WESTERN HEMISPHERE READINESS SERIES

HRS RESILIENCE FOUNDATION

STRATEGIC REPORT 01

Health Security and Institutional Resilience in the Americas

From Preparedness to Operational Readiness

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About this series. The Western Hemisphere Readiness Series is HRS Resilience Foundation's ongoing program of independent research on institutional readiness and strategic resilience across the Americas, spanning Strategic Reports, Policy Briefs, Technical Papers, Sector Readiness Assessments and Regional Assessments.

FRONT MATTER

About the HRS Resilience Foundation

The HRS Resilience Foundation is a Virginia-based nonstock research and policy organization established in 2026 to advance institutional readiness, health security and biosurveillance analysis across the Western Hemisphere. The Foundation operates alongside its affiliated entity, HRS Hemispheric Resilience System, Inc., which focuses on applied program and technology work in the same domain.

The Foundation's mission is to translate technical guidance from leading international health institutions — principally the World Health Organization and the Pan American Health Organization — into analytical frameworks that national governments, regional bodies and institutional partners across the Americas can apply directly to their own readiness planning.

This Strategic Report series is the Foundation's primary public research vehicle. Each report undergoes internal editorial review against the sourcing and integrity standards described in the Methodology section of this document before publication.

Focus areas	Institutional readiness architecture · health security · biosurveillance · critical-infrastructure continuity · supply-chain resilience
Geographic scope	Western Hemisphere, with emphasis on Latin America and the Caribbean
Primary audiences	National and sub-national government agencies, international institutions, and institutional partners engaged in hemispheric resilience planning
Research posture	Desk-based analytical synthesis of primary institutional sources, disclosed in full under Methodology

> *The HRS Resilience Foundation is an independent, non-partisan research organization. It is not a government body, and this report is not issued on behalf of, or reviewed by, any government agency.*

FRONT MATTER

Executive Summary

The resilience of the Western Hemisphere over the coming decades will depend not only on economic strength or physical assets, but on the ability of institutions to anticipate disruption, make decisions under uncertainty, coordinate across boundaries and sustain essential functions when systems are under stress.

Health emergencies provide a useful test case because they expose dependencies across public health, logistics, critical infrastructure, information systems, workforce capacity and institutional leadership. The World Health Organization's March 2026 framework for national public health agencies identifies twelve core capabilities for preventing, preparing for and responding to health emergencies.[1]

This report translates that broader preparedness agenda into an institutional readiness lens applicable across the Americas. It does not replace national plans or technical guidance. It asks a practical question: can existing capabilities work together when conditions are degraded and decisions must be made quickly?

CENTRAL PROPOSITION

For institutions in the Americas, the next stage of resilience should be built around an integrated readiness cycle: the HRS Readiness Cycle — detect → assess → decide → coordinate → deploy → sustain → learn. This is an analytical lens for connecting existing frameworks to practical institutional performance, introduced and developed in Section 4 of this report.

The report does not propose a single model for every country. Instead, it identifies capabilities and decision points that can be adapted to different institutional, geographic and risk environments.

- **Readiness is a system property.** Surveillance, leadership, workforce, logistics, communications and continuity must function together.
- **Early warning has value only when it reaches decision-makers.** Information must move through defined channels with clear responsibilities.
- **Coordination is a capability.** Roles, escalation thresholds and decision rights should be designed and exercised before a crisis.
- **Continuity is part of security.** Institutions must maintain essential services while responding to disruption.
- **Learning must be institutionalized.** Exercises, after-action reviews and corrective action should form a recurring readiness cycle.

FRONT MATTER

Positioning within the Policy Research Landscape

Institutional readiness and health security in the Western Hemisphere are active areas of analysis for several established research organizations, each approaching the subject from a different angle. Situating this report against that landscape clarifies its intended contribution.

ORGANIZATION	PRIMARY LENS	HOW THIS REPORT RELATES
RAND Corporation	Resourcing, great-power competition and community-level resilience in the hemisphere[9,10]	HRS focuses narrowly on the institutional decision architecture that sits between early warning and operational response — a layer RAND's resourcing and community-resilience work does not itself model in detail.
CSIS	U.S. global health security policy, financing and diplomatic strategy[11]	HRS applies a complementary operational lens: rather than U.S. policy and financing architecture, this report asks whether Western Hemisphere institutions themselves can execute under degraded conditions.
Atlantic Council	Economic, political and strategic dynamics of the Western Hemisphere[12]	HRS narrows from the broader hemispheric strategic picture to the specific question of health-security and continuity readiness within that picture.

This report does not claim to supersede or duplicate that body of work. Its contribution is a hemispheric, institution-level readiness architecture — the HRS Readiness Cycle — built specifically to connect WHO and PAHO technical guidance to the operational realities described in the broader policy literature. Subsequent reports in this series are intended to apply that architecture to country-level and sector-specific cases.

SECTION 01

A Long-Horizon View of Institutional Resilience

A fifty-year resilience horizon should not be treated as a forecast. No institution can reliably predict the technologies, threats, demographics or political conditions of 2076. A more useful approach is to identify durable capabilities that remain valuable even as specific risks change.

The most durable capabilities are likely to include competent institutions; reliable information; continuity of essential services; diversified supply chains; trained personnel; interoperable systems; accountable decision-making; and the ability to learn from disruption.

This report therefore focuses on capability architecture rather than a fixed threat list. The objective is to help institutions remain effective when the nature of the next disruption is uncertain.

A Durable Resilience Architecture

CAPABILITY	LONG-TERM VALUE
Institutional capacity	Preserves decision-making and execution under changing conditions.
Situational awareness	Improves detection, assessment and prioritization of emerging risks.
Critical-system continuity	Protects essential services during disruption.
Supply-chain resilience	Reduces dependence on single points of failure.
Workforce readiness	Maintains expertise and surge capacity over time.
Institutional learning	Converts exercises and failures into measurable improvement.

The strategic implication is straightforward: long-term resilience is less about predicting the next crisis than about ensuring that institutions can absorb uncertainty and recover with greater capability than before.

SECTION 02

The Preparedness-to-Readiness Gap

Preparedness is often expressed through plans, policies, training, stockpiles and formal capabilities. Operational readiness asks a more demanding question: can the institution perform when information is incomplete, systems are degraded and several organizations must act at the same time?

The WHO's 2025 National Health Emergency Alert and Response Framework describes stages from detection and notification through risk assessment, activation, response and operational review.[2] The sequence illustrates why readiness is more than planning: each stage depends on the next.

Preparedness and Readiness

PREPAREDNESS	OPERATIONAL READINESS
Plans, policies and protocols exist.	People can execute them under pressure.
Capabilities are identified.	Capabilities are available, connected and tested.
Information is collected.	Information reaches decision-makers in time to act.
Resources are identified.	Resources can be mobilized and sustained.
Exercises occur.	Exercises produce corrective action and measurable improvement.

This distinction is an analytical synthesis by the HRS Resilience Foundation based on the cited WHO and PAHO frameworks; it is not presented as a quoted definition from any single source.

SECTION 03

The Strategic Environment in the Americas

The Americas already possess significant health-security and emergency-preparedness architecture. The strategic opportunity is to make existing capabilities more connected, measurable and operationally reliable.

PAHO's 2025 reporting highlights advances in epidemic intelligence, early warning and emergency preparedness in the Region.[6] In April 2026, PAHO described collaborative surveillance linking the International Health Regulations network, INFOSAN and regional laboratory networks to strengthen detection, verification and assessment of threats. In June 2026, PAHO's Executive Committee approved the Strategy for Strengthening Health Emergency and Risk Management for Health Security 2026–2031, establishing a current regional planning horizon for preparedness and response capacities.[7]

This institutional picture does not exist in isolation from the hemisphere's broader strategic environment. Independent analysis of U.S. resourcing toward Latin America and the Caribbean has noted the extent to which adversary-state activity in the region interacts with the resilience of regional institutions[9] — reinforcing the case that health-security readiness cannot be considered a purely technical or purely medical question.

> *Regional implication — The strategic problem is therefore not simply a lack of information. It is the ability to convert distributed information into shared situational awareness and timely institutional action. This makes interoperability, governance and decision rights as important to readiness as surveillance technology itself.*

The Western Hemisphere should therefore be viewed as a connected operating environment in which disruptions can propagate through health systems, ports, energy networks, communications, supply chains and public institutions. This report treats 2026 as a useful transition point: the Region is not starting from zero; it is entering a period in which existing health-security capabilities can be better connected.

SECTION 04

The HRS Readiness Cycle: An Architecture for Institutions

The HRS Resilience Foundation proposes the following seven-function architecture — the HRS Readiness Cycle — as an analytical tool. It is deliberately compatible with existing national and international frameworks rather than intended to replace them.

01 Detect → 02 Assess → 03 Decide → 04 Coordinate → 05 Deploy → 06 Sustain → 07 Learn

#	FUNCTION	READINESS QUESTION
01	Detect	Can meaningful signals be identified and reported in time?
02	Assess	Can risk, uncertainty and potential consequences be characterized?
03	Decide	Are authority, thresholds and accountability clear?
04	Coordinate	Can institutions share information and align action?
05	Deploy	Can people, resources and technical capabilities be activated?
06	Sustain	Can essential functions continue through disruption?
07	Learn	Can lessons become corrective action and measurable improvement?

The HRS Readiness Cycle places decision-making and continuity between information and deployment. An institution can have strong surveillance and still fail operationally if escalation thresholds are unclear, authority is fragmented or essential services cannot be sustained.

SECTION 05

Core Capability Priorities

5.1 Collaborative Surveillance and Early Warning

Early warning is strongest when surveillance systems, laboratories, public health authorities and relevant non-health actors can share information through defined mechanisms. PAHO's recent work on collaborative surveillance illustrates the regional direction toward connected rather than isolated systems.[6]

5.2 Emergency Coordination

Coordination should be treated as a capability that can be designed, tested and improved. The WHO's emergency-response framework places coordination alongside surveillance, community protection, safe and scalable care, and access to countermeasures.[1]

5.3 Continuity of Essential Services

Emergency readiness is incomplete if institutions can respond to an incident but cannot maintain essential services. The WHO's 2026 Emergency Ready Primary Health Care framework uses four connected capacities — connect, detect, protect and treat — to embed readiness within routine systems.[3,4]

5.4 Workforce and Surge Capacity

A ready institution has people who understand their roles before an emergency. The WHO's Global Health Emergency Corps work emphasizes emergency-ready health workforces and mechanisms for connecting surge capacity and expertise.[1]

5.5 Exercises and Institutional Learning

Exercises should identify failure points before an actual emergency. The WHO's 2026 guidance encourages countries to institutionalize structured simulation exercises as a component of preparedness and operational readiness.[5]

SECTION 06

Resilient Health Supply Chains

Health security depends on the availability and movement of critical supplies. Resilience is not synonymous with holding the largest possible inventory. A resilient supply system balances availability, diversification, visibility, transportation options, supplier risk and recovery capacity.

Analytical Dimensions

- **Concentration risk:** dependence on a limited number of suppliers, manufacturers, routes or production locations.
- **Visibility:** ability to know where critical supplies are, what condition they are in and how quickly they can be moved.
- **Substitution:** availability of qualified alternative products, suppliers or routes.
- **Transportation resilience:** ability to operate when normal logistics corridors are disrupted.
- **Surge capacity:** ability to scale demand and distribution during an emergency.
- **Governance:** clear accountability for procurement, allocation, replenishment and disposition.

> *The goal is not zero disruption. The goal is to reduce the probability that a disruption becomes a failure of essential services and to shorten the time required for recovery.*

SECTION 07

Information, Data and Institutional Trust

Modern health security increasingly depends on the ability to combine information from multiple sources without undermining privacy, legal authority or public trust. The challenge is therefore both technical and institutional.

A Readiness-Oriented Information Model Should Answer Five Questions

- **What do we know?** Verified facts and observations.
- **How confident are we?** Quality, provenance and uncertainty.
- **What does it mean?** Risk assessment and scenario interpretation.
- **Who needs to know?** Decision rights and information routing.
- **What action follows?** Explicit thresholds, assignments and accountability.

Institutional Trust as Infrastructure

Trust affects whether institutions share information, whether recommendations are followed, whether communities cooperate and whether partners can coordinate under pressure. Transparency, defined responsibilities, privacy safeguards and consistent reporting are therefore operational assets.

For long-term resilience, information systems should be designed for interoperability and continuity, while governance should preserve accountability for who collects, validates, shares and acts on critical information.

SECTION 08

Critical Infrastructure and Continuity

Health security cannot be separated from the infrastructure that keeps societies functioning. Hospitals depend on power, water, communications, transportation, fuel, data systems and supply networks. Disruption in one domain can create cascading effects in another.

A long-horizon resilience strategy should therefore treat critical infrastructure as an interconnected system rather than as isolated sectors.

Priority Continuity Questions

- Which services must remain operational under degraded conditions?
- Which dependencies create single points of failure?
- Which alternate facilities, routes, suppliers or communications channels are available?
- How quickly can essential capacity be restored?
- Which institutions have authority to prioritize scarce resources during disruption?

The objective is not to eliminate every vulnerability. It is to identify the vulnerabilities that can create cascading failures and build practical redundancy, continuity and recovery measures around them.

SECTION 09

A 12-Month Readiness Agenda

The following agenda is an HRS analytical recommendation for institutions seeking to move from planning toward measurable readiness. It should be adapted to national law, institutional mandates and local risk profiles.

PERIOD	STAGE	CORE ACTIVITY
Months 1–3	Baseline	Map critical functions, dependencies, decision rights, information flows and continuity risks.
Months 3–5	Design	Define readiness indicators, escalation thresholds, coordination mechanisms and priority capability gaps.
Months 5–7	Connect	Link surveillance, emergency coordination, logistics, clinical services and communications.
Months 7–9	Exercise	Run scenario-based exercises focused on cross-institutional failure points.
Months 9–10	Correct	Document lessons, assign corrective actions and fund priority improvements.
Months 10–12	Validate	Retest critical capabilities and publish an institutional readiness assessment.

Suggested Readiness Indicators

- Time from signal detection to validated assessment.
- Time from validated assessment to executive decision.
- Percentage of critical functions with tested continuity procedures.
- Percentage of priority suppliers or routes with documented alternatives.
- Exercise findings closed within an agreed corrective-action period.
- Availability and timeliness of critical situational-awareness reports.

SECTION 10

Recommendations for the Western Hemisphere

1. **Connect existing systems.** Prioritize interoperability and information-sharing mechanisms before creating new standalone platforms.
2. **Make coordination testable.** Define roles, escalation thresholds and decision rights, then test them through exercises.
3. **Protect continuity.** Identify essential services that must continue during disruption and build explicit continuity measures around them.
4. **Treat supply chains as strategic infrastructure.** Map concentration, transportation and substitution risks for critical health commodities and other essential inputs.
5. **Institutionalize learning.** Require after-action reviews, corrective actions and retesting after major exercises or events.
6. **Strengthen regional cooperation.** Use established national and regional mechanisms as foundations for trusted information exchange, coordinated preparedness and practical capability development.

SECTION 11

Conclusion

The Americas do not need to begin again. The Region already possesses substantial preparedness architecture, expertise and institutional mechanisms. The opportunity is to make those capabilities more connected, measurable and operationally reliable.

> *A resilient institution is not one that predicts every crisis. It is one that can detect meaningful signals, assess uncertainty, make decisions, coordinate action, sustain essential functions and learn quickly when reality differs from the plan.*

For a long-term Western Hemisphere strategy, the most durable investment is institutional capability: the ability to understand risk, protect critical functions, coordinate action and recover stronger. Technologies and threats will change. The need for capable institutions will not.

This report is intended as a foundation for further research, country assessments, regional studies, operational frameworks and policy analysis by the HRS Resilience Foundation.

BACK MATTER

Methodology, Scope and Research Integrity

This report is a desk-based strategic analysis prepared by the HRS Resilience Foundation. It synthesizes public technical guidance and official reporting, with emphasis on WHO and PAHO materials published or updated during 2025–2026, read against the broader policy literature on hemispheric security and health-security financing produced by RAND, CSIS and the Atlantic Council.

Source Hierarchy

- **Primary institutional sources:** official WHO and PAHO frameworks, strategies, guidance and reporting.
- **Comparative policy literature:** published analysis from established research institutions, used to situate this report's contribution rather than as a basis for its core claims.
- **Analytical synthesis:** interpretations and framework elements — including the HRS Readiness Cycle — developed by the HRS Resilience Foundation from those sources.
- **No invented field evidence:** the report does not claim field deployments, measured outcomes, partnerships or program results that have not been independently documented.
- **No endorsement implied:** citation of an institution does not imply endorsement of the HRS Resilience Foundation or its recommendations.

Scope Limitations

This report is not a country-level preparedness assessment and does not score individual governments or institutions. It does not replace national action plans, legal requirements, emergency-management doctrine, WHO/PAHO guidance or professional technical advice.

Long-Horizon Use

The fifty-year horizon is a strategic planning lens, not a forecast. The report identifies durable institutional capabilities rather than predicting specific events, technologies or political conditions decades into the future.

BACK MATTER

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WESTERN HEMISPHERE READINESS SERIES

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Independent research for institutional readiness, continuity, and 50-year resilience planning across the Western Hemisphere. Research Outputs span Strategic Reports, Policy Briefs, Technical Papers, Sector Readiness Assessments and Regional Assessments, translating public-source evidence into practical frameworks built to remain valid for governments, infrastructure operators, investors, and institutional decision-makers across changes in technology, suppliers, and political leadership.

RESEARCH OUTPUTS TO DATE

STRATEGIC REPORTS

Strategic Report 01 — Health Security and Institutional Resilience in the Americas

Strategic Report 02 — Resilient Infrastructure Investment in the Western Hemisphere

POLICY BRIEFS

Policy Brief 01 — Strengthening Regional Health Emergency Readiness in the Americas

TECHNICAL PAPERS

Technical Paper 01 — Building Resilient Health Supply Chains

REGIONAL ASSESSMENTS

Country Readiness Assessment 01 — Brazil

SECTOR ASSESSMENTS

SRA 01 — Telecommunications & Digital Infrastructure

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SRA 03 — Critical Minerals & Strategic Materials

SRA 04 — Rare Earths & Western Hemisphere Mineral Security

SRA 05 — Energy Security & Strategic Power Infrastructure

SRA 06 — Ports, Logistics & Maritime Infrastructure

SRA 07 — Food Security & Strategic Agricultural Resilience

SRA 08 — Pharmaceutical & Medical Supply Chains

SRA 09 — Advanced Manufacturing & Industrial Capacity

SRA 10 — Western Hemisphere Strategic Infrastructure & Resilience

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