

Enabling Rapid Infectious Disease Research During Disasters Through Pre-Approved Protocols

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⚠️ The Problem

Disasters and infectious disease are colliding.

Climate change is making disasters more frequent while expanding infectious disease risks.

But research can't keep pace.

Standard ethics review and study set-up take weeks to months — far longer than the hours-to-days window when disaster exposures and early infections can be captured.

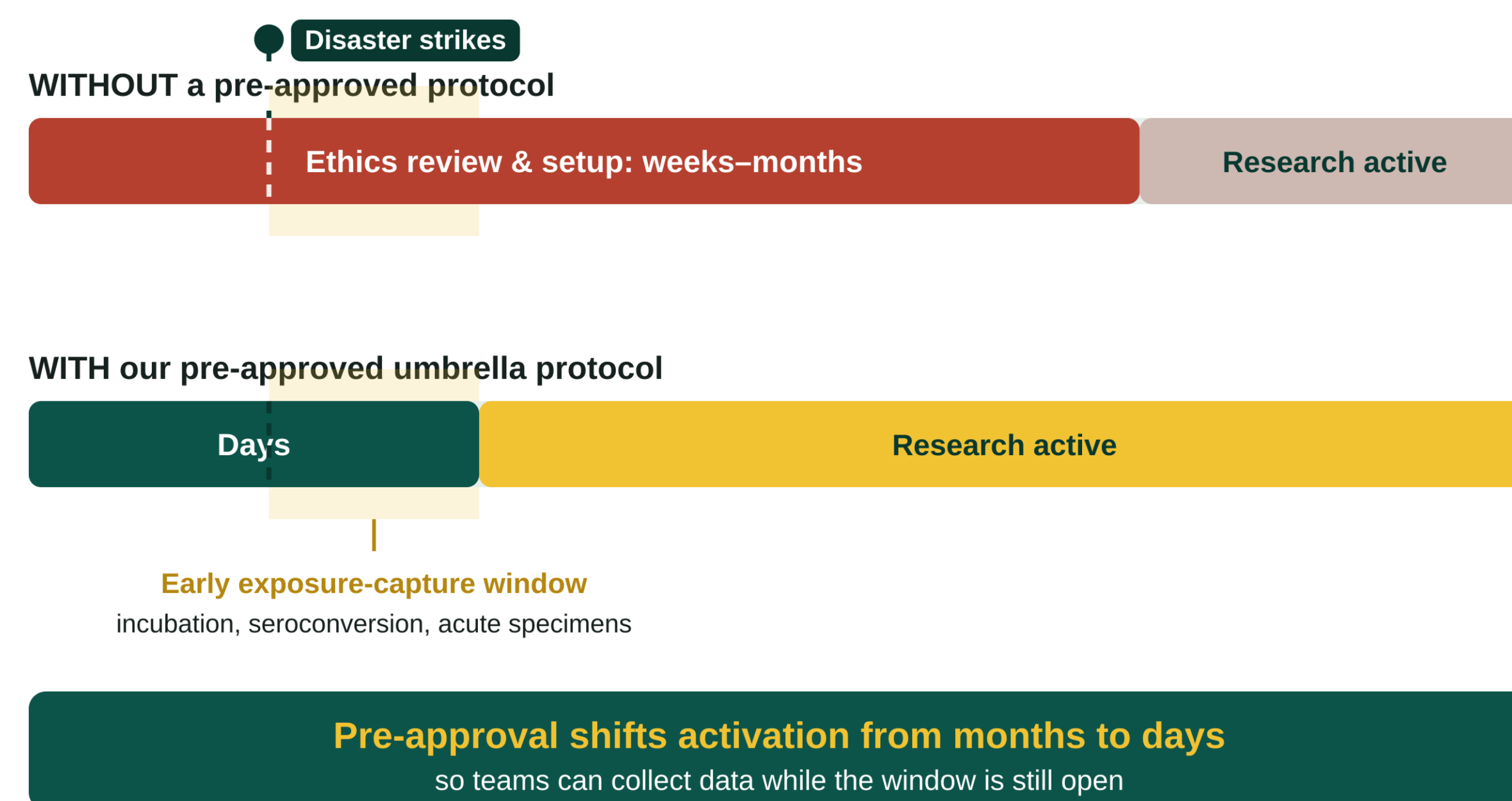
A methods gap.

Existing disaster-research protocols target environmental exposures and lack the tools for infectious disease: incubation-period sampling, pathogen-specific specimens, and public health surveillance links.

⚡ Our Approach

Closing the Gap Between Disaster and Discovery

Standard study activation misses the early exposure window. Pre-approval is designed to capture it.



PRE-APPROVED PARENT UMBRELLA PROTOCOL

Standardized procedures reviewed before disaster strikes

Event-specific sub-study

Rapid expedited amendment

The result: only event-specific details need rapid review — cutting activation from **months to days**.

⚙️ Framework Components

- Pathogen–Exposure Matrices**
Match likely pathogens to each disaster type — floods, hurricanes, wildfires.
- Tiered Specimen Collection**
A three-tier strategy that scales to field conditions, with cold-chain alternatives.
- Multi-Timepoint Sampling**
Repeated sampling captures seroconversion and disease kinetics over time.
- Common Data Elements**
Standard variables let multiple sites combine and compare data.

🗄️ Data Infrastructure



Disaster–Pathogen Exposure Matrix

Each disaster type is mapped to the pathogens worth targeting — illustrative sample

	Flood	Hurricane	Wildfire	Earthquake	Extreme heat
Enteric (e.g., norovirus, V. cholerae)	●	●		●	●
Leptospira	●	●		●	
Respiratory / influenza	●	●	●	●	●
Arboviral (mosquito-borne)	●	●			●
Wound / skin infections	●	●	●	●	
Fungal (e.g., coccidioides)			●	●	●

● High priority ● Possible □ Not expected

📄 What We Built

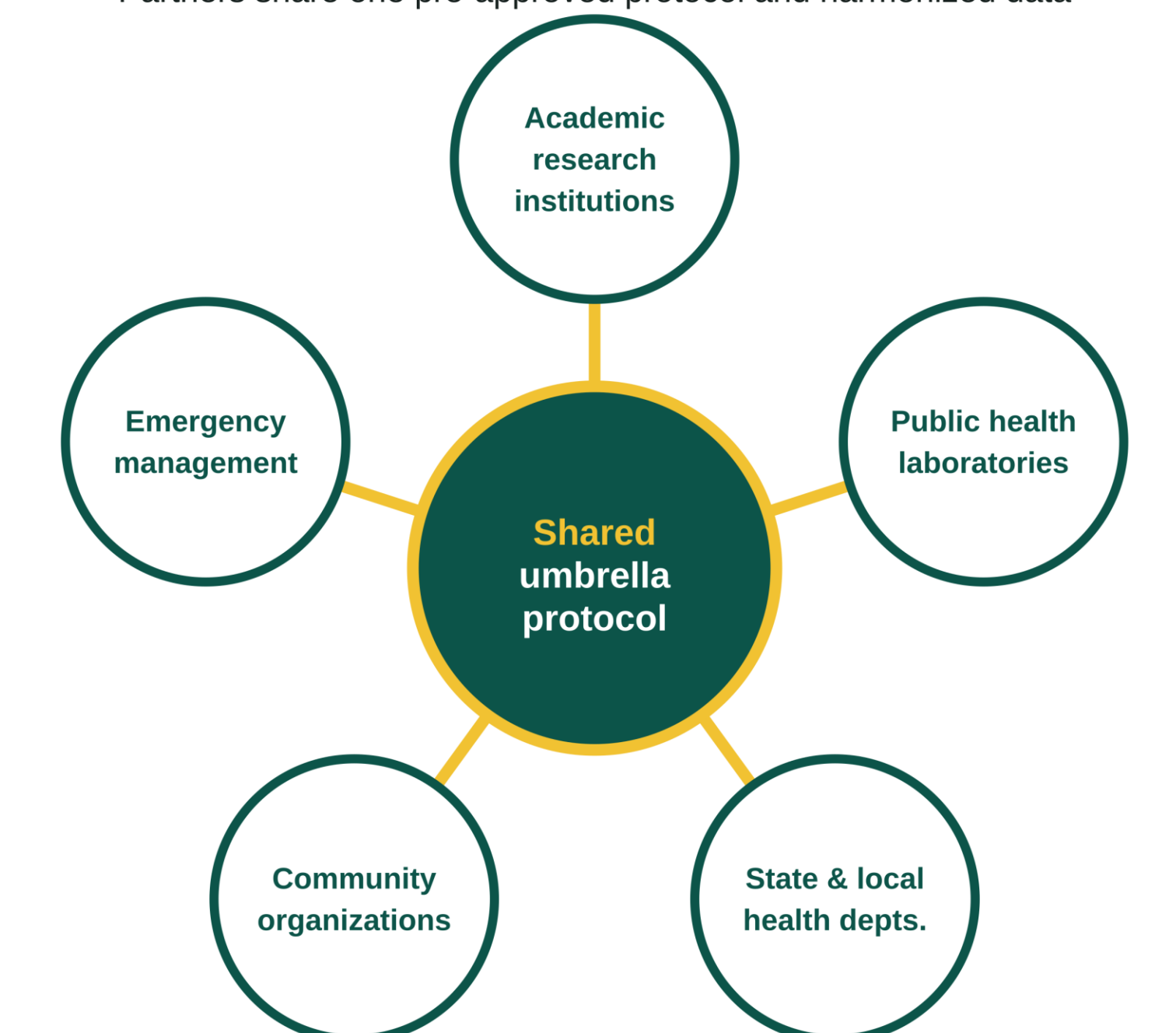
A complete ethics-review submission package, ready in advance:

- ✓Umbrella research protocol
- ✓Pathogen–exposure matrices for many disaster types
- ✓Specimen field cards with cold-chain alternatives
- ✓Laboratory network specifications
- ✓Comprehensive data dictionary
- ✓Plain-language informed consent templates
- ✓Sub-study checklists for rapid activation

🏠 Applications

A Coalition Built Before Disaster Strikes

Partners share one pre-approved protocol and harmonized data



Coordinated network infrastructure, ready on day one

- **Faster response.**
Launch surveillance within days, not months — capturing the critical early window.
- **Built for coalitions.**
Research institutions, public health labs, health departments, and community groups share one playbook.
- **Extends what works.**
Adds infectious-disease capability to proven disaster-research systems instead of building parallel ones.