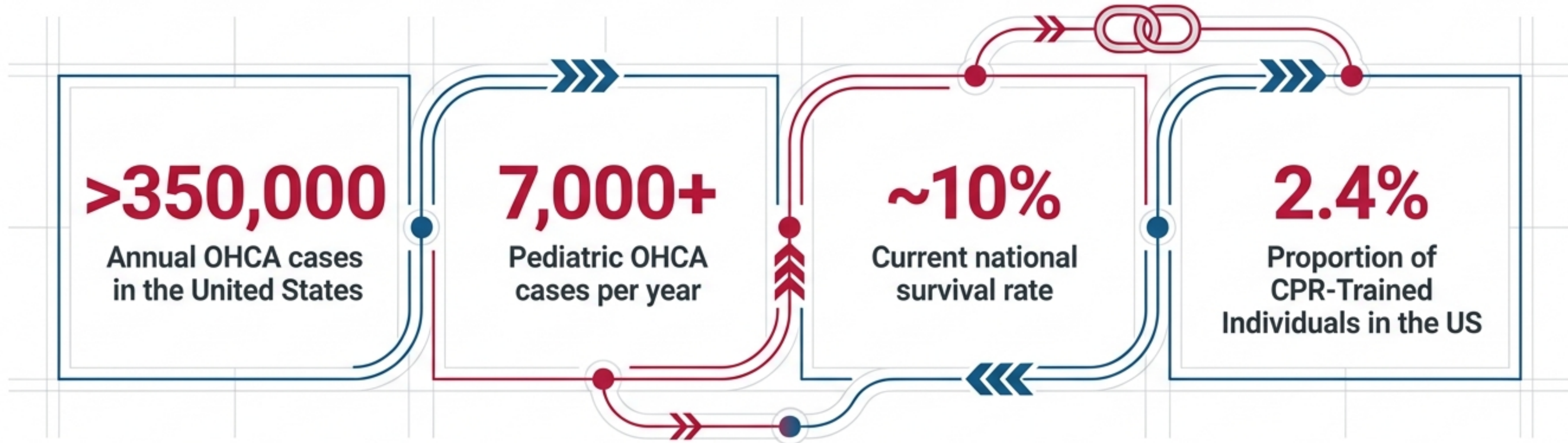


The Pulse Blueprint

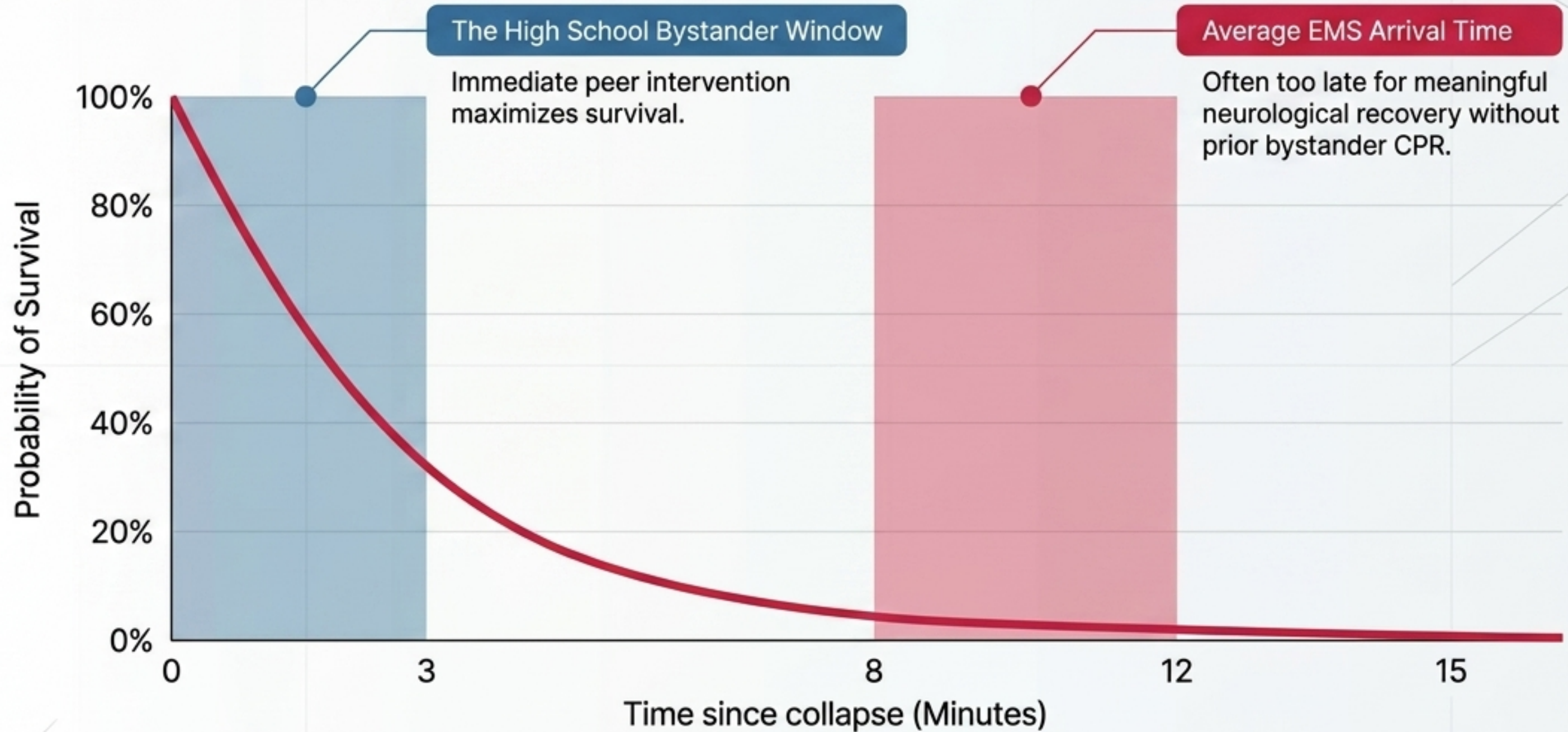
**Engineering a National Network of
First Responders in US High Schools**

Out-of-Hospital Cardiac Arrest Remains a Defining Public Health Crisis



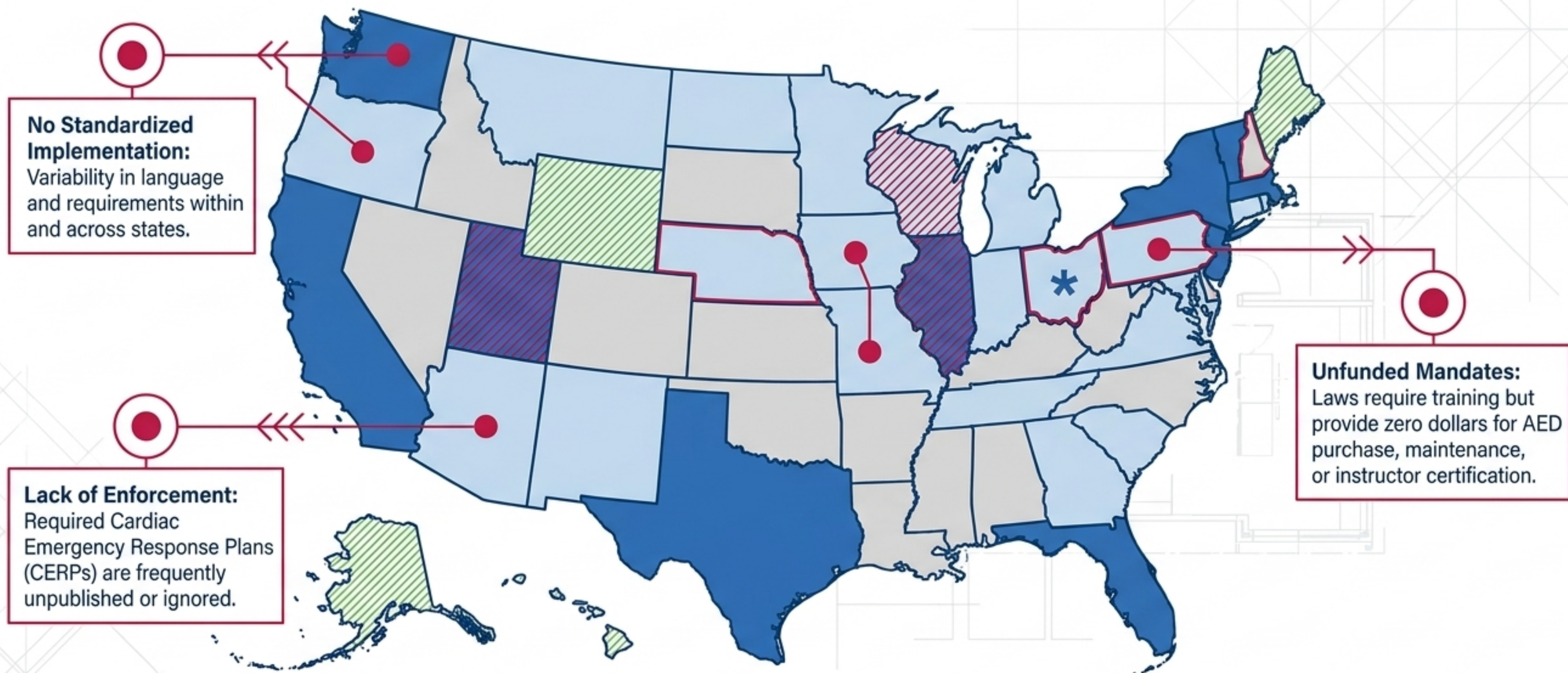
Survival is **critically dependent** on a single variable: **timely bystander cardiopulmonary resuscitation (CPR)** and **automated external defibrillator (AED) use**. Yet, only **40%** receive bystander CPR, and fewer than **25%** receive an AED.

The Survival Decay Curve: Beating the Biological Clock



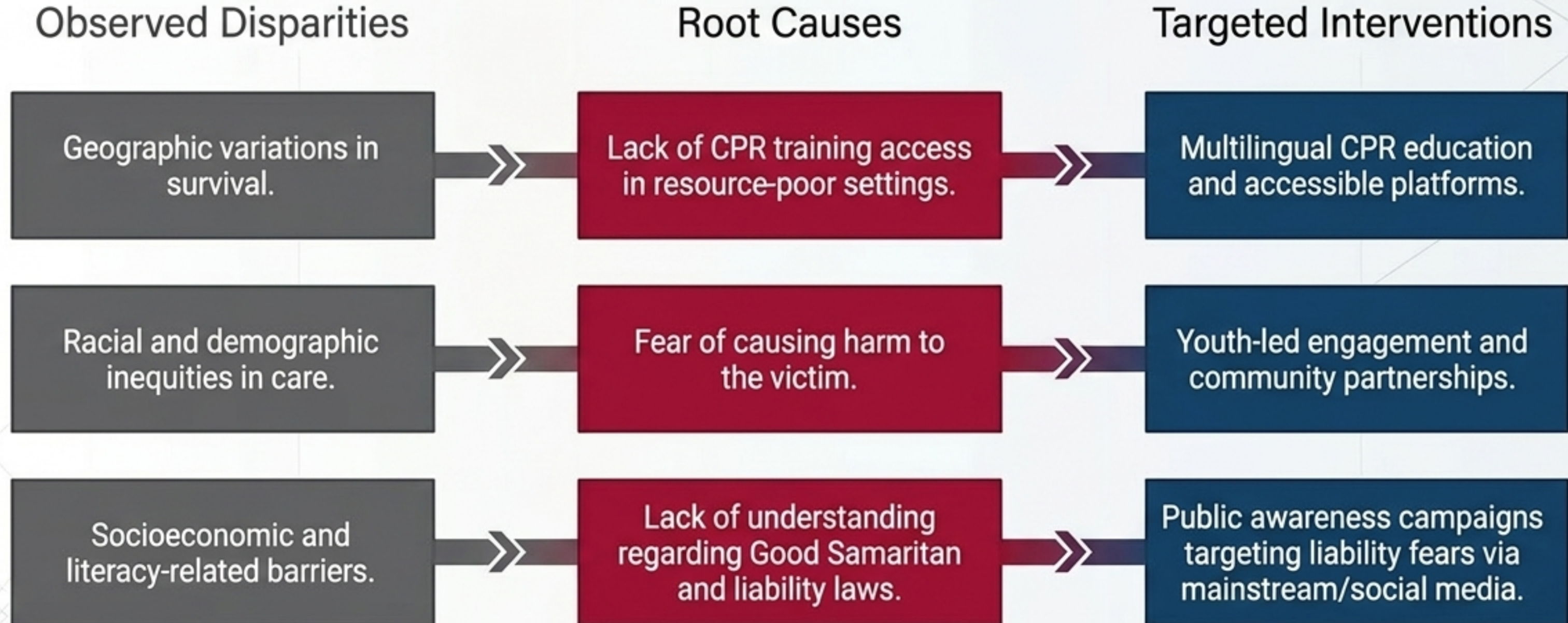
Every minute without CPR/AED use drastically reduces survival. Waiting for 911 dispatch and ambulance arrival is a mathematical failure; the response must be localized and immediate.

The Illusion of Safety: Current State Mandates Are Plagued by Gaps



Moving from Minimal Compliance to Meaningful Efficacy requires standardizing state-based mandates into a cohesive national framework.

Disparity Diagnostic: Bridging the Gaps in Bystander Intervention



The Paradigm Shift: From Passive Compliance to Active Efficacy

	The Current Compliance Model (Failed State)	The HRS Efficacy Model (Future State)
Training Frequency	1-time exposure (often required solely for graduation).	Longitudinal reinforcement (annual or 6-month refreshers starting in upper elementary).
Modality	Didactic-only instruction without physical practice.	Hands-on practice, AI feedback, and gamified digital techniques.
AED Access	Locked, hidden, or unmapped devices with lapsed maintenance.	Equitable, GPS-mapped deployment connected to central registries.
Funding Mechanism	Unfunded mandates reliant on stretched school budgets.	Dedicated state allocation and federal legislative alignment.

The Untapped Arsenal: 17 Million High School Students

The Asset

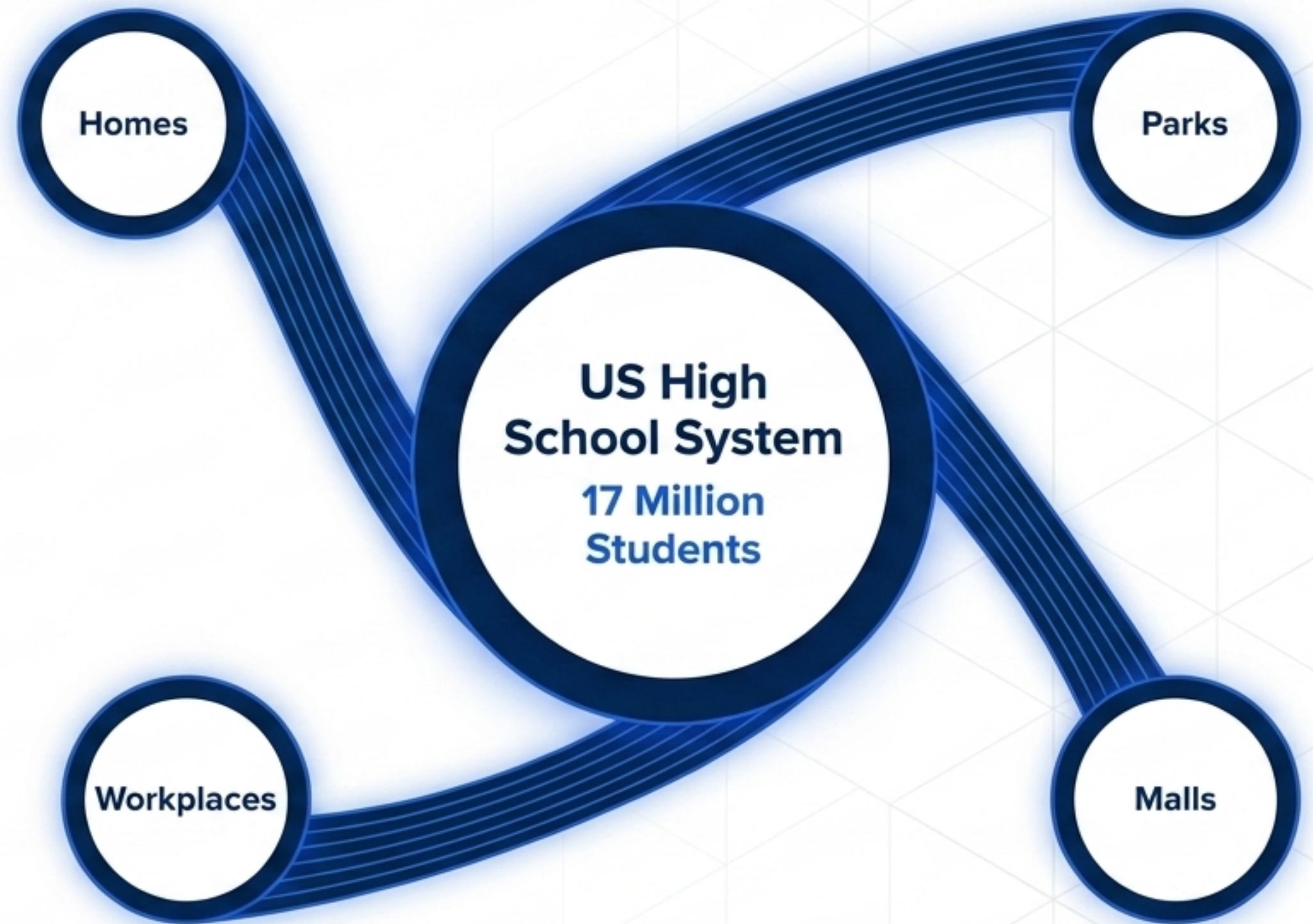
Schools collectively house a substantial proportion of the US population every single day.

The Capability

Younger, more educated bystanders are statistically more likely to perform CPR and appropriately apply an AED.

The Vision

Transforming generations of students into a confident, diverse network of first responders who carry these lifesaving skills into their communities.

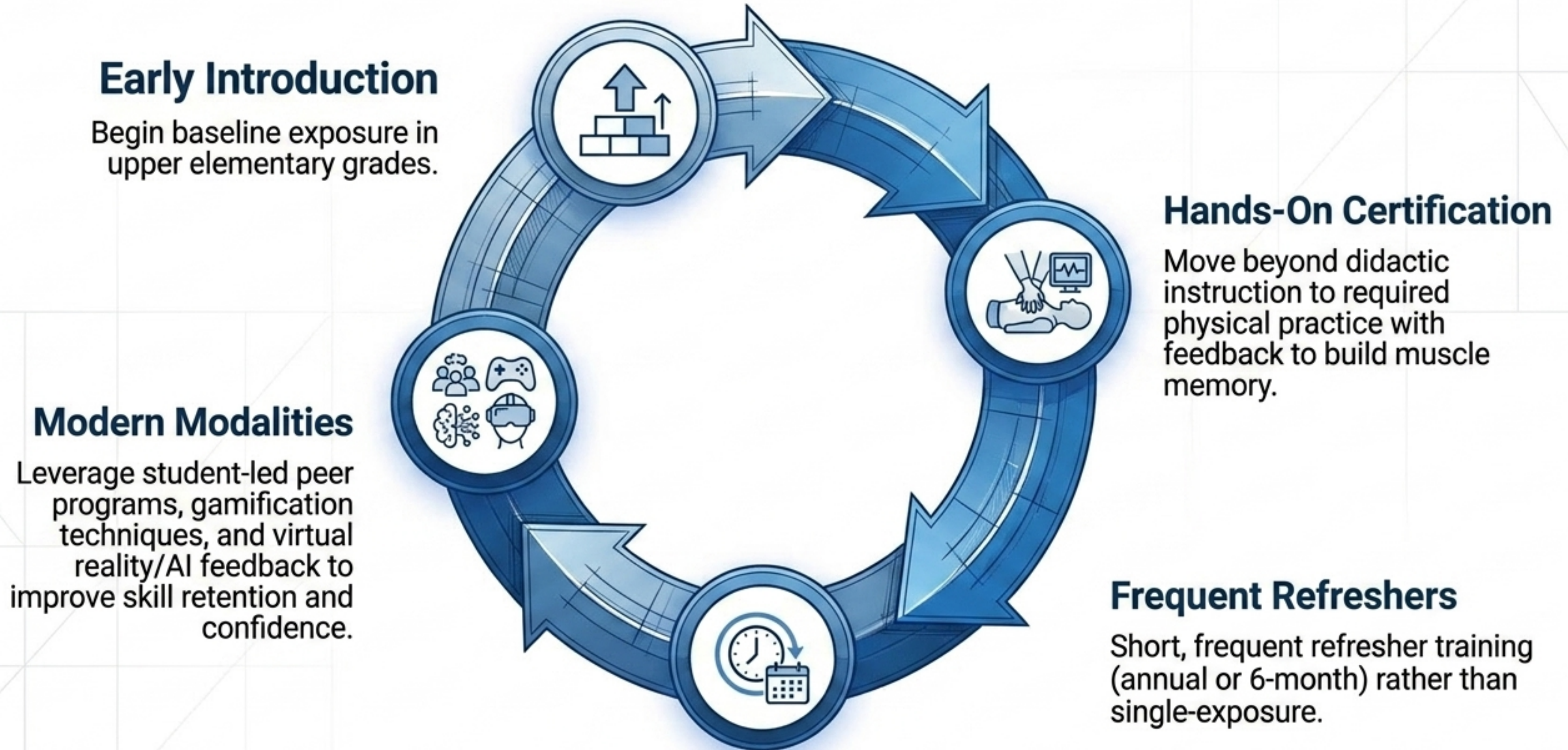


The HEARTS Act of 2024: Legislative Promise vs. Financial Reality



Zero Funds Appropriated. As of today, the US Congress has appropriated no funds to support these mandates. Implementation relies entirely on upcoming advocacy and public-private partnerships.

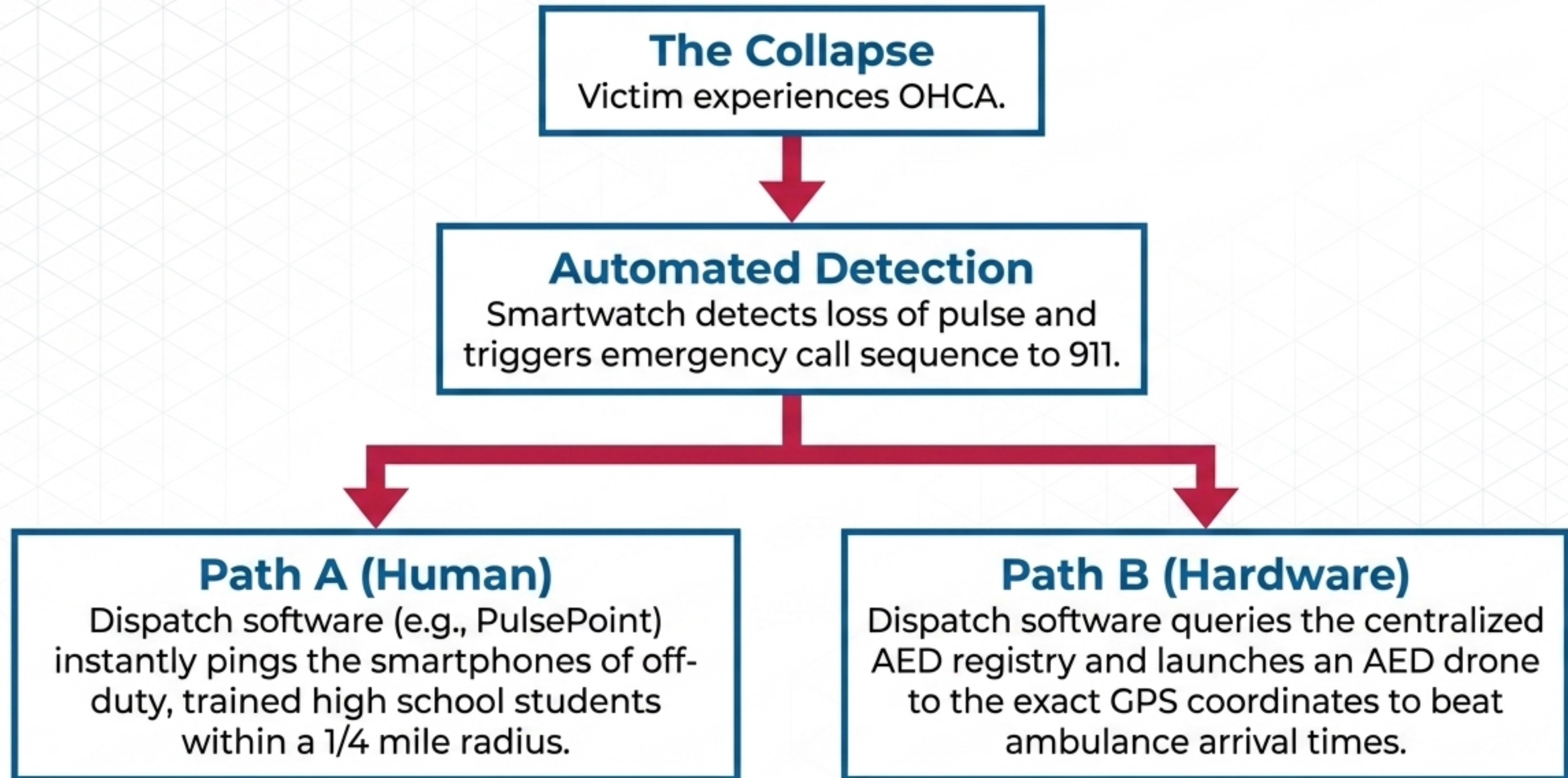
Implementation Pillar 1: High-Quality, Longitudinal Training



Implementation Pillar 2: The Future of Community Activation



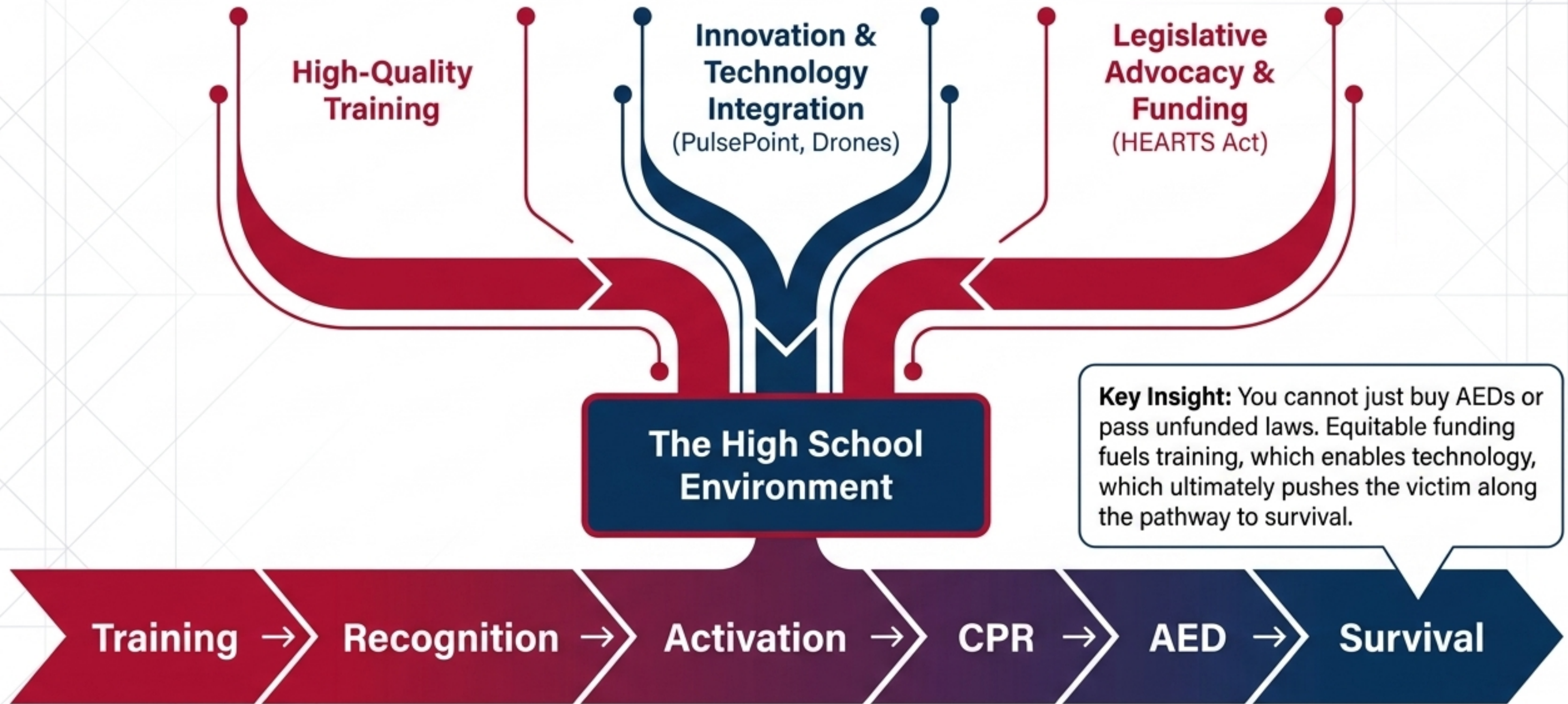
The Integrated Rescue Ecosystem in Action



Technology Implementation Matrix: Evaluating the Arsenal

Function	Current Evidence Level	Implementation Hurdles
Wearable SCA Detection (Smartwatches)		
Detects loss of pulse/arrhythmia and connects to EMS.	Widely available consumer tech, but predictive value requires refinement.	Cost/dissemination, privacy , and regulatory challenges.
Volunteer Responder Dispatch (PulsePoint)		
Alerts nearby lay responders to OHCA events in real-time.	Growing supporting evidence for optimizing who is alerted and when.	Ensuring training standards, responder safety , and regional dispatch integration.
Drone-Dispatched AEDs		
Delivers AEDs via drone directly to OHCA site to beat EMS arrival.	Pilot studies show high feasibility.	Airspace regulation , rigorous dispatch criteria, and safe handoff protocols.

The Impact Pathway: Operationalizing the Chain of Survival



The Requirements for Success: Funding, Enforcement, and Data

Dedicated Appropriations

State mandates and the HEARTS Act remain theoretical without state/federal-level funding to equip every school and maintain AED infrastructure.

Mandated CERP Enforcement

Schools must not just possess AEDs, but actively publish and rehearse Cardiac Emergency Response Plans (CERPs), integrating them with local EMS protocols.

National Registry Expansion

We must establish standardized performance and equity metrics. National registries like CARES (Cardiac Arrest Registry to Enhance Survival) must be expanded to capture granular, school-level data to evaluate intervention effectiveness.

From Viewers to Lifesavers

When millions witnessed the resuscitated cardiac arrest of Damar Hamlin, we saw the undeniable efficacy of rapid CPR and AED use. The challenge now is moving from a nation of bystanders to a scalable network of lifesavers.

US high schools represent our most unparalleled opportunity. By shifting from minimal legislative compliance to meaningful, evidence-based education, we can engineer a confident, diverse generation equipped to change the tide of sudden cardiac arrest.