# THE QUADRANT

Charting the course to Health and Safety

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## Hospitals under Attack

Widespread fears that pro-Iranian "hacktivist" groups would target U.S. health care were realized on March 11 when "Handala" claimed credit for disrupting medical supplier Stryker. While Iran made the headlines, cyberattacks are common: according to a 2025 survey, 93% of U.S. health care organizations experienced an attack in the prior year, continuing a long-term trend. The cost is high for both health systems and patients—one death has been reported—making cyber resilience a critical global priority.

To assist U.S. health organizations, the federal government has added cyber to its risk identification toolkit. By integrating cyber threats in preparedness and response planning, organizations can better prioritize investments and protect patients.

## Are We There Yet? Awaiting the Next Pandemic

Six years after COVID-19 triggered the World Health Organization's highest global alarm, preparedness has improved—but unevenly. On the plus side: updated International Health Regulations, a multibillion-dollar Pandemic Fund supporting dozens of countries, expanded genomic surveillance, and AI-enabled early-warning systems. A 2025 pandemic agreement, not yet adopted by the U.S., also aims to strengthen cooperation on vaccines, data sharing, and supply chains.

Yet progress remains fragile. Public-health capacity varies widely, funding gaps persist, and geopolitical tensions complicate coordinated response. Experts warn that scaling back preparedness programs, even in high-income countries, could erode hard-won gains. Structural inequities, workforce burnout, and declining political attention further undermine readiness.

In short, the world is simultaneously better equipped technologically and more vulnerable institutionally. As WHO officials note, the honest answer to whether we are ready is "yes and no." Continued investment, trust-building, and global solidarity will determine whether the next outbreak becomes a contained event—or another systemic shock.

## Vaccines around the World

**One Size Does Not Fit All**

In January, the U.S. revised its federal childhood immunization schedule, reducing the number of diseases covered by universal routine vaccination from 17 to 11, announcing that the change followed a 2025 presidential memorandum directing federal health officials to compare the U.S. schedule with those of "peer, developed nations" and to revise the American schedule if superior approaches were found abroad.

The policy rationale rested heavily on international comparison, but that comparison requires care. Europe does not operate under a single childhood immunization schedule. The European Centre for Disease Prevention and Control maintains a vaccine scheduler covering national schedules across Europe, and those regimens differ by country, age, timing, and risk group. "Europe" is not one model but a cluster of national systems that share many priorities while still differing in execution. Therefore, comparisons are only broadly useful: one must specify which country, vaccine, and age group is being discussed.

High-income countries are not retreating from routine childhood immunization; the opposite can be said to be the case. Australia recommends and funds vaccines across the lifespan.

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# THE SWOT

## States Expand Public Health Leadership

As federal priorities shift, state health departments and regional alliances are expanding their role in public health research and coordination. States are strengthening partnerships with universities, hospitals, and neighboring jurisdictions to maintain disease surveillance, prevention programs, and applied health research. Regional alliances among states, such as the West Coast Health Alliance (California, Hawaii, Oregon, and Washington) and the 16-member Northeast Public Health Collaborative, are becoming operational networks supporting shared data systems, coordinated response planning, and joint procurement. At the same time, several states are testing new research funding models, including state-backed grant programs and public–private partnerships with academic institutions.

The emerging model places greater operational capacity at the state and regional level, allowing public health agencies to sustain research activity, maintain surveillance systems, and adapt programs more quickly to evolving health priorities.

## Vaccine-Preventable Diseases on the Rise

Vaccine-preventable diseases are increasing globally, indicating weaknesses in immunization systems and population-level protection. Measles, a key indicator of vaccination performance because of its high transmissibility, caused more than 10 million cases worldwide in 2025, reflecting renewed transmission where coverage fell below the level needed to interrupt spread. In the United States, measles outbreaks have expanded as under-vaccinated communities create conditions for rapid transmission. Measles typically requires about 93% immunity in a population to prevent sustained transmission, small declines in vaccine uptake can produce larger outbreaks, widen immunity gaps, and reverse disease-control gains.

Similar increases have been observed with pertussis in multiple settings and cases of mumps are also rising. Public health agencies estimate that more than 20 million infants each year are under-vaccinated, leaving large cohorts susceptible to infection.

## Universal Vaccine Shows Broad Protection in Mice

Researchers report that a nasal, "universal vaccine" approach protected mice for at least three months against multiple respiratory viruses and bacteria, including SARS-CoV-2, and reduced responses to respiratory allergens.

The work targets the innate immune system, the body's rapid first response, rather than matching a vaccine to a single pathogen. In the mouse experiments, animals given the intranasal formulation showed broad protection across different infectious challenges, suggesting a potential platform for short-term, wide-spectrum respiratory defense.

This remains early-stage evidence: the results are in mice, not humans, and the safety profile, duration of protection, dosing strategy, and real-world effectiveness would need to be demonstrated in clinical studies before any public health use.

## Neglected Tropical Diseases Threaten Rebound

Health officials fear that neglected tropical diseases (NTDs) once near elimination could regain ground as mass treatment campaigns across parts of Africa are facing disruption from funding cuts. Programs targeting river blindness, lymphatic filariasis, and trachoma rely on ongoing community-wide distribution of preventive medicines and continuous surveillance to interrupt transmission.

Large-scale drug distribution programs have delivered billions of treatments and sharply reduced disease prevalence. Interruptions to campaigns dosing cycles can allow parasite transmission to resume in affected regions. Health authorities warn that even short gaps in treatment and monitoring risk reversing years of progress. Communities that had approached elimination thresholds could face preventable blindness, disability, and long-term disease burdens if preventive coverage declines.

# Vaccines Around the World

## Understanding the Differences (continued from page 1)

Canada offers routine childhood vaccines free of charge to protect children against 15 diseases, with additional recommendations for children at elevated medical risk. The central analytical issue is that national schedules are shaped by more than abstract scientific agreement on vaccine efficacy. They reflect health-system organization, financing, disease burden, maternal immunization practices, background immunity, and implementation strategy.

A vaccine's absence from a universal schedule in one country does not mean that country views the disease as unimportant. In some systems, protection is achieved through targeted vaccination of risk groups, different timing, maternal immunization, or different public-health assumptions about baseline risk. The Department of Health and Human Services assessment acknowledged this by recommending that vaccines shifted out of the universal category should remain available through high-risk recommendations or shared clinical decision-making, not classified as "not recommended." In effect, the revision did not reject those vaccines outright; it changed the default policy under which families and clinicians encounter them.

Whether that change improves outcomes is a separate question. Supporters of the revision argue that a narrower universal schedule better reflects international practice and allows greater tailoring to individual risk. Critics argue that universal recommendations have operational value beyond their clinical content: they simplify communication, normalize uptake, and reduce disparities created when vaccination depends more heavily on individualized counseling or parental initiative. As CIDRAP reported, the change bypassed the traditional advisory committee process and triggered opposition from states, pediatric groups, and infectious-disease experts who warned that narrower recommendations could reduce uptake and increase confusion. The dispute is now with the courts.

In the end, international comparison can inform vaccine policy, but raw schedule counts are an incomplete measure of quality. The revision brought the federal schedule closer to the lower end of routine recommendations among some peer countries. The policy question is whether the revised framework can preserve high, equitable, and comprehensible coverage under U.S. conditions. That question remains unsettled.

# Credible Sources

**It's not news to you: As government sites have gone dark and misinformation is rampant, it is increasingly difficult to find trustworthy sources of accurate and up-to-date information.**


UNHCR, the UN Refugee Agency, has put together an excellent guide for critically evaluating online information. Key steps:

- **Check the source.** Is it a reputable news outlet or an unknown blog?
- **Check the date.** Is it recent (*really* recent) or an old piece being recirculated?
- **Check in on your feelings.** Does it evoke a strong emotional response? Such pieces may be written to provoke rather than inform.

To keep up with changes and challenges affecting our work, Intreped has put together a selection of resources for reliable government and industry information. Here are a few:

**Health:** CIDRAP | Center for Infectious Disease Research and Policy — KFF Health News — Pandemic Center | Brown University — STAT | Reporting from the frontiers of health and medicine

**Homeland Security:** Homeland Security Today.US — Domestic Preparedness

**Energy & Environment:** Canary Media | Covering the clean energy transition — E&E News by POLITICO | Essential Energy and Environment News

## The Latest

### Cracking Malaria's Code: New Protein Target Discovered

A protein called ARK1 helps the malaria parasite carry out cell division during its life cycle in humans and mosquitoes according to researchers. When ARK1 is disabled, parasite replication stopped, suggesting it plays a key role in survival and transmission. Targeting this protein could lead to highly specific antimalarial treatments.

### Tropical Insects Living on the Edge of Heat Tolerance

A study of heat tolerance in roughly 2,000 insect species across tropical Africa and South America found many lowland tropical insects are already near their maximum thermal limits; warming could expose up to 50% of Amazon species to lethal heat stress. Insects drive pollination, decomposition, nutrient cycling, and soil health; their decline could alter forest regeneration, carbon cycling, and ecosystem resilience.

### Cause of Rare COVID Vaccine Clotting Disorder Identified

Researchers have identified a mutated autoantibody gene behind the rare cases of vaccine-induced immune thrombotic thrombocytopenia (VITT) following COVID-19 vaccines from AstraZeneca and Johnson & Johnson. The mutation triggers antibodies that attack platelet factor 4, forming clots. Researchers can use this insight to redesign or modify adenovirus-vector vaccines to reduce the chance of triggering the rare immune response.

## Perspective

*— Andy Weis, CEO, Intreped Partners, LLC*

On behalf of Intreped Partners, I am pleased to introduce a new newsletter dedicated to public health and safety—an essential resource for staying informed in an increasingly complex and interconnected world. The Quadrant is designed to provide timely insights, expert analysis, and practical guidance on the issues that shape the well-being of our communities. From emerging health threats and disease prevention to emergency preparedness and safety best practices, our goal is to deliver clear, reliable information you can trust.

*"Intreped Partners is launching this new public health and safety newsletter to provide timely, reliable information that helps our community stay informed, prepared, and protected."*

Each quarterly edition will highlight key developments in public health policy, innovations in healthcare and safety technology, and lessons learned from real-world events. We will also feature perspectives from professionals across government, healthcare, research, and community organizations, offering a well-rounded view of the challenges and opportunities ahead. Whether addressing local concerns or global trends, The Quadrant aims to connect the dots between policy, science, and everyday life.

Public health and safety affect everyone, and informed communities are stronger, more resilient communities. By sharing knowledge and promoting awareness, we hope to empower our readers to make informed decisions, support effective policies, and contribute to safer environments at home and at work. We invite you to join us as we explore the critical issues shaping public health and safety today—and the steps we can take together to build a healthier, more secure future.

## On a positive note …

Brazil has joined the limited number of countries/territories validated by the World Health Organization for eliminating mother-to-child transmission of HIV, a milestone achieved through universal, free access to care, strong primary health services, and sustained political commitment. WHO said Brazil reduced vertical transmission below 2% while surpassing 95% coverage for prenatal care, routine HIV testing, and timely treatment for pregnant women living with HIV.

Denmark also marked a major milestone, becoming the first country in Europe validated for eliminating mother-to-child transmission of both HIV and syphilis, underscoring the strength of its coordinated maternal health services, early screening, and consistent treatment access.