

TRB EMS Subcommittee ANB10(5)

EMS Safety Summit 2012

Safety Systems, Strategies and Solutions

Dispatch Systems – Basic to Cutting Edge
Jim Augustine

February 29th , 2012



TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

Dispatch Systems, Basic to Cutting Edge

- IT and Communication System
- Direct Relationship to Safe Vehicle Operations
- Community Needs
- Public Safety Integrated Systems
- Reporting Integration
- Instruction Help to Callers

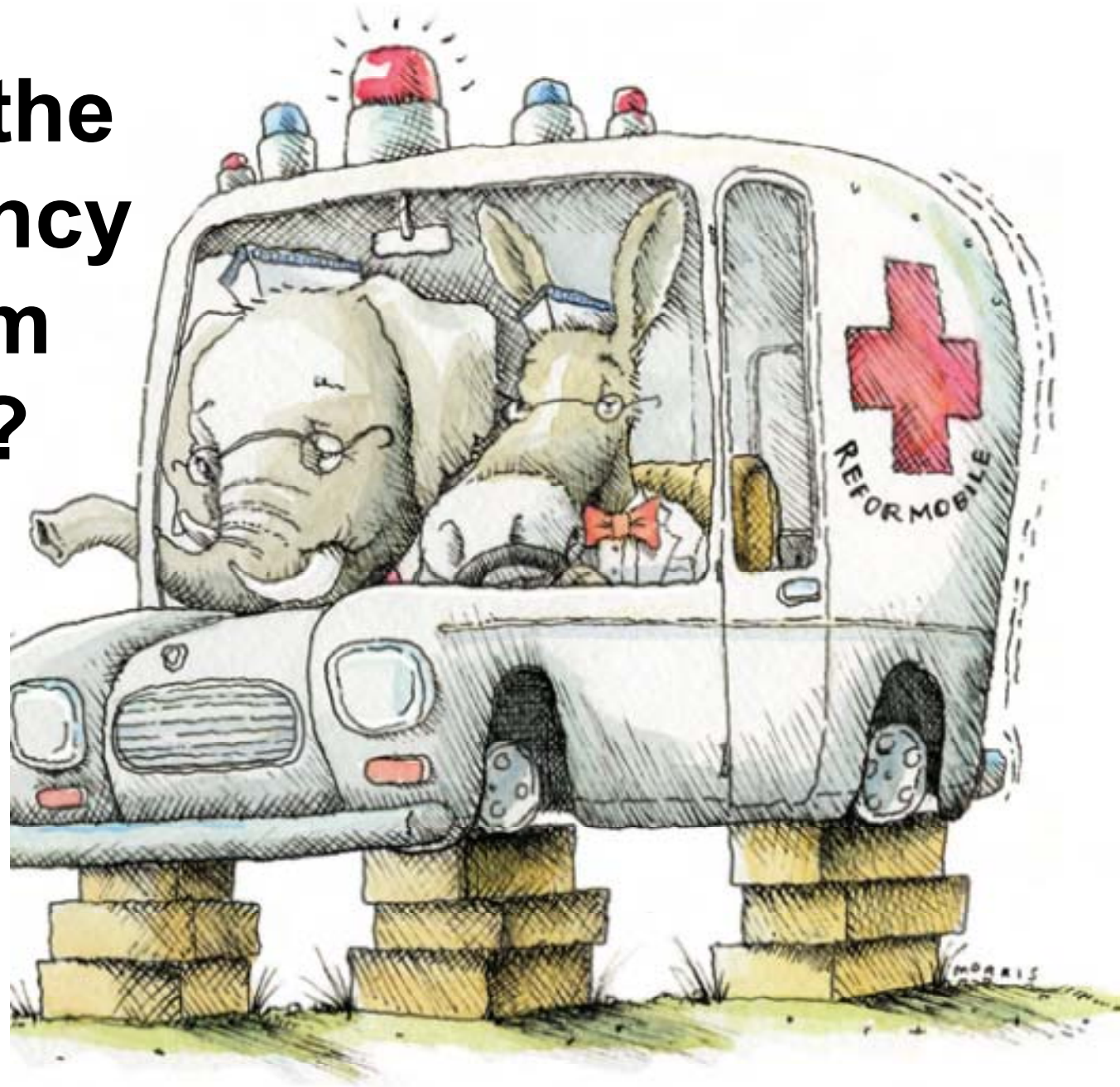


Integrated Public Safety



- 15,000 or so often integrated at county level
- Public Safety under EMA or Law Enforcement
- Conflicts

Why is the Emergency System Busy?



The service that allows
sick patients to go home
or stay home!



Community-Based Health Care



Home
Care
Services



Extended
Care
Facility



Community
Mental Health



Ambulatory
Surgical



Primary
Care



Unscheduled Care System

EMS ~ ED ~ Urgent Care ~ Ask-A-Nurse

Women's
Services

Diagnostic
Services

Clinical Decision
and
Observation
Services

Medical Patient
Hospitalist
Service

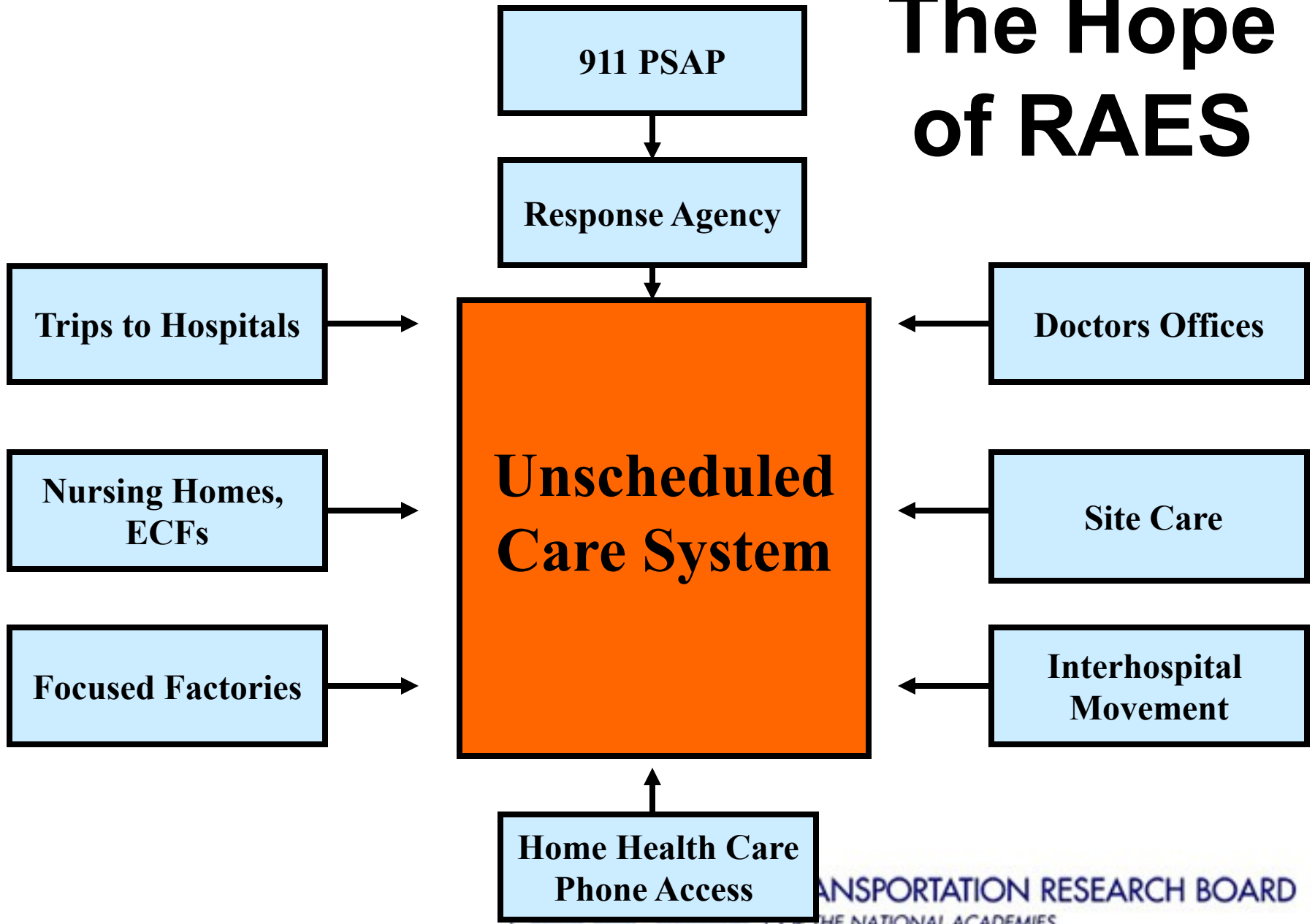
Surgical Centers
of
Excellence

Specialty
Services



Hospital-Based Health Care

The Hope of RAES



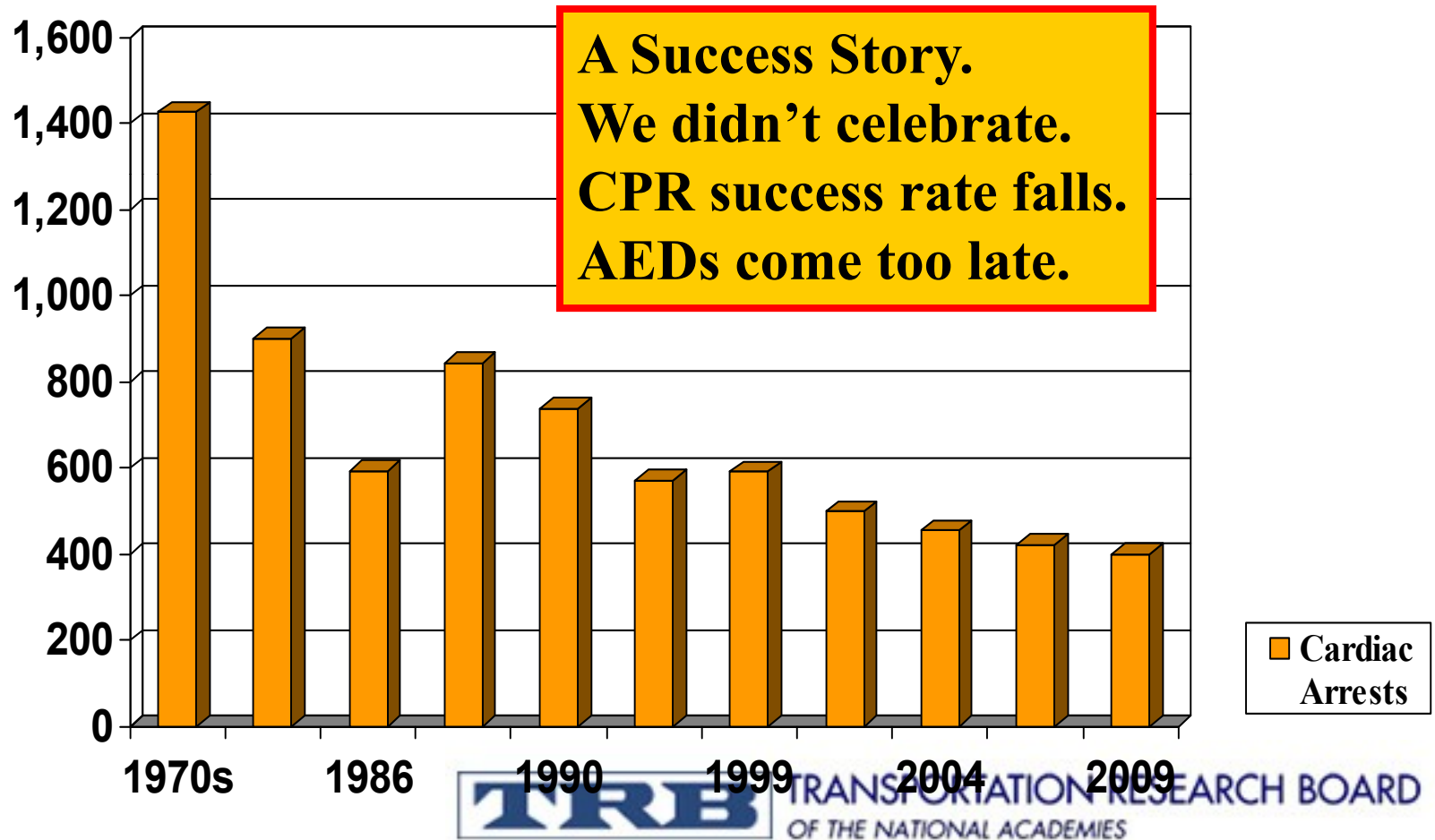
Home Health Care
Phone Access

The Burn, Trauma, Injury and Cardiac Arrest Issue

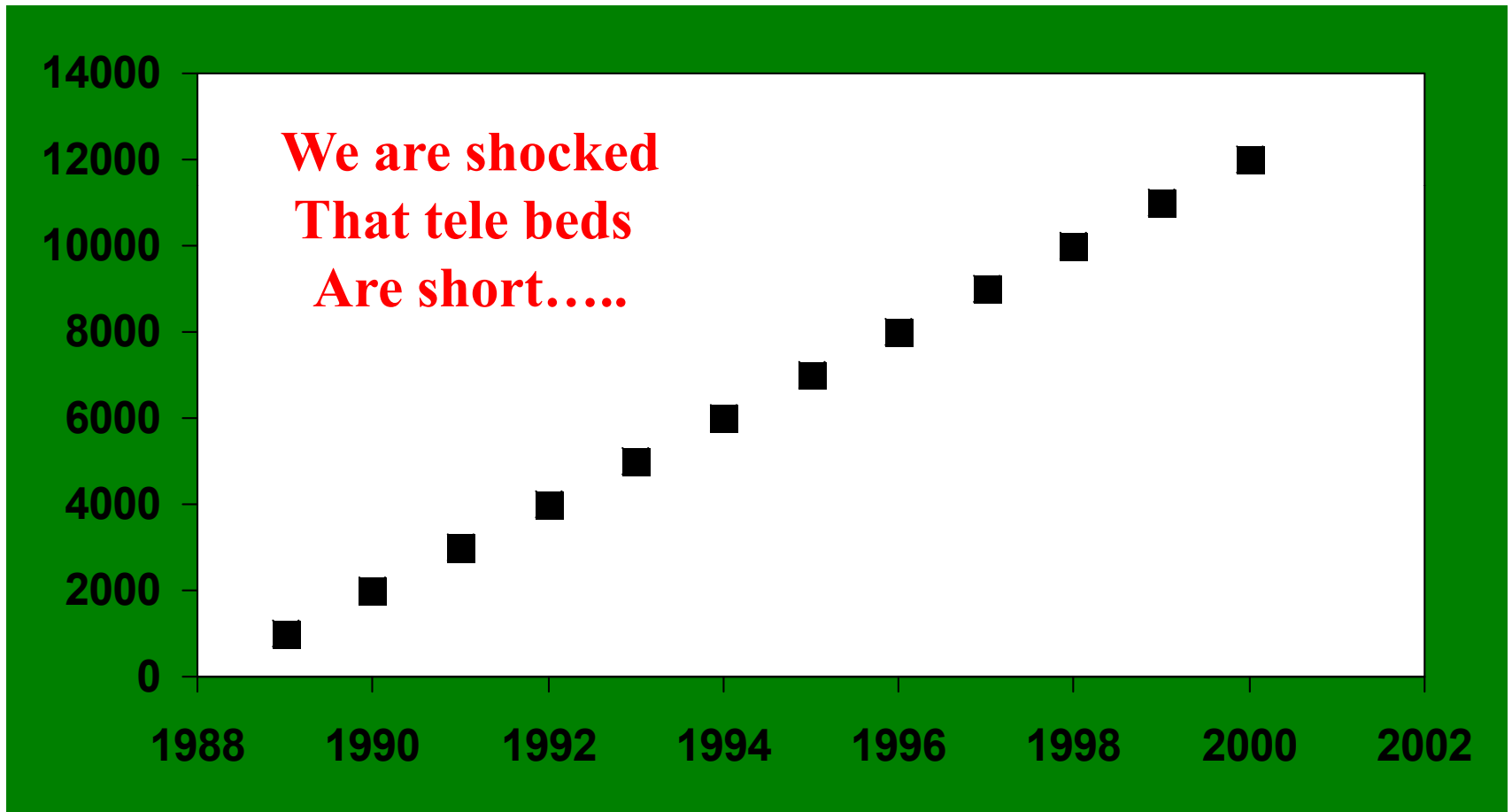


- What should we have known?
- Prevention Works
- When prevention works, more people are alive to get ill

Montgomery County Cardiac Arrests



Adding 1000 people per year back to the population



Emergency Use is Predictable, and Increasing Based on an Aging Population

Population

EMS



Emergency Department



Walk-ins to ED
335 / 1000
Population

EMS Demand
100/1000
Population
Transport 80%

Total use 415 / 1000
Population
73% Walk-Ins
17% Arrival by EMS

Transfer
2%

Admit
17%

Treat/Go
81%

Dispatch Systems: Simple to Complex

- Text to address outline
- Ideally less than 24 words per slide
- Many Small Programs and Simple Operation Centers
- But... Large software producers with integrated programs
- Tiered Levels of Response
- Challenge of Fewer Landline 911 Calls



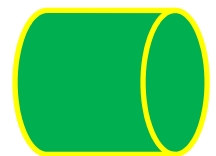
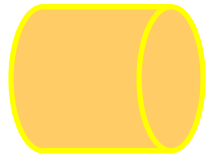
The Timing Challenge

What is Your
Emergency?

Where Is It?

What is Going On?

Can You
Help?



Landline
Mobile Phone

Ideal EMS Call Tiering

- Highest Priority Calls get Pre-Alert Dispatching and Full Responses
- Medium Priority Calls get Pre-Alert and One or Two Vehicle Responses
- Low Priority Calls get One Vehicle, no lights or siren response
- Lowest Priority Calls get phone advice and referral to followup care

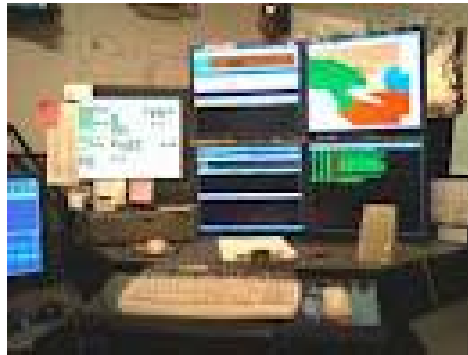


Fully Integrated

- Predictive Algorithms Deploy Resources
- Call Taking and Dispatch Computer-Aided
- Call Management Assistance to Get to Call
- On-Scene Patient Management
- Communicate to Hospital or Tele-Medicine
- Electronic Patient Care Report
- Quality Assured
- Integrated Billing, Reports, System Learning

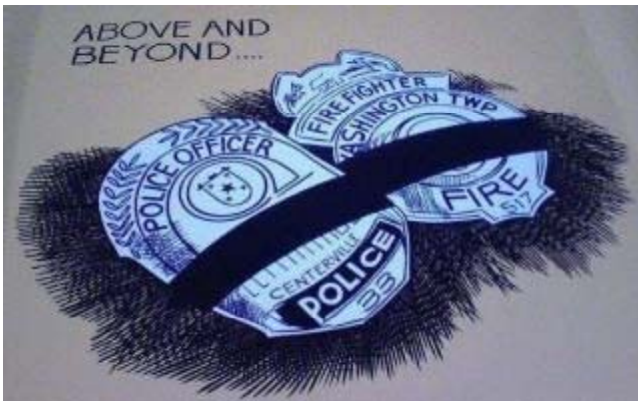
Reduce Call Layers

- CAD
- AVL
- GPS
- Caller Talks Directly to Lead Responder



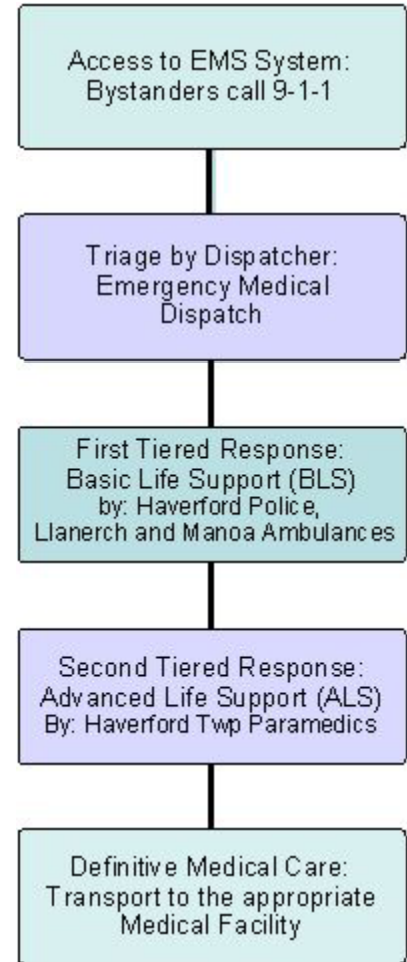
Erase Boundaries

- Reduced reliance on “volunteer” and private vehicle responses
- Still dangerous: Public Safety responders running into each other



Uniform EMS Call Management

- Call Taking
- Medical Interview
- Pre-Arrival Instructions
- Timely Alerts for Response



Medical Transport

- Right Facility
- NOT on Diversion
- Surge Capable
- Reduce Emergency Transports
- Provide Safe Transport



Major Challenges

- Unpredictable Callers
- Time Limitations
- 911 Calls in the Public Domain (should be Privileged and Confidential)
- Call Locating with the Challenge of Mobile Phones
- Can't use Text, SMS, Twitter....
- Newest Challenge to 911 Centers – “Lift Assist”. At home = Good. “How Big”

Summary Of Communication Integration for Safety

- Systems Become More Integrated
- Strategies Include Use of New Call Taking and Information Sharing in Public Safety

Solutions

- Call Taking Assistance
- Resource Management to Reduce Time to Response and Get Appropriate Response with Minimal Duplication
- Support for Medical Mgt and Transport
- Training the Community