transport	33.3%	3
Staffing shortage	22.2%	2
LIS / reporting delays	11.1%	1

Section 02: Half of pandemic-era molecular capacity found a permanent job

Response option	Percent	Responses
Fully integrated	50.0%	4
Warm state	25.0%	2
Shelved / mothballed	12.5%	1
No major new infrastructure	12.5%	1

Section 03: The information layer looks stronger than the funding layer

Response option	Percent	Responses
Strongly agree	50.0%	4
Agree	25.0%	2
Disagree	25.0%	2

Section 04: Supply resilience is still being bought as inventory

Response option	Percent	Responses
30 to 60 day stockpile	50.0%	4
Open-system / LDT validation	25.0%	2
Platform diversification	12.5%	1
Single-vendor priority agreement	12.5%	1

Section 05: Cross-training is common, but workforce endurance is short

Response option	Percent	Responses
Less than 2 weeks	12.5%	1
2 to 4 weeks	50.0%	4
1 to 3 months	25.0%	2
3+ months	12.5%	1

Section 06: Preparedness budgets are the most fragile layer

Response option	Percent	Responses
Explicitly funded	12.5%	1
Partially funded / vulnerable	50.0%	4
No dedicated funding / lean model	37.5%	3