

Improving Resuscitation: If at First You Don't Succeed: A Tale of 3 Systems



Seattle-King County



Chicago, IL



Copenhagen, DK

Teri Campbell
Freddy Lippert
Thomas Rea

Terry Vanden Hoek

Disclosures, Context, and Biases

I receive salary support through the University of Washington from research grants funded by:

American Heart Association

National Institutes of Health

Laerdal Foundation

Philips Inc

Medtronic Philanthropy

PhysioControl Inc

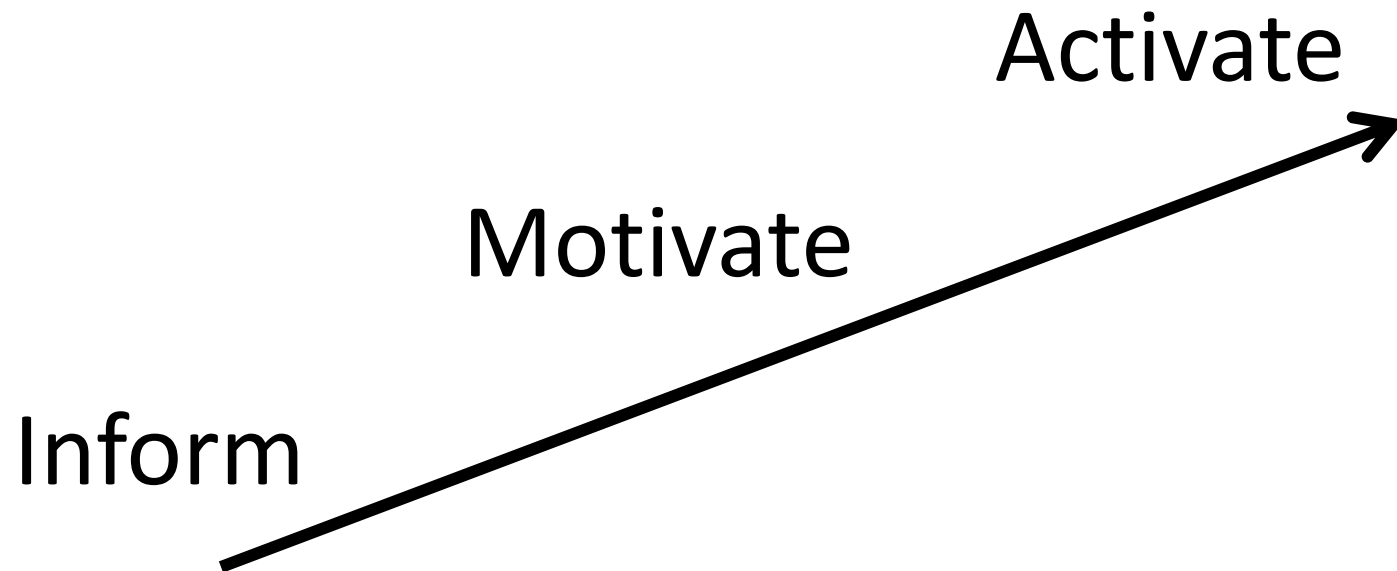
I have worked with APCO in a limited manner.

I am an EMS Medical Director

Professionally I am born and raised in King County, WA



ECCU Conference Goals



Outline

I. Framework for system improvement

II. Community spotlights

Seattle - King County, Washington

Chicago, Illinois

Copenhagen, Denmark

III. Looking forward

Framework for Improvement



Reflections from the Pacific Northwest

What is this graphic?

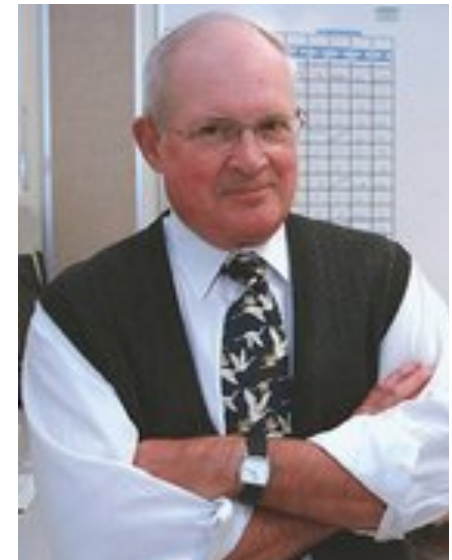
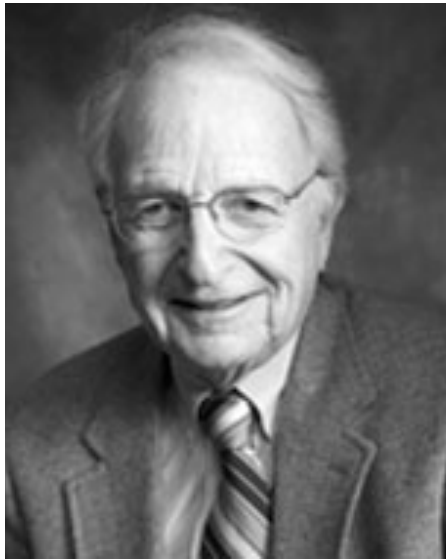


Humble Reality



Fundamental Questions

**Are we doing a good job?
...And can we do better?**



How Do We Know?

People like me.

They pay me.

The patient thanked me.

The doctor said “good job”.

I’m a trainer.

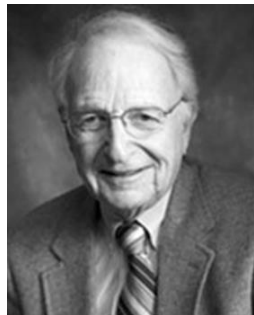
I’m “certified”.

I followed the protocol.








The Rationale for Resuscitation

1. Cardiac arrest has public health importance. ☐
2. Prehospital care (often) determines outcome. ☐
3. Tests all components of the emergency system. ☐
4. Measure the process and outcome. ☐
5. There is an opportunity to improve. ☐



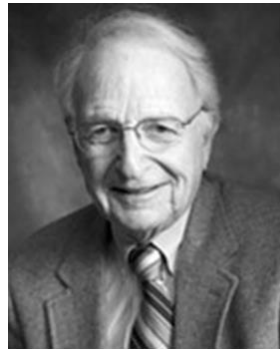
The Rationale for Resuscitation

1. Cardiac arrest has public health importance. 
2. Prehospital care (often) determines outcome. 
3. Tests all components of the emergency system. 
4. Measure the process and outcome. 
5. There is an opportunity to improve. 

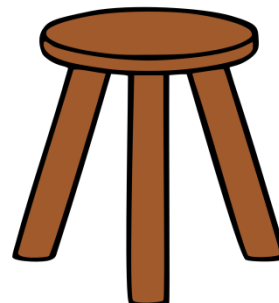
= Excellent surrogate to gauge emergency system 

Three-legged Stool

What is the framework for success?



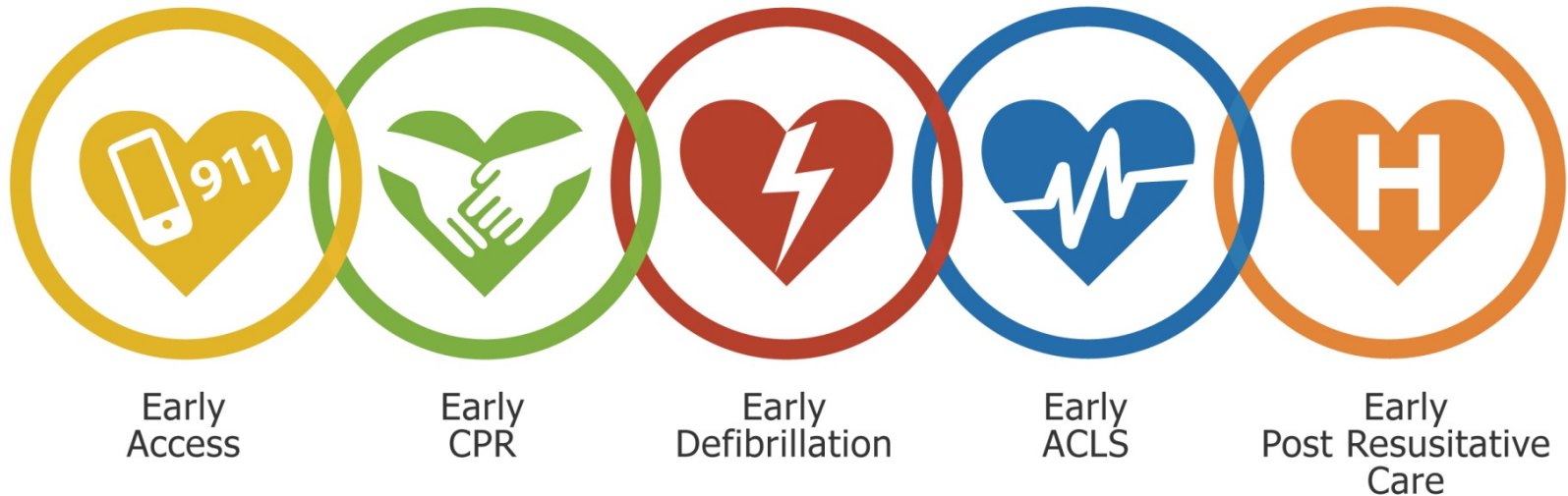
Understand the science
Leadership and teamwork
Measure to Improve



Understand the Science

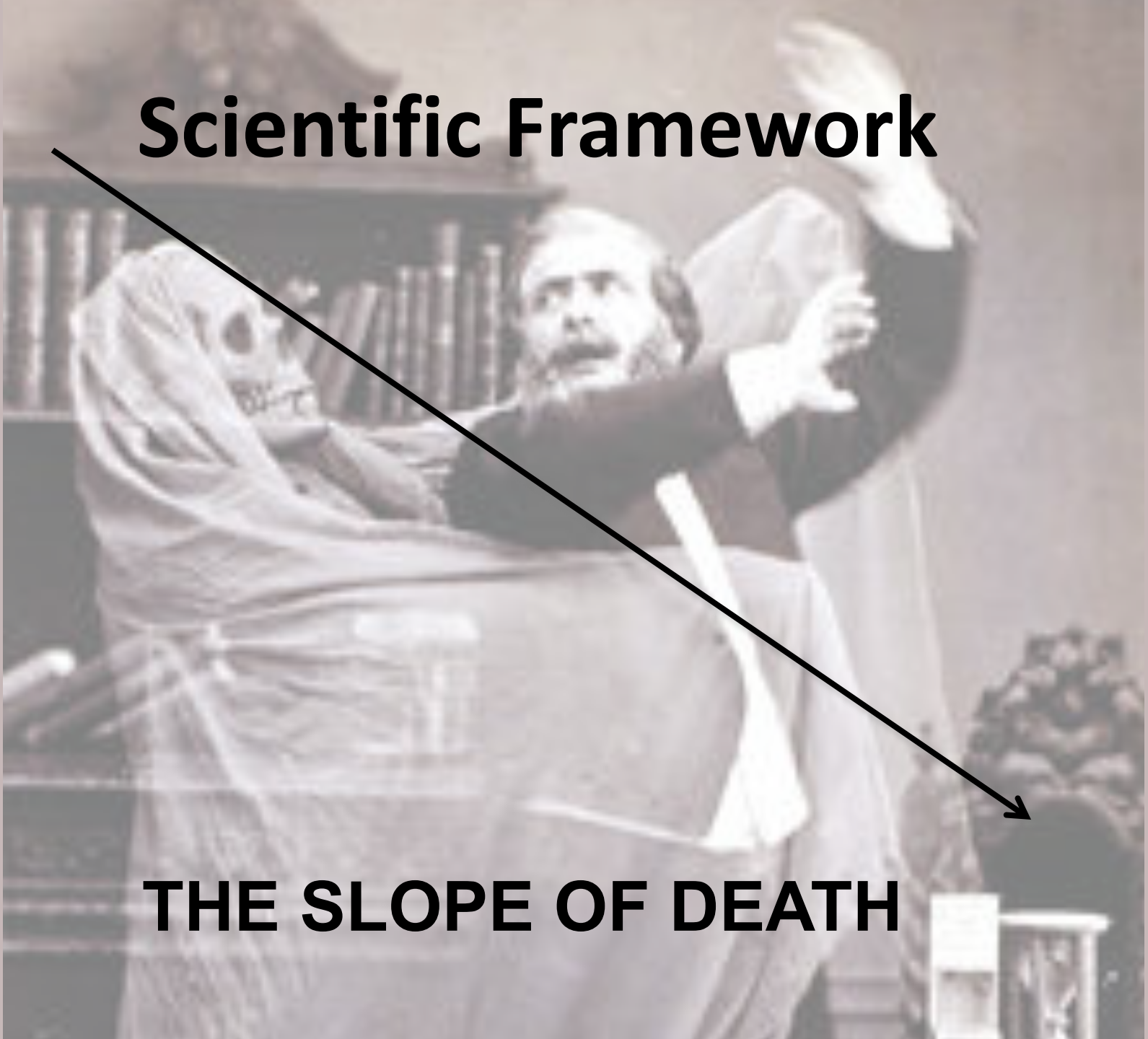


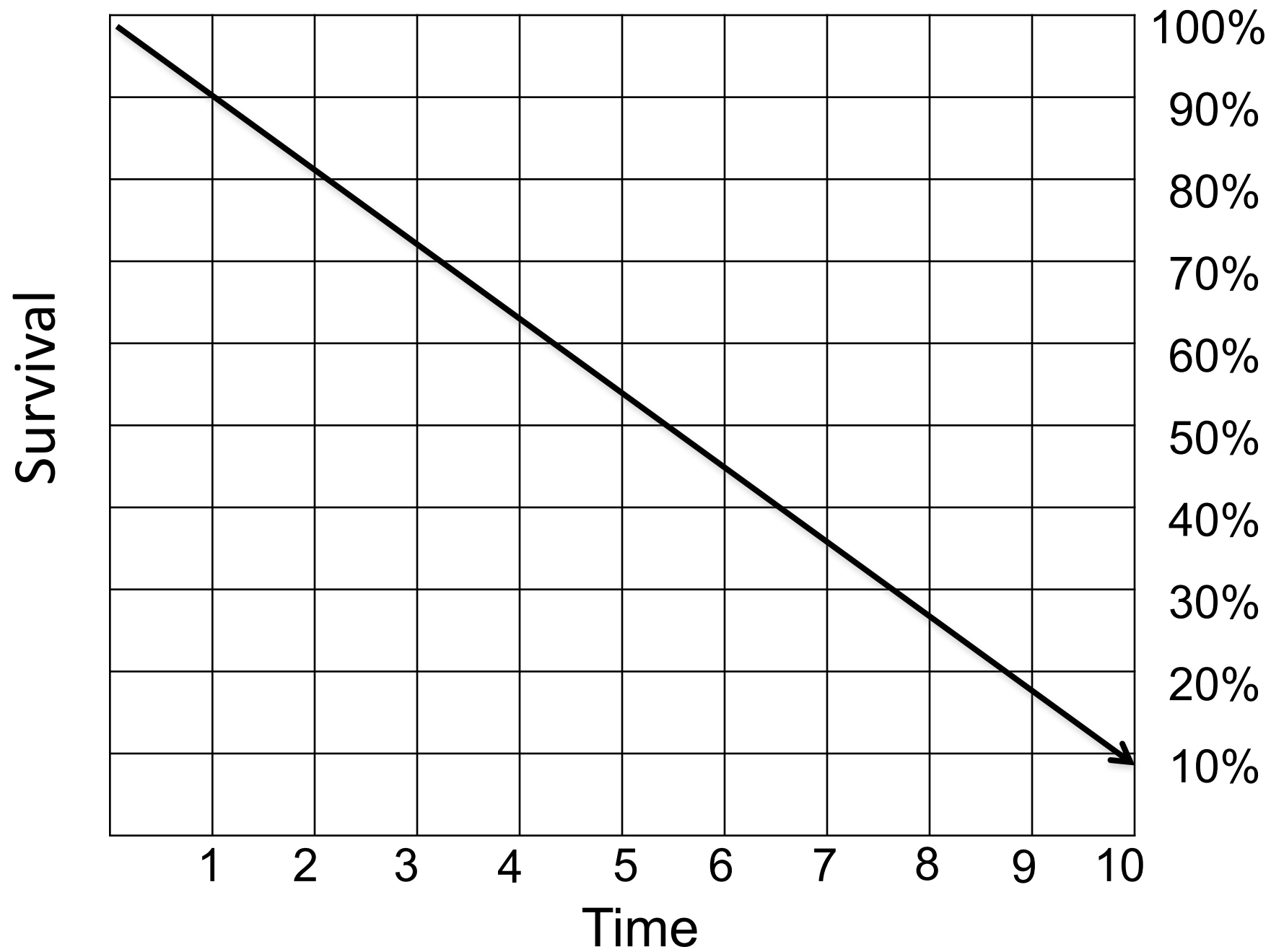
Links in the Chain of Survival



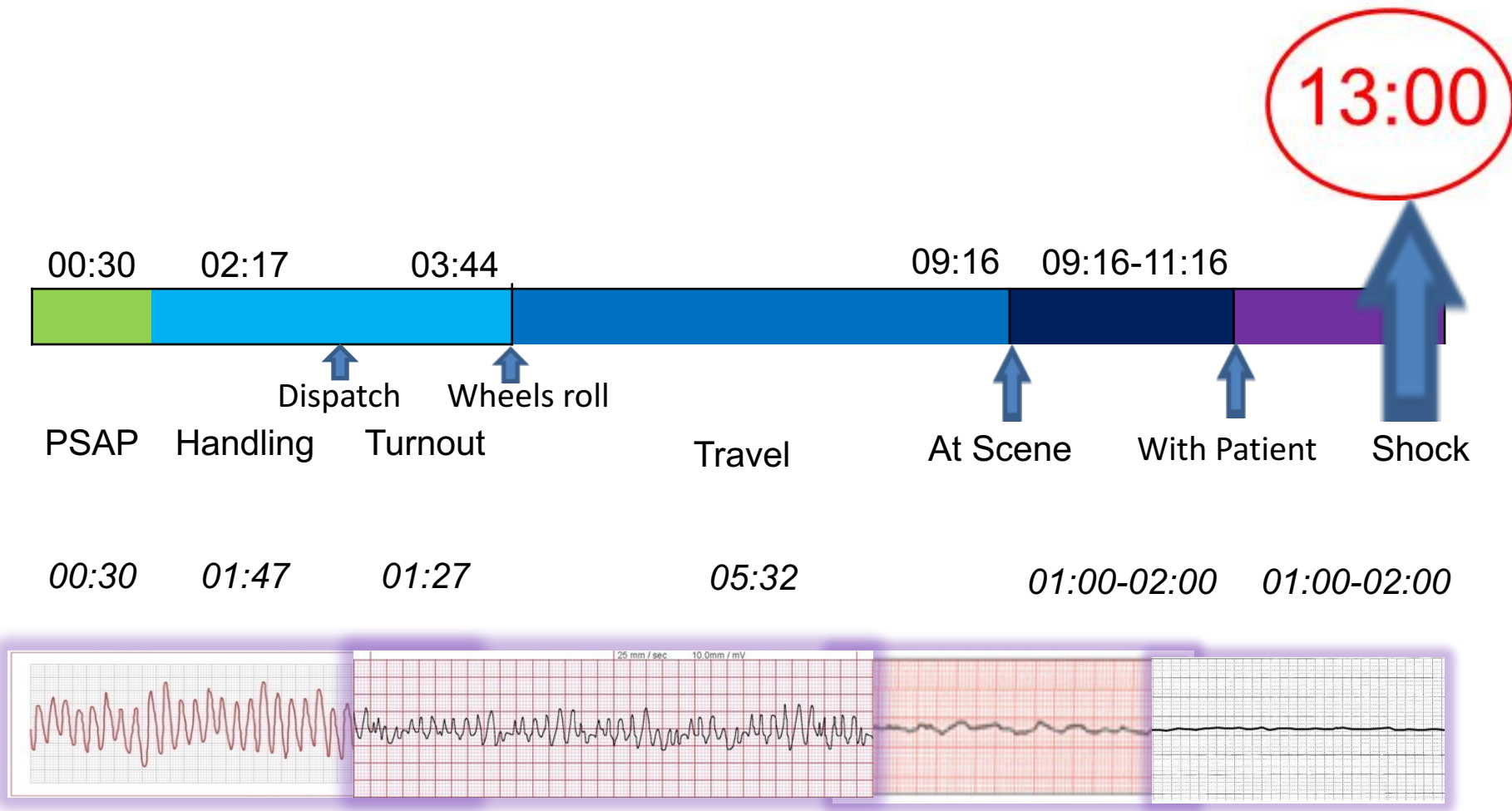
Scientific Framework

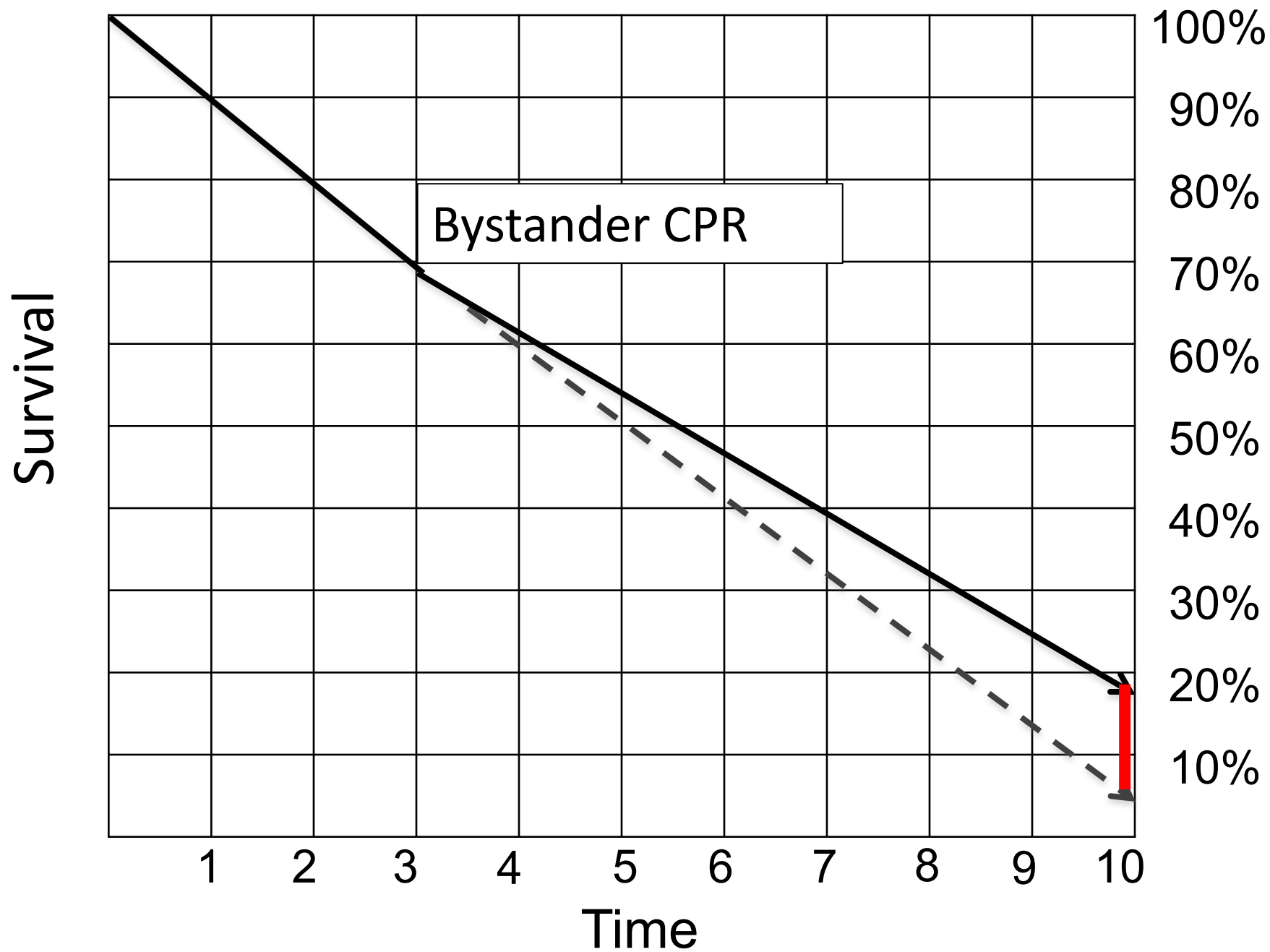
THE SLOPE OF DEATH

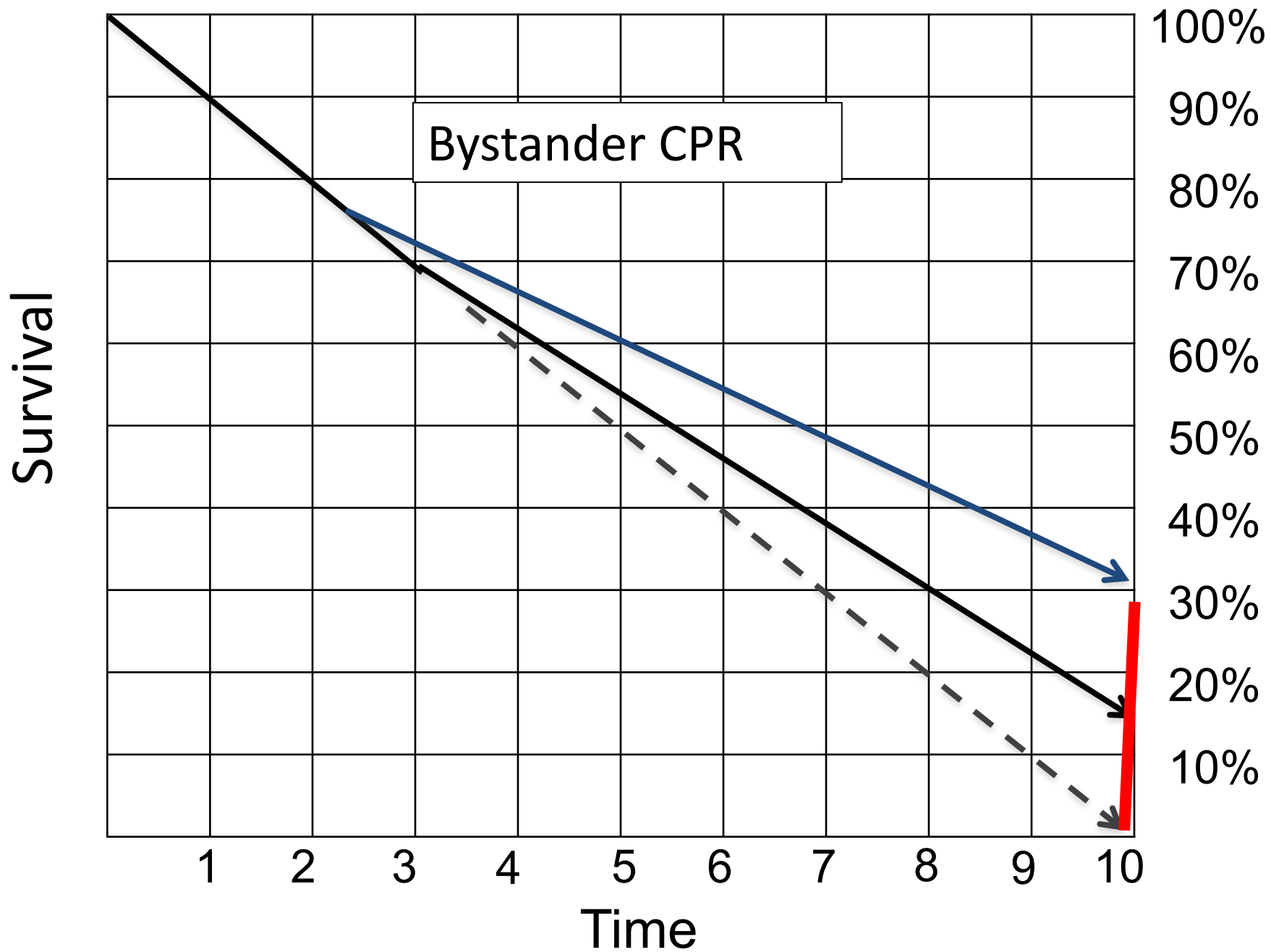


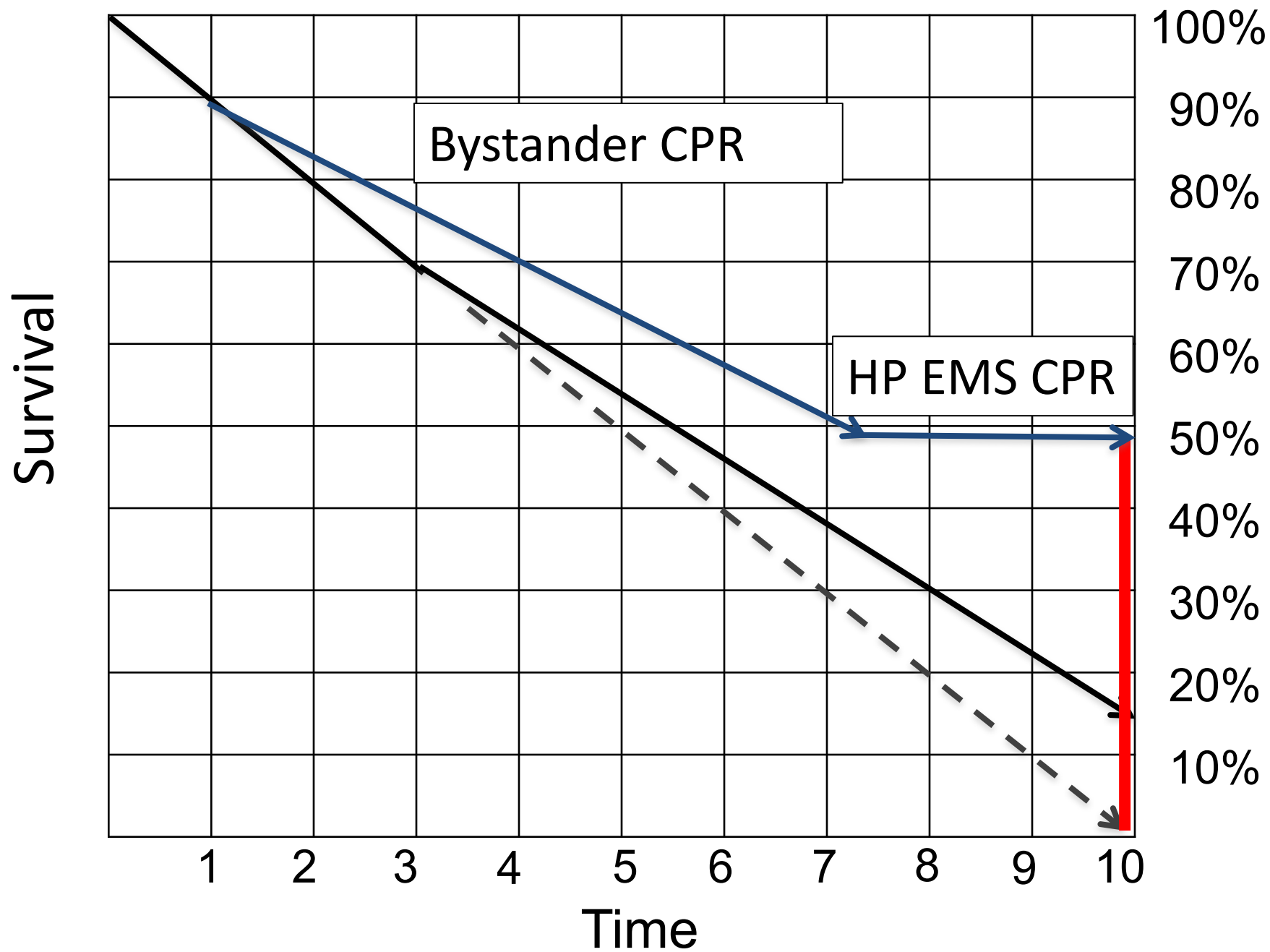


Typical Urban Response Timeline

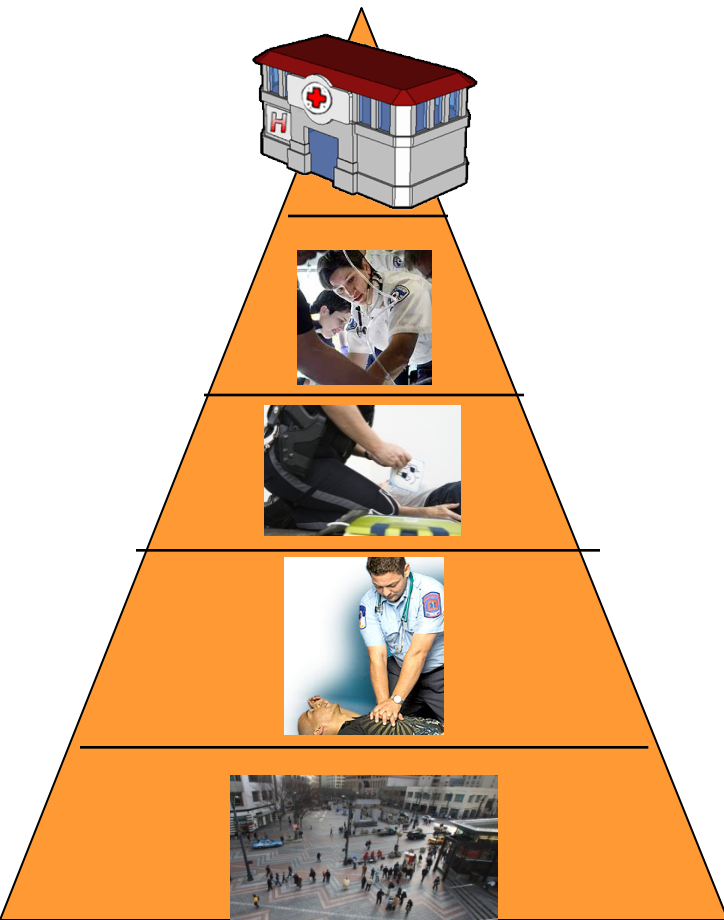








Pyramid of Resuscitation



Expert Post Resuscitation Care

Expert ACLS

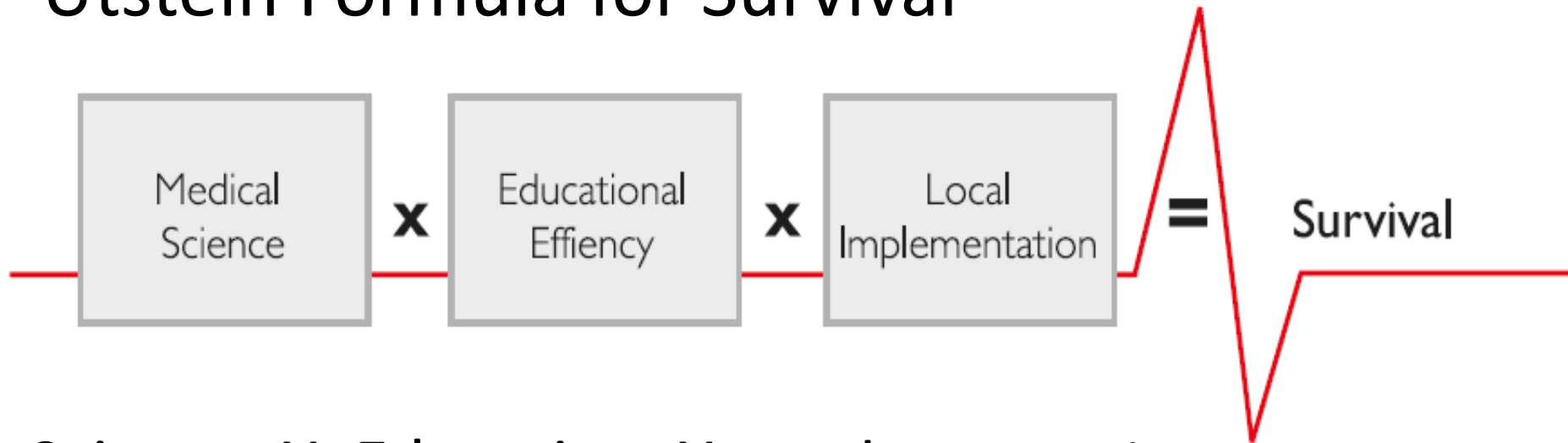
Early Defibrillation

Early CPR

Early Recognition

A Recipe for Progress

Utstein Formula for Survival



Science X Education X Implementation

A scenic view of a sandy beach meeting a blue ocean under a clear sky. The beach is in the foreground, with gentle waves lapping at the shore. To the right, there is a line of green trees. The sky is a deep blue with a few wispy clouds in the upper right.

Science Education

Understand the Science...of Implementation

A photograph of a sandcastle on a beach. The sandcastle is the central focus, built with light-colored sand. It has a main tower with several small, dark, rectangular openings, and two smaller towers on either side. The base of the sandcastle is decorated with a series of small, pointed turrets. In the background, the ocean is visible with waves breaking onto the shore. The sky is a clear, pale blue.

Implementation

Achieving best practice

.....In my community

“Science & Art” of Implementation



Reportable Metric



Fundamental Commitment to Measurement



Community-Specific Performance Standard

For every planned action in resuscitation, there is at least one unintended consequence.



Improving Resuscitation

1. Understand the Science....of Implementation
2. Leadership & Teamwork....in your community
3. Commit to Measurement

Understand the Science....of Implementation



HeartRescue & the Resuscitation Academy



Population-based improvement for the real world

“Implement – Measure – Improve” (repeat)

“Implement – Measure – Improve” (repeat)

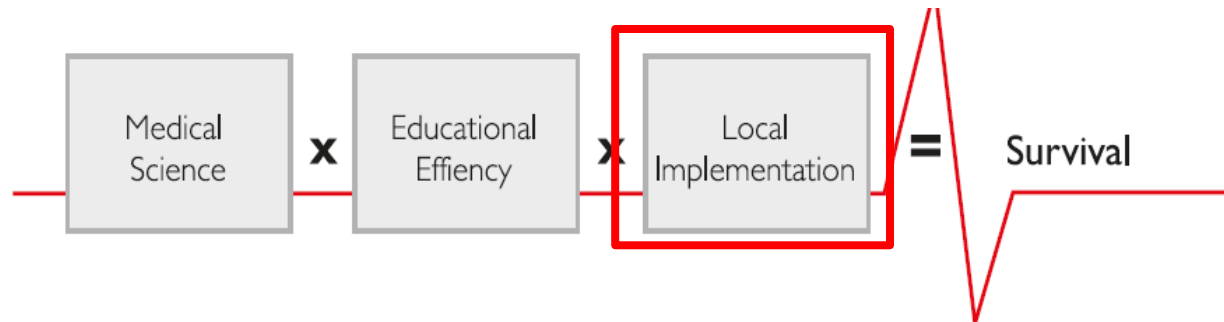
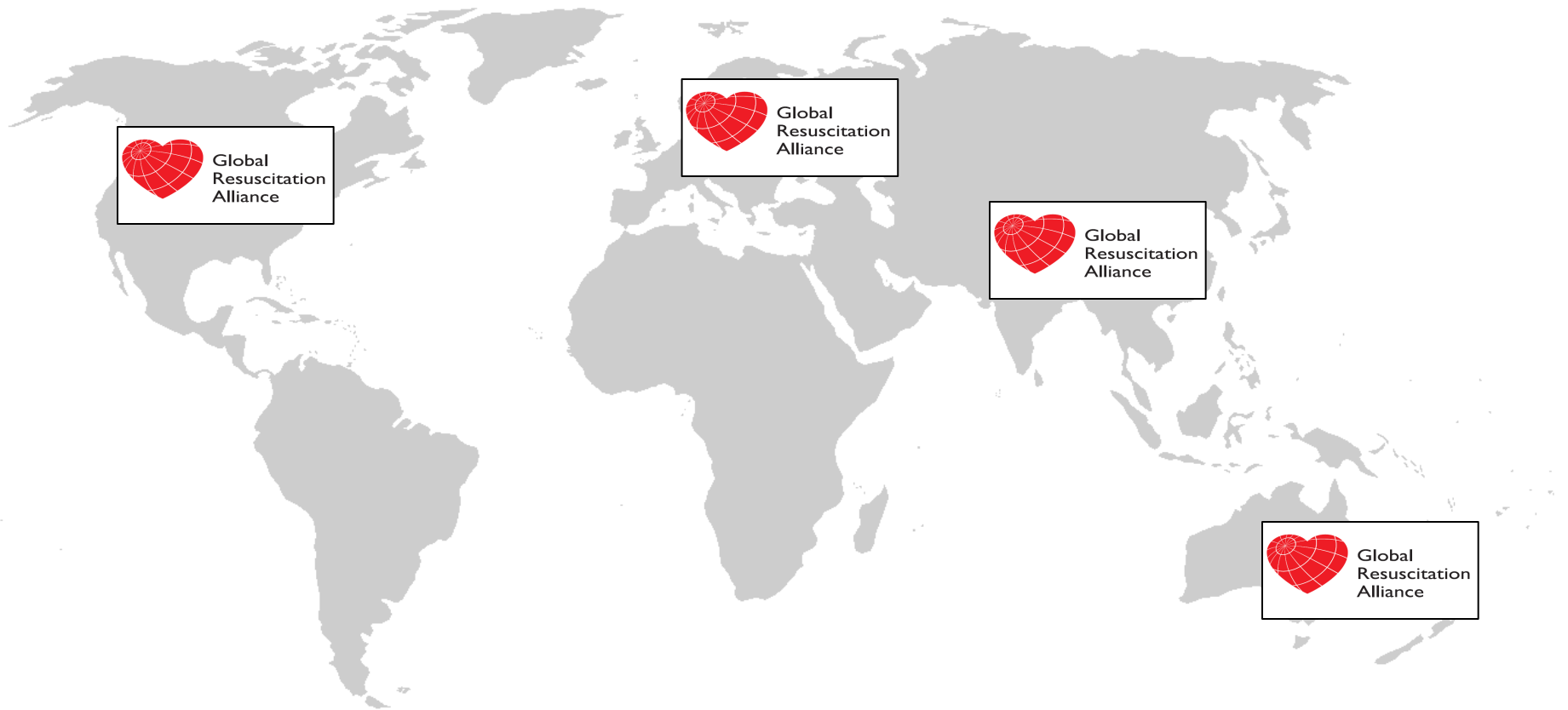
“Implement – Measure – Improve” (repeat)

Global Resuscitation Alliance



Population-based improvement for the real world
Implement – Measure - Improve

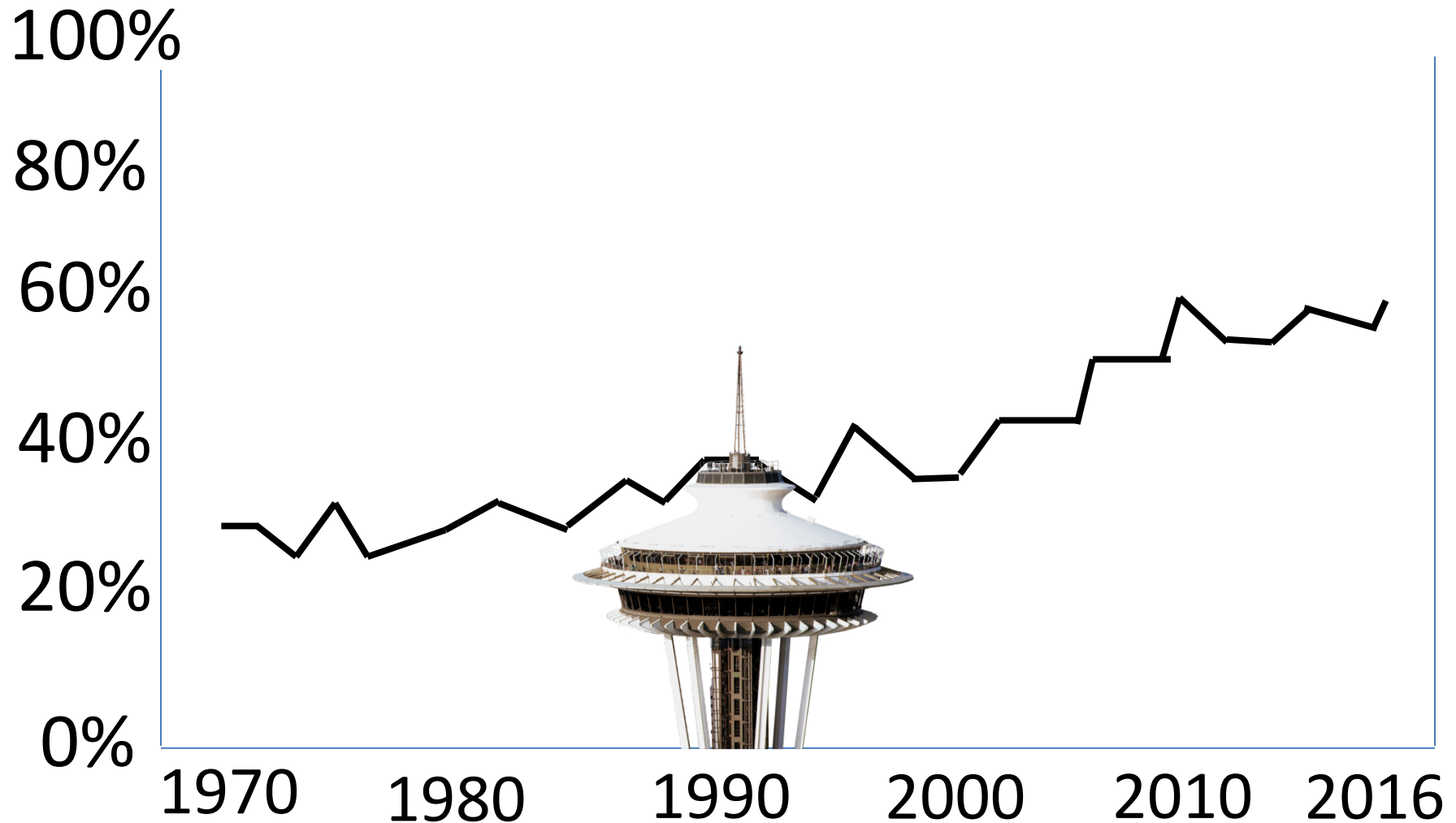
Global Resuscitation Alliance



What is this graphic?



Survival following Witnessed VF Arrest



Seattle-King County Projects

Public Access Defibrillation AED locator
Dispatcher Assisted CPR Defibrillator waveforms
EMS AED Implementation Rhythms (ALPS)
EMS CPR Feedback Field Hypothermia
Mechanical Resuscitators Monitoring Devices
EpiPen training Sodium nitrate
BLS strategy 30:2 vs 10:1 Airway management

BLS strategy: analyze early vs late

Improving Resuscitation: If at First You Don't Succeed: A Tale of 3 Systems



Chicago, IL