



A red ECG line graphic that starts with several sharp peaks on the left, then levels out into a horizontal line, and ends with a few smaller peaks on the right. It runs across the top of the slide, framing the title.

# Mission Lifeline and RACE CARS

- Discuss Cardiac Arrest and STEMI care in NC
- Review the latest Cardiac Arrest and STEMI data
- List improvement ideas to implement on return from this meeting



# ***The State of Cardiac Arrest Care in North Carolina***

Clark Tyson, MS NREMT-P  
Lisa Monk MSN, RN, CPHQ

11/08/2012



Every Second Counts. Every Action Matters.



Cardiac Arrest Resuscitation System





# Objectives:

- Discuss the Medtronic Foundation: Heart Rescue Project and the NC RACE CARS Project
- Review NC Statistics
- Discuss how to use data to improve care of cardiac arrest patients
  - CARES and INTCAR



# Conflicts of Interest:

No Conflict

Our project is funded by the Medtronic Foundation

# History STEMI Systems in NC:

“RACE moved beyond the cath lab and PCI hospitals to focus on EDs, EMS, hospital networks, and associated communication and transport systems.” Heart.org

“AHA’s Mission: Lifeline – A Call to Arms for Emergency Medicine” ACEP News Jan 2009

**RACE Pilot  
1st STEMI  
System**



2003

**RACE  
65 hospitals/  
Multiple EMS Agencies**

2005

**RACE - ER  
Entire State**

2008

**RACE CARS Goal:  
Improve OOHCA  
survival by 50% by 2015**

**Mission Lifeline  
RACECARS**

2010

2011 - 2015

“Racing Against the Clock: A North Carolina-based project becomes a model for discovery-to-balloon”

Richard R. Rogoski 2008

“RACE: A Herculean attempt to improve STEMI care”

Nov 12, 2007 Lisa Nainggolan



“North Carolina’s RACE program cuts door-in door-out times for STEMI patients”

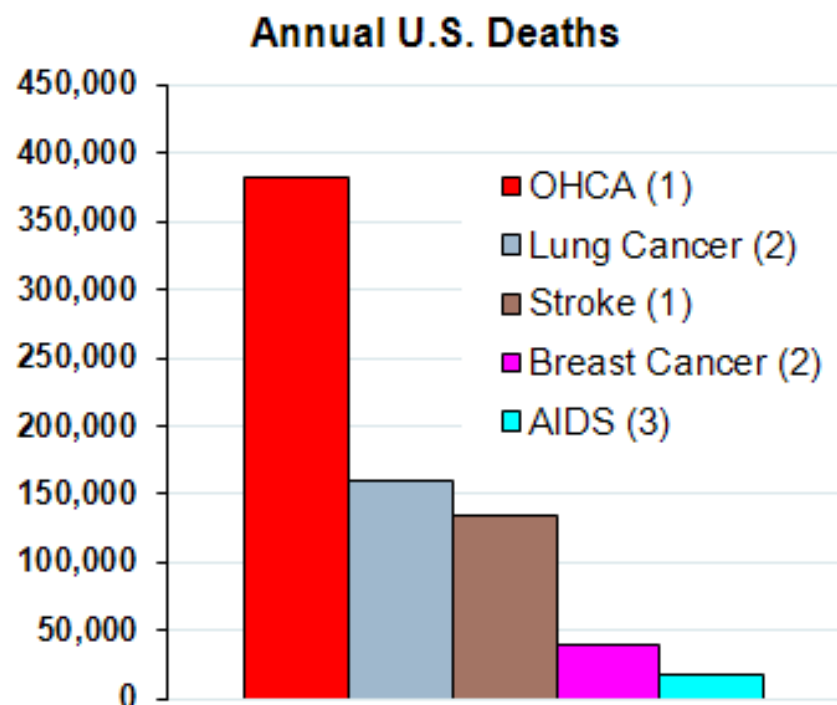
Jun 28, 2011 Reed Miller

If we can't  
save them,



RACE CARS

## Out-of-Hospital Cardiac Arrest: Overlooked Cause of Death



- ▶ Wide variance in local, regional, economic and ethnic survival rates
- ▶ Current data collection sporadic, minimizing motives for systemic improvement

(1) American Heart Association Heart Disease and Stroke Statistics – 2012 Update.

(2) Cancer.org - 2012.

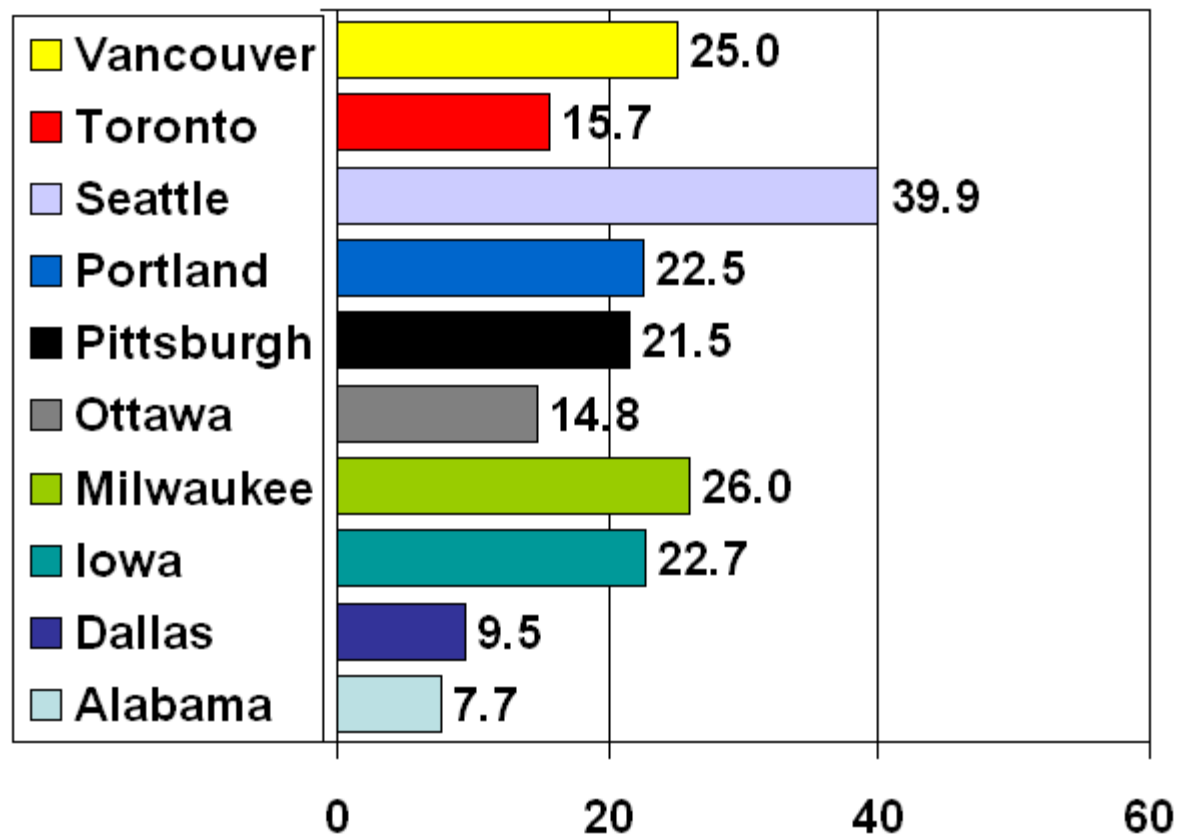
(3) U.S. HIV & AIDS Statistic Summary. Avert.org.



# Variation in survival VF arrest

## Resuscitations Outcomes Consortium

### Survival to discharge



# HeartRescue Partners





## HeartRescue Partners



### Program Goals:

**Goal 1:** Improve Survival of Cardiac Arrest by 50% over 5 years in geographies we fund.

**Goal 2:** Increase and improve measurement of Sudden Cardiac Arrest.

**Goal 3:** Expand and improve national and global impact of the HeartRescue Project.

### Program Results FY12- Q1FY13:

1. Partner programs now covering 50% or more of state populations, and reported on baseline and 2011 survival outcomes. **900 survivors reported in 2011.**
2. New partners in FY12 (AMR), and FY13 (University of Illinois)
3. All partners hosted 25 Resuscitation Academies and eLearning webinars reaching 1,000+ EMS/Hospital leaders with best practice education
4. Partners presented to 1,200 EMS leaders at 8 events to date.
5. 3 million people saved a life virtually with Save-a-Life Simulator on HeartRescueNow.com



# HeartRescue Flagship Premier Partner Program:

## **1st Chain: Community Response**

- i. Early SCA Recognition
- ii. Early 911
- iii. Early and effective bystander CPR or CCC
- iv. Early Public Access to AED

## **2nd Chain: Pre-Hospital Response**

- i. Enhanced dispatch
- ii. Enhanced/high performance CPR or CCC
- iii. Defibrillation care (e.g. one shock therapy for VF patients)
- iv. Pre-hospital hypothermia
- v. Drug delivery (e.g. Intra-osseous drug delivery)

## **3rd Chain: Hospital Response**

- i. Patient triage to Resuscitation Center of Excellence
- ii. Hypothermia as indicated by local protocol
- iii. 24/7 Cath Lab
- iv. Patient indicated therapies provided (e.g. ICD, PTCA, stent, CABG)
- v. Post survival patient and family education and support



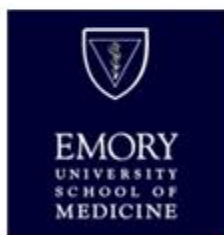
# myCARES.NET



Welcome To:

## Cardiac Arrest Registry to Enhance Survival (CARES)

Sponsored by:



American Heart Association  
*Learn and Live.*



Log In to myCares™

Username:

Password:

[Log In](#)

[Did you forget your password?](#)



[CARES Introduction](#)

[More information on CareS](#)

[Press on CareS](#)

[Maps](#)

[IRB/HIPAA](#)

### CARES


The Cardiac Arrest Registry to Enhance Survival (CARES) was initiated in October 2004 as a cooperative agreement between the Center for Disease Control and Prevention (CDC) and the Department of Emergency Medicine at Emory University School of Medicine to identify incidents of prehospital cardiac arrest. The CARES Program is designed to consolidate all essential data elements of a prehospital cardiac arrest event in an efficient manner. With this standardized collection system, participants can track ongoing system performance in several, tailored reports. If you have any questions about this program, please send an email to



18 months out at least!

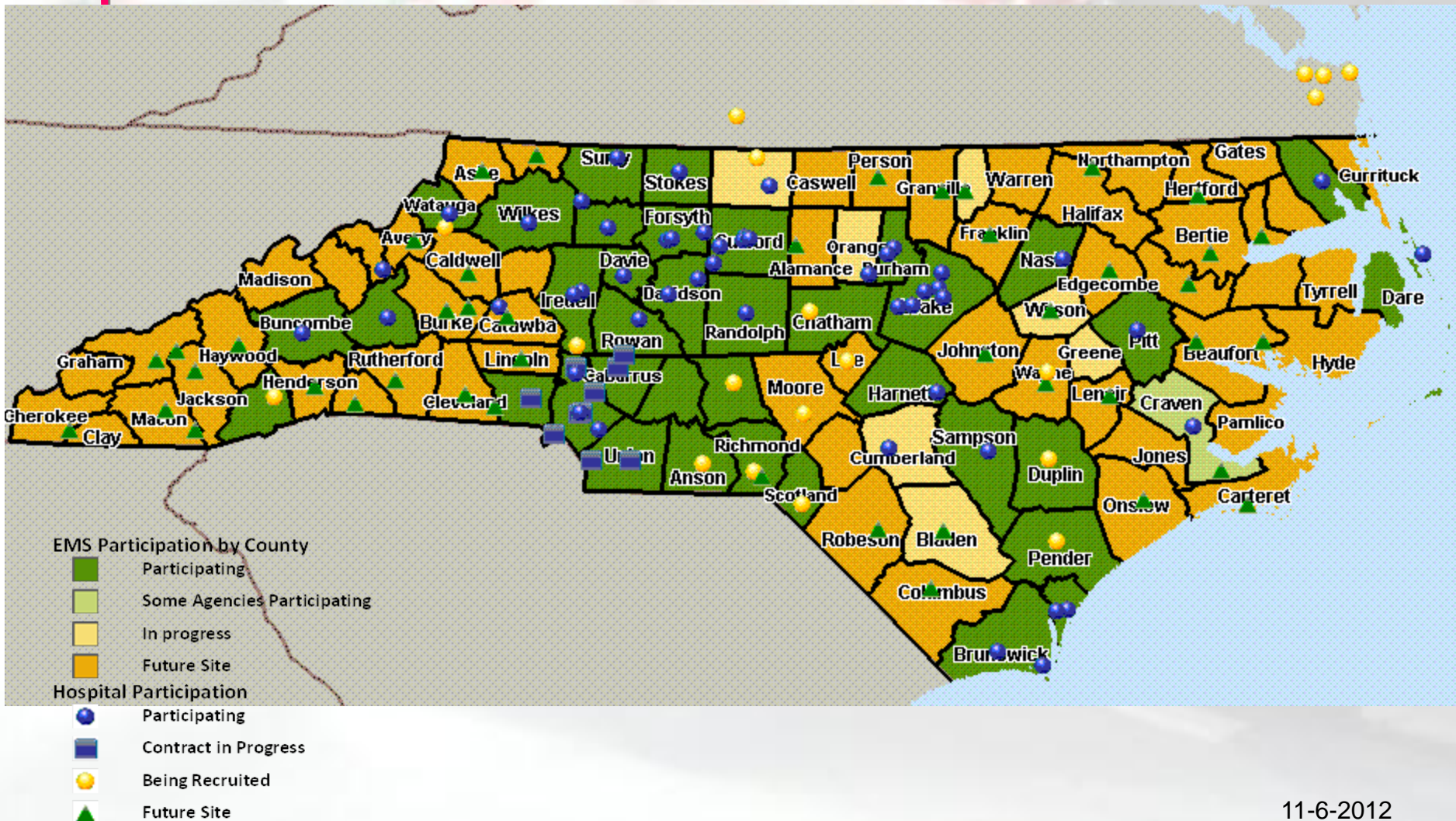
# PreMIS:

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- Lacks sufficient data points for CARES
  - Working to make version 3 capable of electronic export to CARES
  - Train employees:
    - PreMIS / NEMSIS / CARES compliant data dictionary
  - Individual medic complete PCR using data dictionary definitions
- 

# CARES

## Participation:



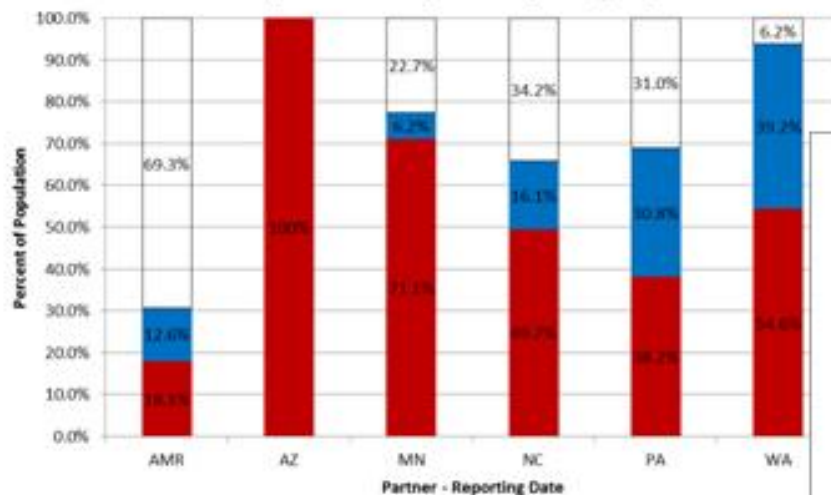
# CARES Participation:

	Number	% Population	Cumulative Population
EMS Systems in NC	100	100%	
EMS Systems reporting into CARES	36	63.01%	63.01%
EMS Systems in Progress	9	8.85%	71.86%
Future EMS Systems	55	28.91%	100
Cases in the CARES (Audited)			
Total 2010	1643		
Total 2011	1911		
Total 2012	1829		
Grand Total to date	5383		
Hospitals in CARES			
Hospital identified by EMS as destination	79		
Hospitals Trained	56		
Hospitals with data in system	42		

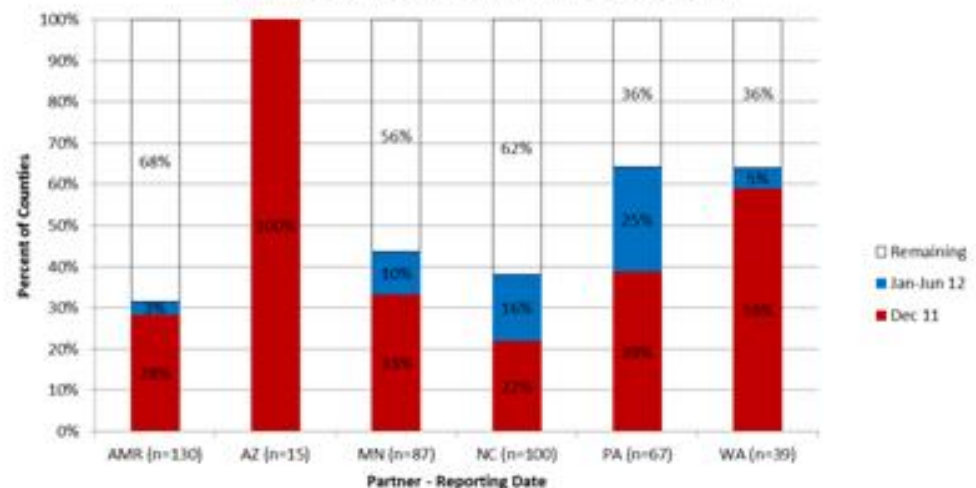


# HeartRescue Outcomes Data: Coverage of Counties and Population: 2011

Fully & Partially Participating Populations



Fully & Partially Participating Counties





# Cardiac arrest in North Carolina:

~ 5000-8000 per year (ED vs. EMS records)

## NC Office of EMS Preliminary data

- Statewide Cardiac Arrests: 5,213
- EMS Return of Spontaneous Circulation: 1,845 (35%)
- Arrived at Emergency Department Alive: 1,034 (20%)
- Admitted to Hospital Alive: 589 (11%)
- Discharge from Hospital Alive :not available... likely under 5%



# Cardiac arrest in North Carolina

## From the CARES Registry:

Bystander CPR 23%

AED Use 1.3%

Public CPR training 3% / year

**32% Survival Rate**

(Utstein criteria)

Original CARES data from Wake, Durham and  
Mecklenburg Counties



# Current Data:

Site	Inclusive Dates Reported	Overall Survival to Hospital Discharge	Source for Overall Survival Data	Number of Cases included in Overall Survival Statistics	Bystander Witnessed VF Survival to Hospital Discharge	Source for VF Survival Data	Number of Cases included in VF Survival Statistics	% Bystander CPR Provided
North Carolina (Original 4 Agencies)	Jan 1, 2010 to Dec 31 2010	11.7%	CARES Utstein Report	1098	31.7%	CARES	164	33.9%
North Carolina (Revised 6/25/12)	Jan 1, 2010 to Dec 31 2010	10.4%	CARES Utstein Report	1310	28.0%	CARES 2010 report	193	34.0%
North Carolina (7/27/11)	Jan 1, 2011 to Dec 31 2011	12.0%	CARES Utstein Report	1463	29.4%	CARES Utstein Report	235	38.2%

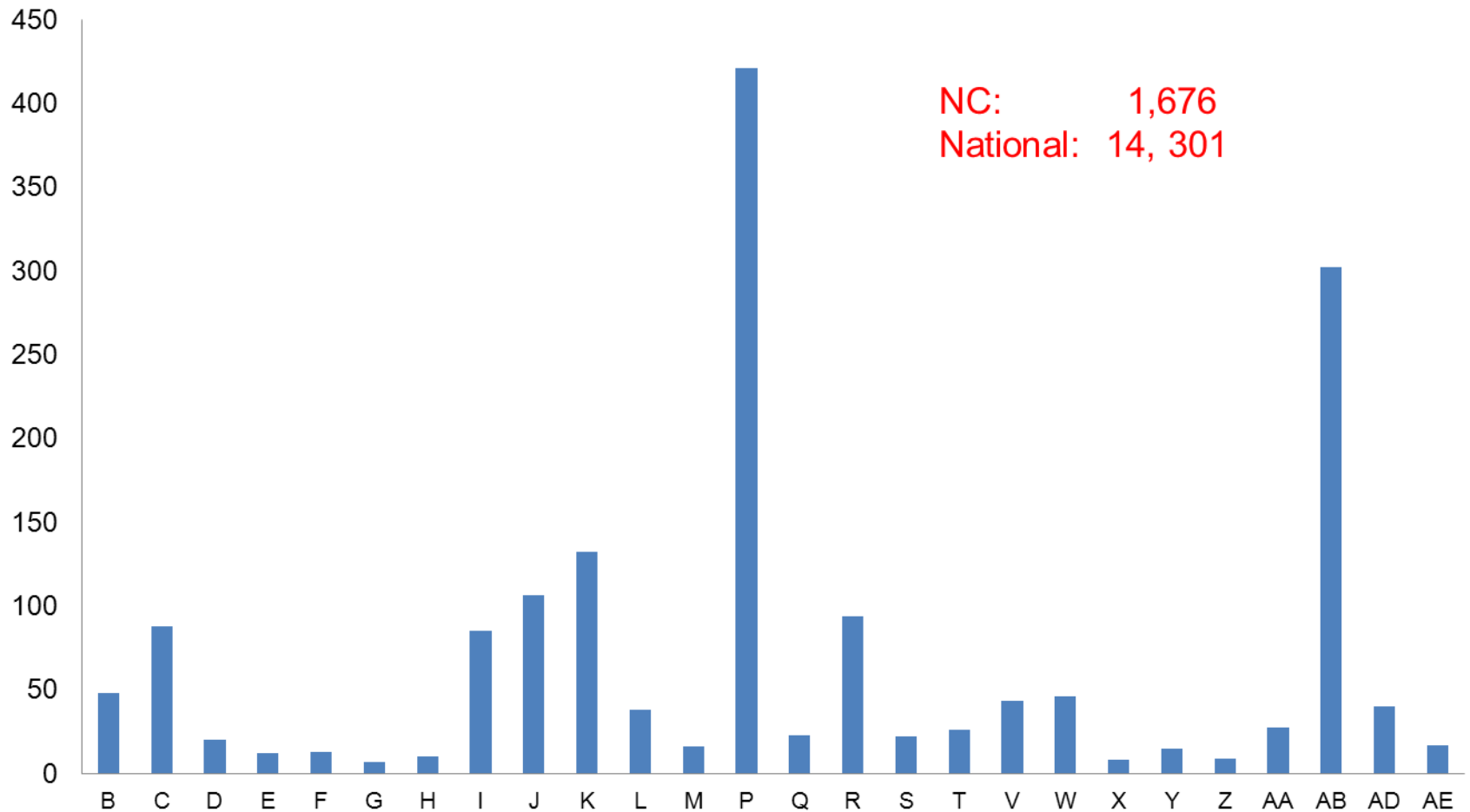




# North Carolina CARES

## Case Volumes

Year to Date: 2012  
September 26, 2012



NC: 1,676  
National: 14,301



# North Carolina CARES

## Overall Survival

Year to Date 2012

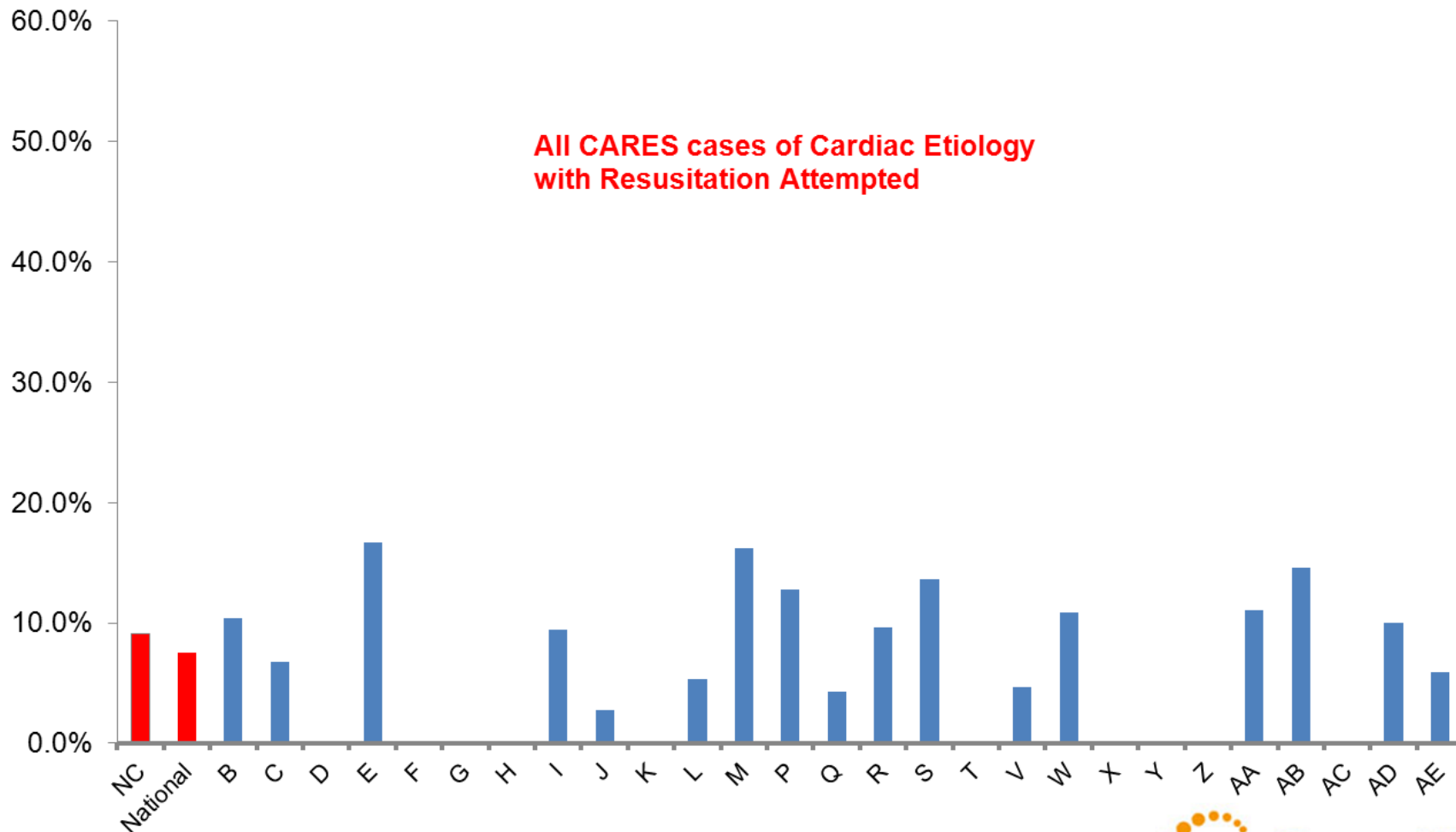
September 26, 2012



HeartRescue  
PROJECT

Every second counts. Every action matters.

All CARES cases of Cardiac Etiology  
with Resuscitation Attempted

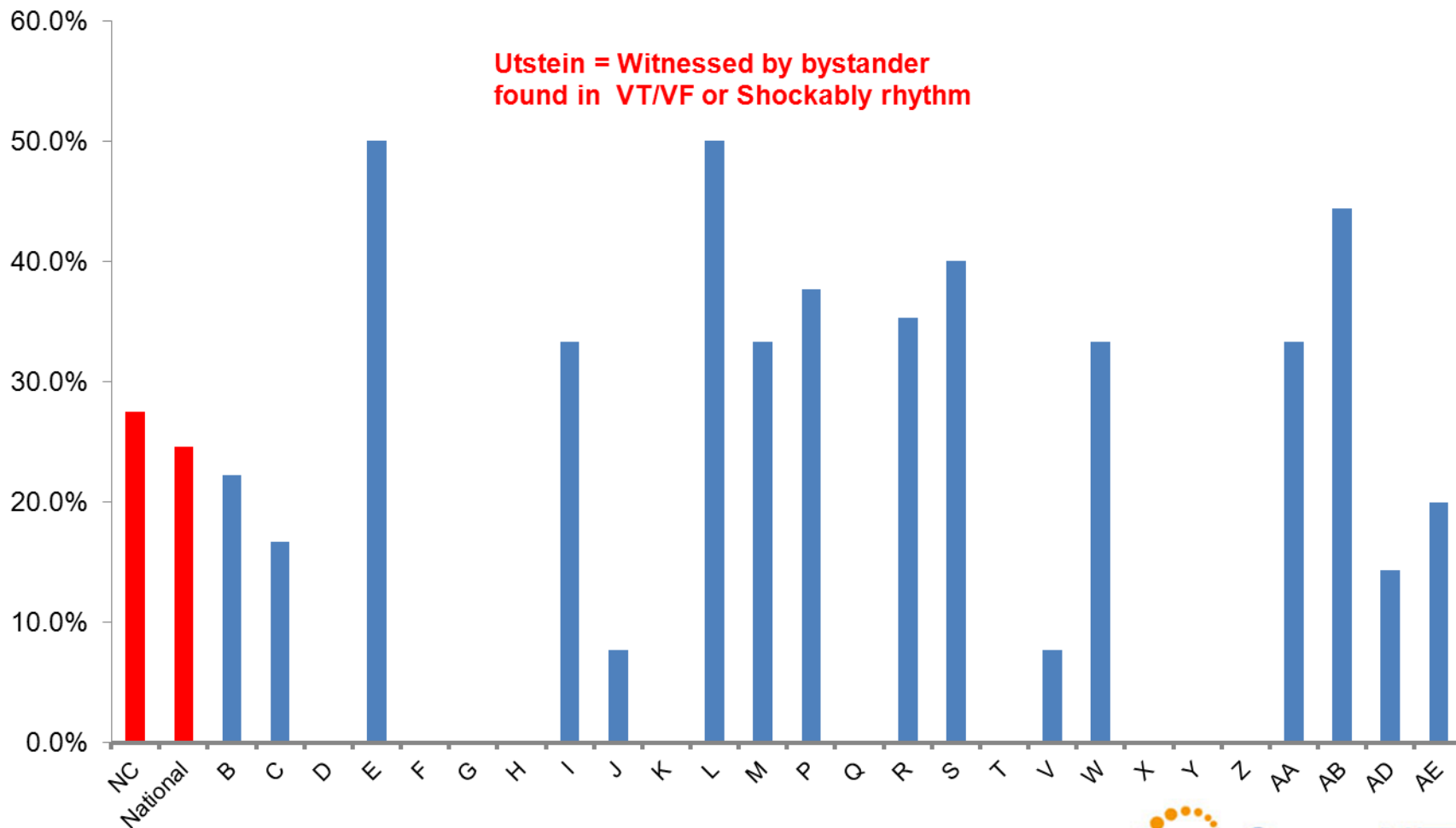




# North Carolina CARES Utstein Survival Year to Date 2012 September 26, 2012



Utstein = Witnessed by bystander  
found in VT/VF or Shockably rhythm





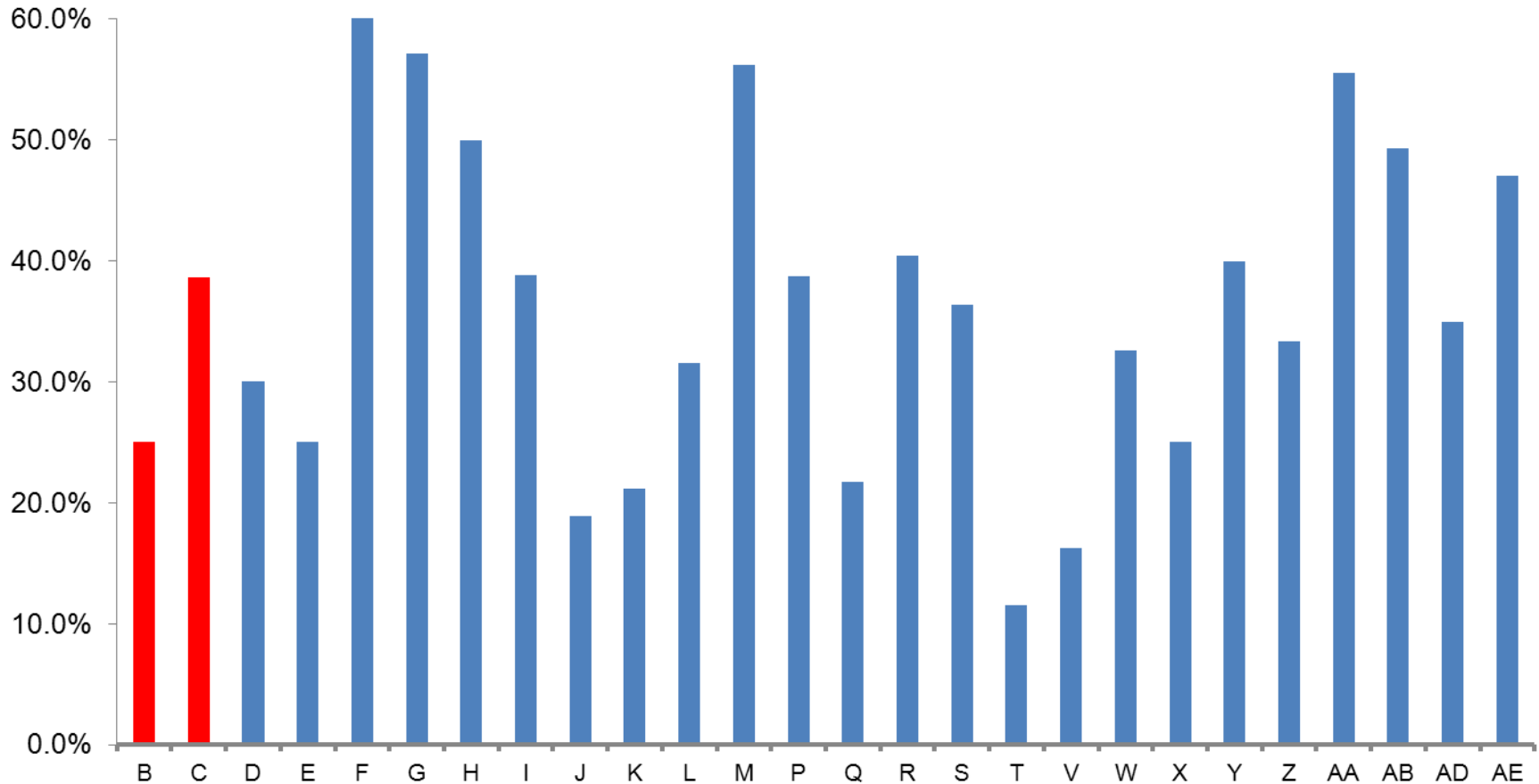
Cardiac Arrest Resuscitation System

# North Carolina CARES Sustained ROSC in Field Year to Date 2012 September 26, 2012



## HeartRescue PROJECT

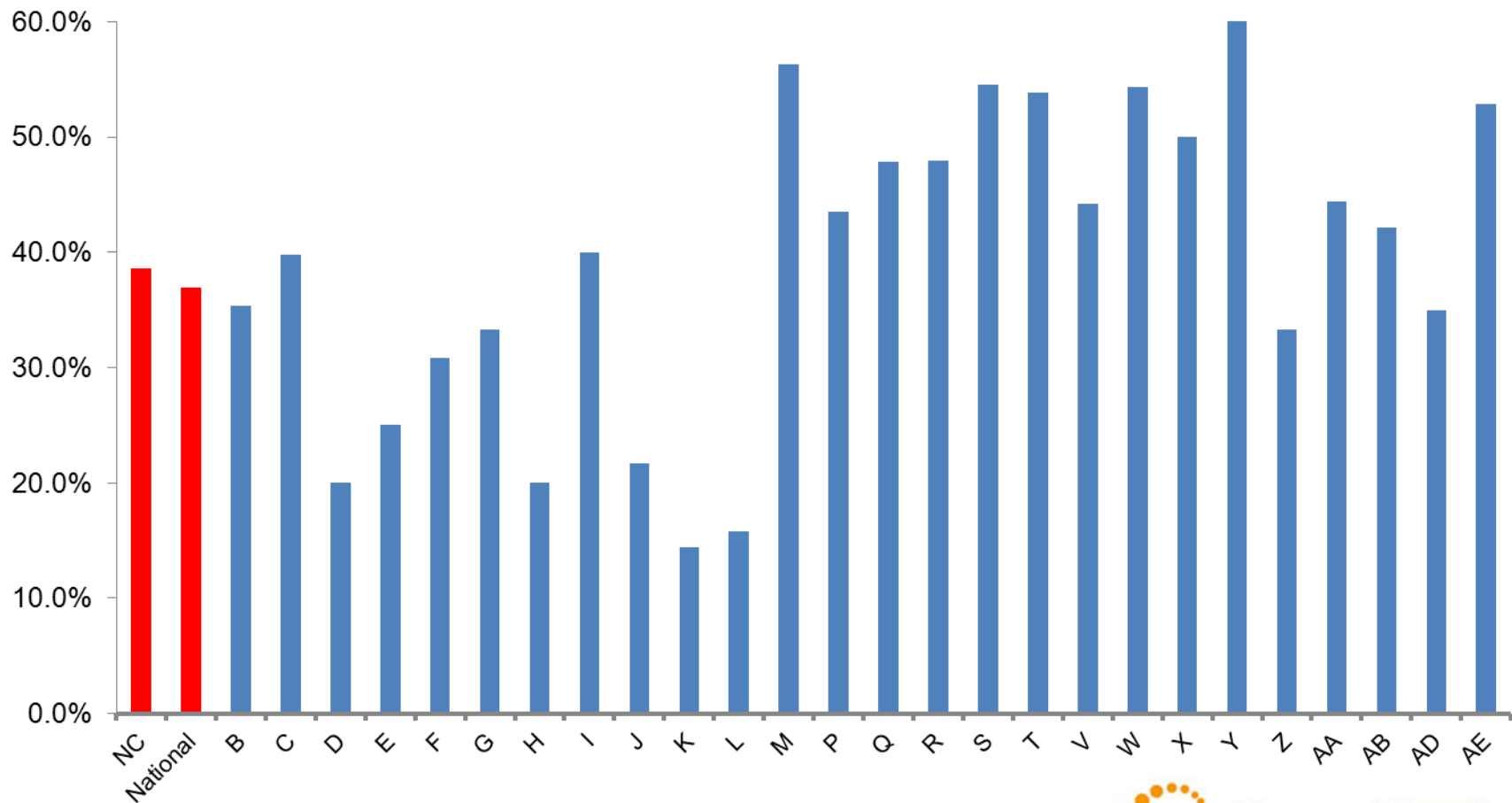
Every second counts. Every action matters.







# North Carolina CARES Bystander CPR Year to Date 2012 September 26, 2012

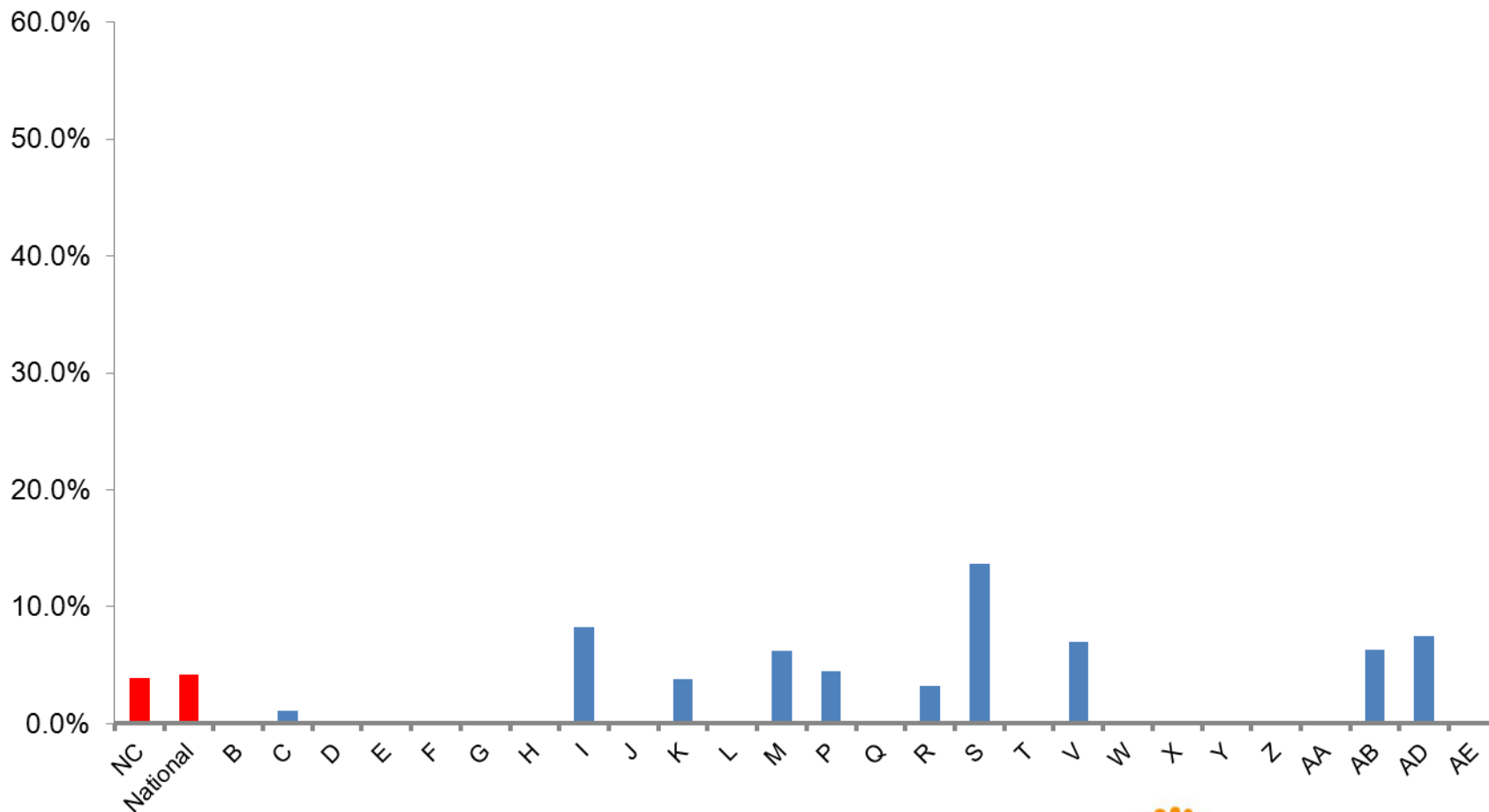


SO EASY A DOG CAN DO IT!





# North Carolina CARES Bystander AED Application Year to Date 2012 September 26, 2012



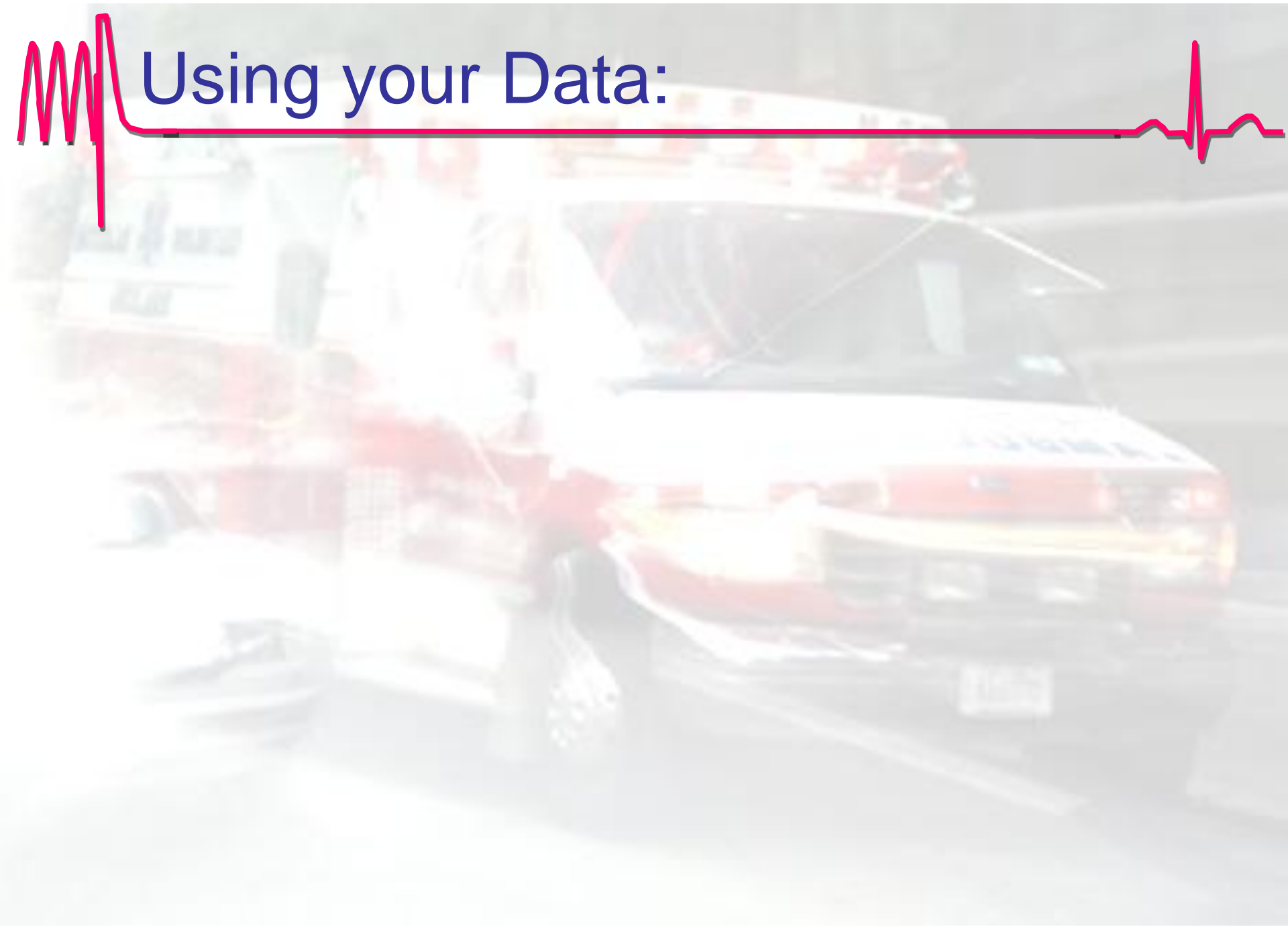


# NC Success Stories:

- Pregnant Woman/School Teacher – Charlotte
- Legislator-Raleigh
- Police Officer - Yadkinville
- Baseball Coach-Winston-Salem
- Former Girl scout performs CPR-Durham
- Rural EMS: Stokes County Survival Rate 66%



# Using your Data:





# Good data practices:

- All fields complete
- Know your data definitions
- Know the capability of your registry
- You must monitor for compliance not just data metrics



# Dispatch CPR Instruction:

Dispatch Instruction			
Yes	No	Unknown	Blank
31%	24%	43%	1%



# Know your Registry:

- Case Criteria
  - Cardiac Etiology where EMS attempts resuscitation
- Canned Reports
  - CAD Times, Utstein, Summary Reports
- Export of Raw Data



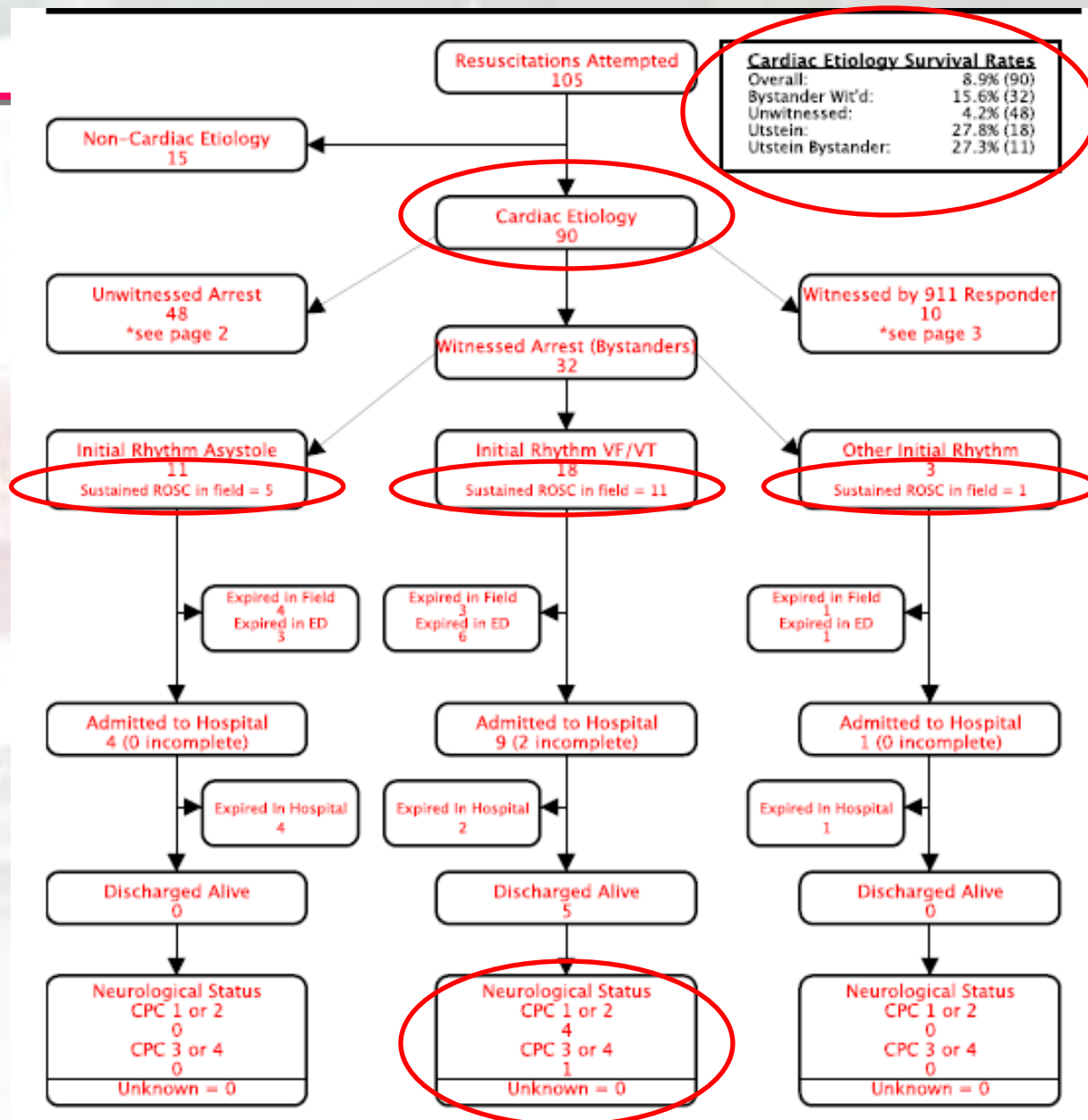


# Definitions:



- Overall survival Refer to handout
  - All-comers of cardiac etiology
- Utstein Survival
  - Witnessed, VT/VF
- Bystander CPR
  - All cases with bystander initiated CPR
- Bystander AED
  - All cases that have an AED applied by the bystander

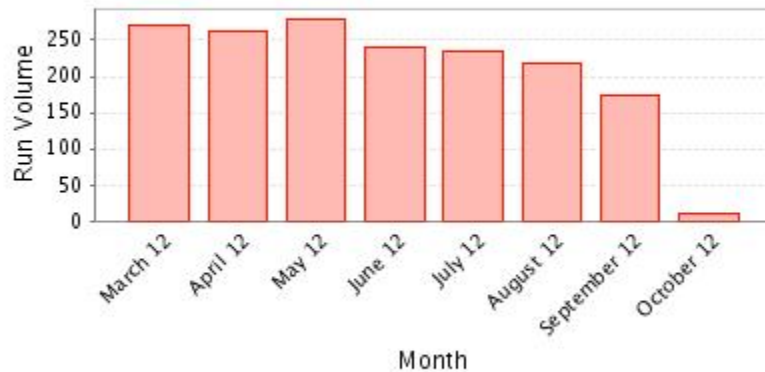
# Utstein



# Run Volumes:

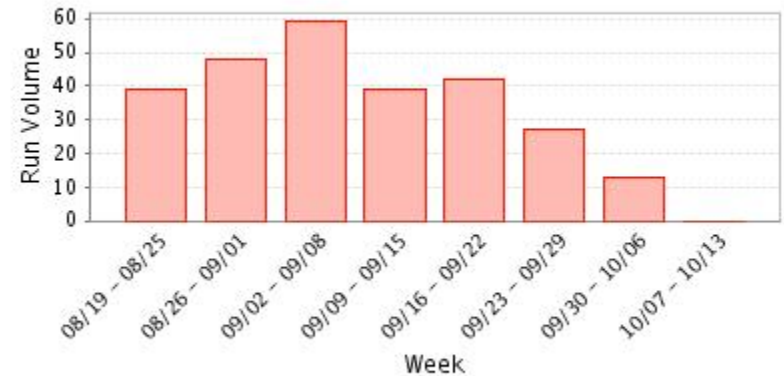
## Agency Productivity

### Run Volume By Month



## Agency Productivity

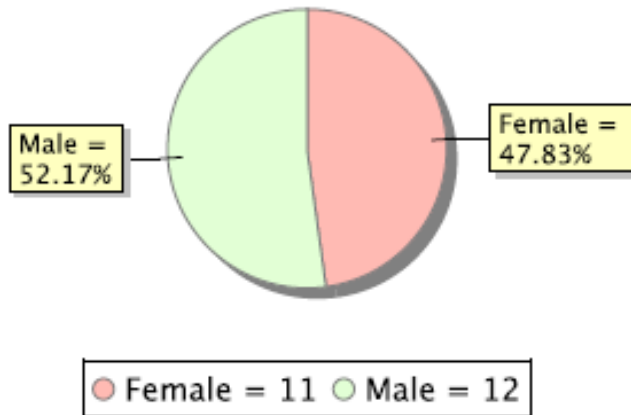
### Run Volume By Week



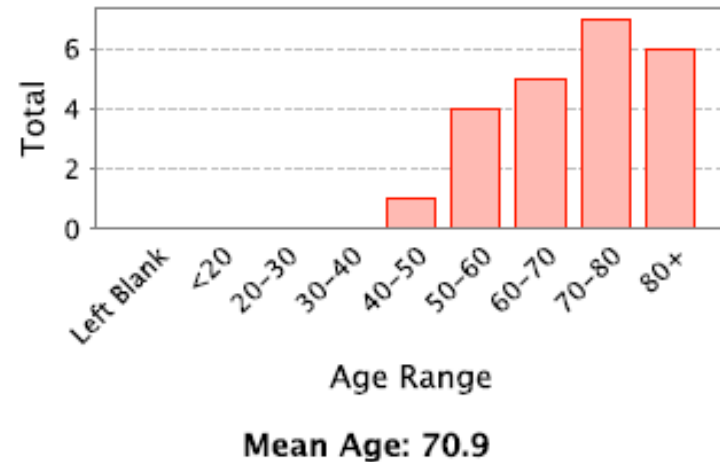
- Under Reports Tab
- Helps identify potential missed cases

# Demographics:

Gender



Age



Location Type	Count
Home/Residence	16 - 69.6%
Nursing Home	5 - 21.7%
Healthcare Facility	1 - 4.3%
Other	1 - 4.3%

- Gender
- Age range
- Location





# Summary Data:

- Demographic Information
- Bystander CPR rate
- AED rate of application
  - Careful how determined – should be applied by bystander/total cases

# Summary:

## Who Initiated CPR? (%) N=48

Not Applicable 0 (0.0)

Total Bystanders\* 17 (35.4)

First Responder 18 (37.5)

Emergency Medical Services (EMS) 13 (27.1)

## Was an AED applied prior to EMS arrival? (%) N=48

Yes 12 (25.0)

No 36 (75.0)

## Who first applied automated external defibrillator? (%)

**N=12** \* need total number of arrests not

Total Bystanders\* 0 (0.0)

First Responder 12 (100.0)

Age	N=48
Mean	62.3
Median	67.0
Gender (%)	N=48
Female	17 (35.4)
Male	31 (64.6)
Race (%)	N=48
American-Indian/Alaskan	0 (0.0)
Asian	1 (2.1)
Black/African-American	9 (18.8)
Hispanic/Latino	0 (0.0)
Native Hawaiian/Pacific Islander	0 (0.0)
White	38 (79.2)
Unknown	0 (0.0)
Location of Arrest (%)	N=48
Healthcare Facility	2 (4.2)
Home/Residence	37 (77.1)
Industrial Place	0 (0.0)
Nursing Home	3 (6.3)
Other	0 (0.0)
Place of Recreation	2 (4.2)
Public/Commercial Building	4 (8.3)
Street/Highway	0 (0.0)
Transport Center	0 (0.0)
Arrest witnessed (%)	N=48
Bystander Witnessed	21 (43.8)
Witnessed by EMS	8 (16.7)
Unwitnessed	19 (39.6)
Who Initiated CPR? (%)	N=48
Not Applicable	0 (0.0)
Total Bystanders*	17 (35.4)
First Responder	18 (37.5)
Emergency Medical Services (EMS)	13 (27.1)
Was an AED applied prior to EMS arrival? (%)	N=48
Yes	12 (25.0)
No	36 (75.0)
Who first applied automated external defibrillator? (%)	N=12
Total Bystanders*	0 (0.0)
First Responder	12 (100.0)
Who first defibrillated the patient? (%)	N=48
Not Applicable	25 (52.1)
Total Bystanders*	0 (0.0)
First Responder	7 (14.6)
Responding EMS Personnel	16 (33.3)
First Arrest Rhythm (%)	N=48
Vfib/Vtach/Unknown Shockable Rhythm	12 (25.0)
Asystole	25 (52.1)
Idioventricular/PEA	10 (20.8)
Unknown Unshockable Rhythm	1 (2.1)
Sustained ROSC (%)	N=47
Yes	15 (31.9)
No	32 (68.1)
Was hypothermia care provided in the field? (%)	N=48
Yes	25 (52.1)
No	23 (47.9)

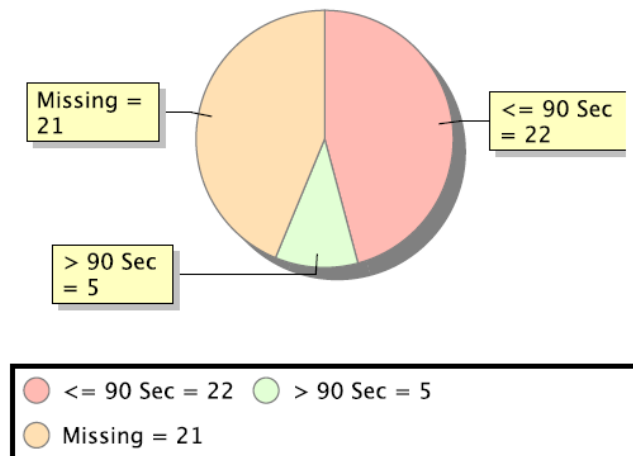
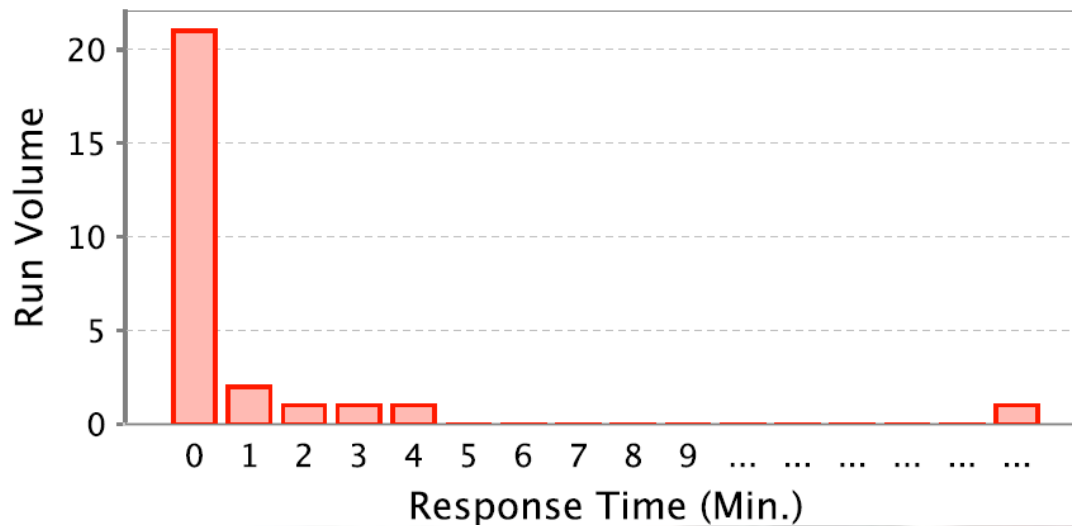


## CAD Times:

- Meant for internal process improvement
- Consistency of data element definition
- Recognition of response times, need for bystander CPR and AED use
- Prompt to look at additional data: dispatch call to recognition of cardiac arrest, call to CPR instruction

# CAD Times: EMS and FR

First Responder Times: 911 to Dispatch



- 911 to arrival
- 911 to dispatch
- Dispatch to arrival
- <4 > 4
- missing



# Track:



- Metric from HR/RACE CARS
  - OA Survival, Utstein, Bystander rate
- Chose other metrics to track, ex. ROSC
  - AED application rate, ROSC in field, Dispatch instruction
- Generation of reports
  - Pull quarterly but individualize the time frame pulled
  - Case by Case and aggregate data
  - Share it





# Remember your resources:

- Cares
  - Canned reports
  - Excel export report
- Protocols
  - Gap analysis
- National/formal reports-HR –SCA index, community data sharing



# P A S – I T:

- Pull data
  - Define time frame
  - Individual cases
  - Data over Time
- Analyze Data
- Share with others
- Implement improvement efforts
- Track progress

# Building Reports:

	Metric	Case	2012 Cumulative	Cumalitive Percentage	Goals:
<b>Dispatch</b>	Call to Recongntion				
	Call to CPR instruction			20.80%	
<b>First Responder</b>	Call to arrival at pt side	3			
	Call to CPR			38%	
	Call to AED shock			15%	
<b>EMS</b>	Call to arrival at pt side	10			
	Call to CPR				
	Call to defibrillation	16			
	Sustained ROSC yes or no	no		25%	
<b>Hospital</b>					
<b>Survival:</b>	Discharged alive with good to moderate CPC score: yes or no	no			
<b>Overall</b>				10.40%	
<b>Utstein</b>				22.40%	
<b>Bystander</b>	CPR	yes		35.40%	
	AED application	no		0%	



# First Responder:



<b>Cardiac Etiology Cases</b>	48
<b>First Responder Data</b>	
CPR initiation	38%
AED applied	25%
AED shock	15%
<b>FR Data Available</b>	
FR Dispatch	56%
FR En route	52%
FR Onscene	48%



# Individual Case Feedback:

Event	Time	Time elapsed
Witnessed arrest	7:16	0
CPR	7:16	0
911 Call	7:16	0
Dispatch CPR instructions given		
FR Dispatched	7:17	0:01
Ambulance Dispatched	7:17	0:01
Ambulance En Route	7:18	0:02
FR En Route	7:18	0:02
FR On Scene	7:19	0:03
Ambulance On Scene	7:24	0:08
EMS Patient Contact	7:26	0:10
First Defibrillation	7:32	0:16
Leave Scene	8:31	1:15
Arrived in ED	9:10	1:54
Died in field, no ROSC		
from 911 call, 16 minutes to defibrillation		
FR on scene 13 minutes before defibrillation		

# Hospital Reports:







# Hospital:

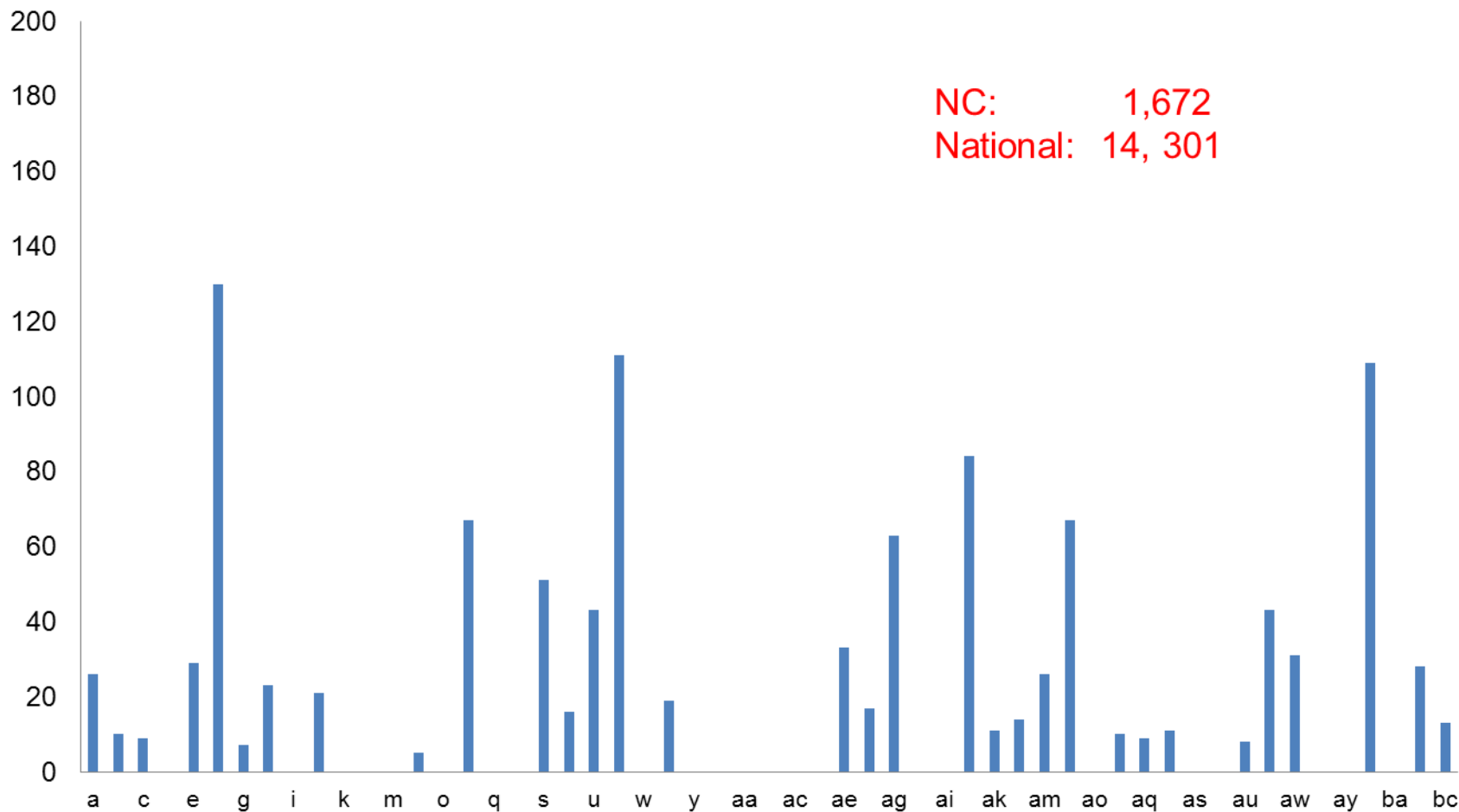
- CARES hospital data is limited:
  - Dies in ED – 1 element
  - Survives to DC – 10 elements
- Consider voluntarily entering into the INTCAR registry



# North Carolina CARES

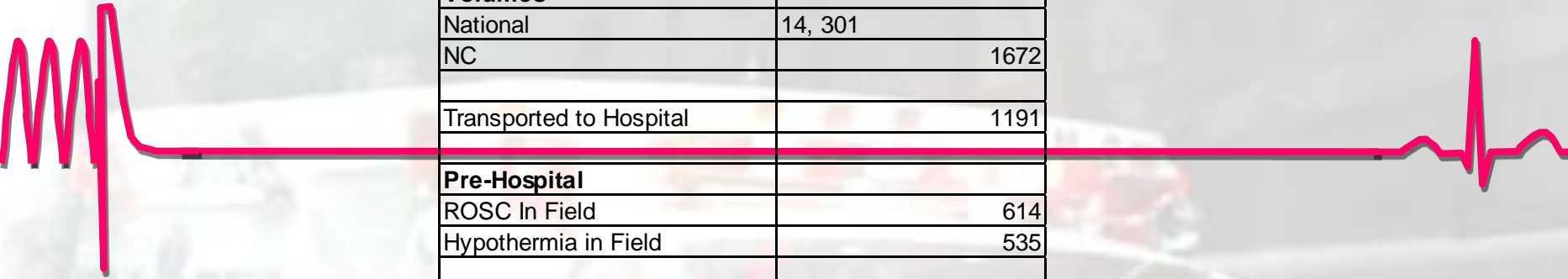
## Cases Transported to the Hospital

Year to Date: 2012  
September 26, 2012



NC: 1,672  
National: 14,301





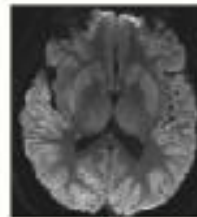
<b>Volumes</b>	
National	14, 301
NC	1672
Transported to Hospital	1191
<b>Pre-Hospital</b>	
ROSC In Field	614
Hypothermia in Field	535
<b>ED</b>	
Dead in ED	270
Ongoing Resus in ED	864
Admitted to Hospital	364
<b>In-hospital</b>	
<b>STEMI</b>	
Yes	84
No	291
Unknown	502
Blank	314
MI	43
Hypothermia in Hospital	194
Angio	60
Stent	26
ICD	26
CABG	1
<b>Outcomes</b>	
Died in Hospital	144
DC Alive	149
DC Neuro Intact	125
DNR during Stay	69
<b>Incomplete Cases</b>	<b>298</b>



# INTCAR:

- International Registry for Cardiac Arrest Registry
- <http://www.intcar.org/>
- is a joint venture of hospitals, research societies and individuals dedicated to improving post-resuscitation care for cardiac arrest survivors.
- allows members to participate in research groups of their own design and choosing

## Neuroimaging



## Cardiology



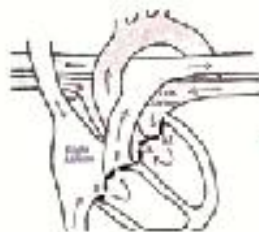
## Seizures and EEG



## Methods/ Complications



## Prognostication



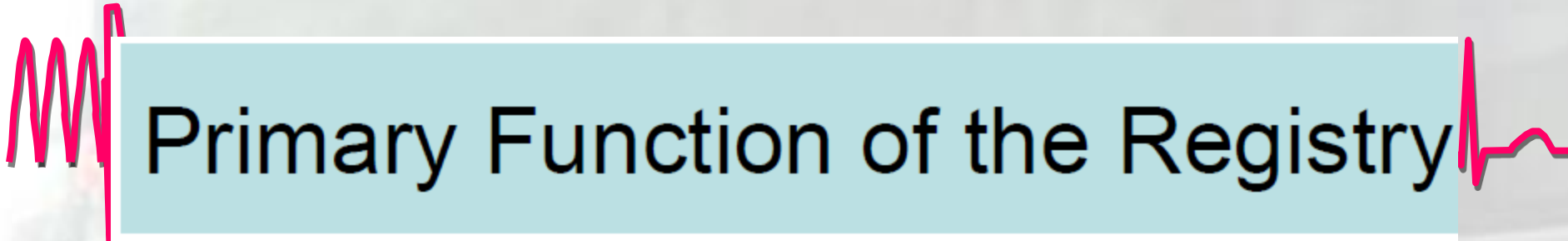
## Hemodynamics



## Core Set:

- 108 data elements
- 2 hours to abstract and enter
- Clinical abstractor
- Subset Example:
  - The Cardiology group was developed to evaluate the relationship between cardiac features of cardiac arrest and outcome, and was founded in 2009.





# Primary Function of the Registry

- Collect data
  - HOW and on WHOM is hypothermia being performed after Cardiac Arrest
  - Characteristics of the patients
  - Utilization of PCI, EEG, MRI, etc
  - Outcomes
- Return reports to member institutions for internal QI purposes, compare outcomes and practices to norms within the registry

# Secondary Functions

- Research within the registry
  - Requires approval and cooperation of the steering committees
- “Networking” function to connect centers
  - Research groups
  - Provide support for new sites

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ACTA ANAESTHESIOLOGICA SCANDINAVICA  
doi: 10.1111/j.1399-6576.2009.02021.x

## Outcome, timing and adverse events in therapeutic hypothermia after out-of-hospital cardiac arrest

N. NIELSEN<sup>1,2</sup>, J. HOVDENR<sup>3</sup>, F. NILSSON<sup>4</sup>, S. RUTBERGSON<sup>5</sup>, P. STAMMET<sup>6</sup>, K. SØNCE<sup>7</sup>, F. VALBON<sup>8</sup>, M. WANSCHER<sup>9</sup> and H. FRIBERG<sup>1,10</sup>, for the Hypothermia Network  
<sup>1</sup>Department of Clinical Sciences, Lund University, Lund, Sweden; <sup>2</sup>Departments of Anaesthesiology and Intensive Care, Helsingborg Hospital, Helsingborg, Sweden; <sup>3</sup>Rikshospitalet, Oslo, Norway; <sup>4</sup>Competence Center for Clinical Research, Lund University, Lund, Sweden; <sup>5</sup>Uppsala University Hospital, Uppsala, Sweden; <sup>6</sup>Centre Hospitalier de Luxembourg, Luxembourg, Luxembourg; <sup>7</sup>Department of Anaesthesiology and Intensive Care, University Hospital, Oslo, Norway; <sup>8</sup>Department of Anaesthesiology and Intensive Care, University Hospital, Lund, Sweden; <sup>9</sup>Department of Anaesthesiology and Intensive Care, University Hospital, Lund, Sweden; <sup>10</sup>Department of Anaesthesiology and Intensive Care, University Hospital, Lund, Sweden



# INTCAR Commitment

- Identify a principle investigator and data coordinator
- Report ALL unconscious patients admitted to your ICU, ICU group, or hospital with a primary diagnosis of cardiac arrest\*
  - Even if not treated with hypothermia
- PI should maintain contact with INTCAR administrator, and must take responsibility for high quality data entry

# Registration

- Go to the INTCAR or the Neurocritical Care Society website and follow registration instructions
- Seek exemption from local IRB to enter fully de-identified patient data
- Administrator will contact you by email, conduct a brief telephone interview, and provide you with a logon and password
- Review the “test patient” field
- Discuss data questions with administrator
- Begin entering patient data for ALL comatose survivors of cardiac arrest admitted to your institution

# Database Management

- Submit to INTCAR
- Develop a standing database to pull data back locally
- Develop reports to be generated for Quality Improvement
- Research questions addressed by query
- May add fields locally

# Community Reporting:







# Public Health Crisis:

- have significant impacts on community health, loss of life, and on the economy
- Need transparency of data
- Creates accountability
- Can help leverage resources



HOME

ABOUT

PARTICIPATE

REPORTS



HeartRescue  
PROJECT

Every Second Counts. Every Action Matters.

Community SCA  
Response Guide



### Learn About Our Partners



# Detailed, reliable data on sudden cardiac arrest

## Welcome

Welcome to the  
HeartRescue Project  
treated and managed

The Data Bank

- Publicly stated
- A common sense
- A commitment

This site is designed to bring SCA data to your fingertips, presenting it in context with both major risk factors such as heart disease and diabetes and demographic information such as household income.

If your community is participating in this program and sharing its data, you can view information such as the number of survivors, deaths and survival rates for your community. Even if your community is not participating

Home page for the Data Bank.

This site links to the [www.heartrescueproject.com](http://www.heartrescueproject.com) and will be reached by links on that site

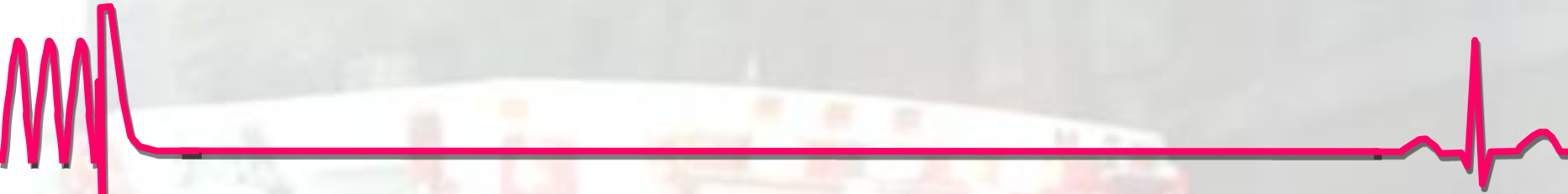
	<b>Massachusetts: Plymouth</b>
<b>Demographics</b>	
1. Median Age	40.9
2. Median Household Income	72,634
3. Percent of Population with Bachelors Degree or Higher	32.5%
4. Population	494,919
5. Population Density	750.9
<b>Out-of-Hospital Cardiac Arrest Response</b>	
<b>Bystander</b>	
6. Bystander CPR	28
7. Bystander CPR - Rate	39.0%
8. Witnessed Events - Bystander	71
<b>Pre-Hospital</b>	
9. Arrests - Cardiac etiology	291
<b>Hospital</b>	
10. Treatment Provided - Number	76

This table of data  
is display  
(continued on next  
slide.)

Hospital	
10. Treatment Provided - Number	76
Risk Factors	
11. Cardiovascular Deaths (per 100,000 population)	241.3
12. Diabetes Prevalence Rate	8.3%
13. Heart Attack Prevalence Rate	5.1%
14. Heart Disease Prevalence Rate	4.2%
15. Obesity Prevalence Rate	23.1%
16. Smoking Rate (percent of adults that smoke)	19.9%
Survival	
17. Events - VT / VF	119
18. Shockable Rhythm Survival Rate	46.0%
19. Survival Rate - Overall	26.5%
20. Survivors, Total	77

#### Data Notes

1. Source: U.S. Census Bureau American Fact Finder
2. Source: U.S. Census Bureau American Fact Finder
3. Source: U.S. Census Bureau American Fact Finder



	Massachusetts: Hampshire	Massachusetts: Plymouth
<b>Demographics</b>		
1. Median Age	36.2	40.9
2. Median Household Income	59,591	72,634
3. Percent of Population with Bachelors Degree or Higher	42.4%	32.5%
4. Population	158,080	494,919
5. Population Density	299.8	750.9
<b>Out-of-Hospital Cardiac Arrest Response</b>		

A county to county(s) comparison would list the data side by side where it is available.

You can compare up to four counties.

		Compared with counties in the same Median Age quartile		
	Massachusetts: Plymouth	Low	Median	High
<b>Demographics</b>				
1. Median Age	40.9	37.4	39.8	41.0
2. Median Household Income	72,634	14,916	41,007	95,563
3. Percent of Population with Bachelors Degree or Higher	32.5%	6.9%	32.1%	53.7%
4. Population	494,919	19,677	26,415	19,378,102
5. Population Density	750.9	3.4	5.9	4,704.8
<b>Out-of-Hospital Cardiac Arrest Response</b>				

Comparison to a group of counties would compare it to the low, median and high value among that group. (There must be at least five counties in the group for data to appear in the comparison columns.)

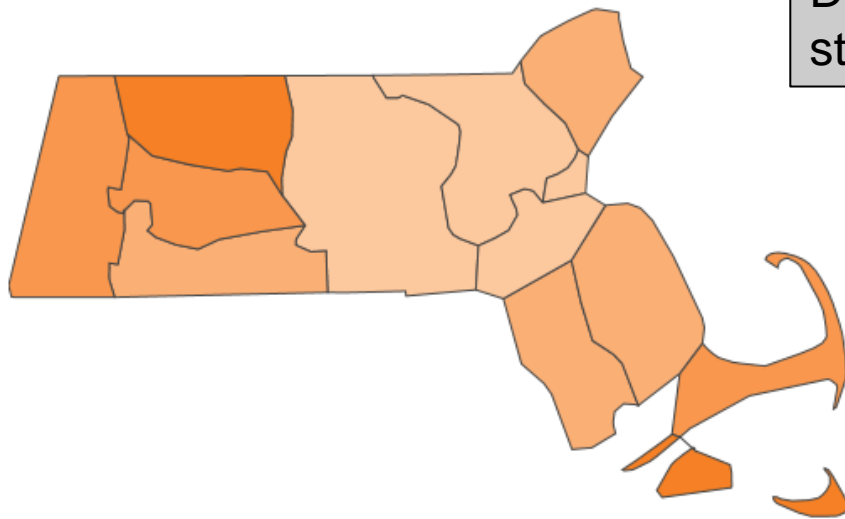


### Location

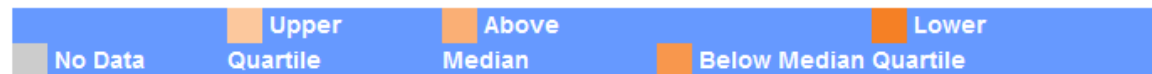
Massachusetts

### Data

Out-of-Hospital Cardiac Arrest Response, Bystander: Bystander CPR



Data is displayed by quartile for the state.



Print

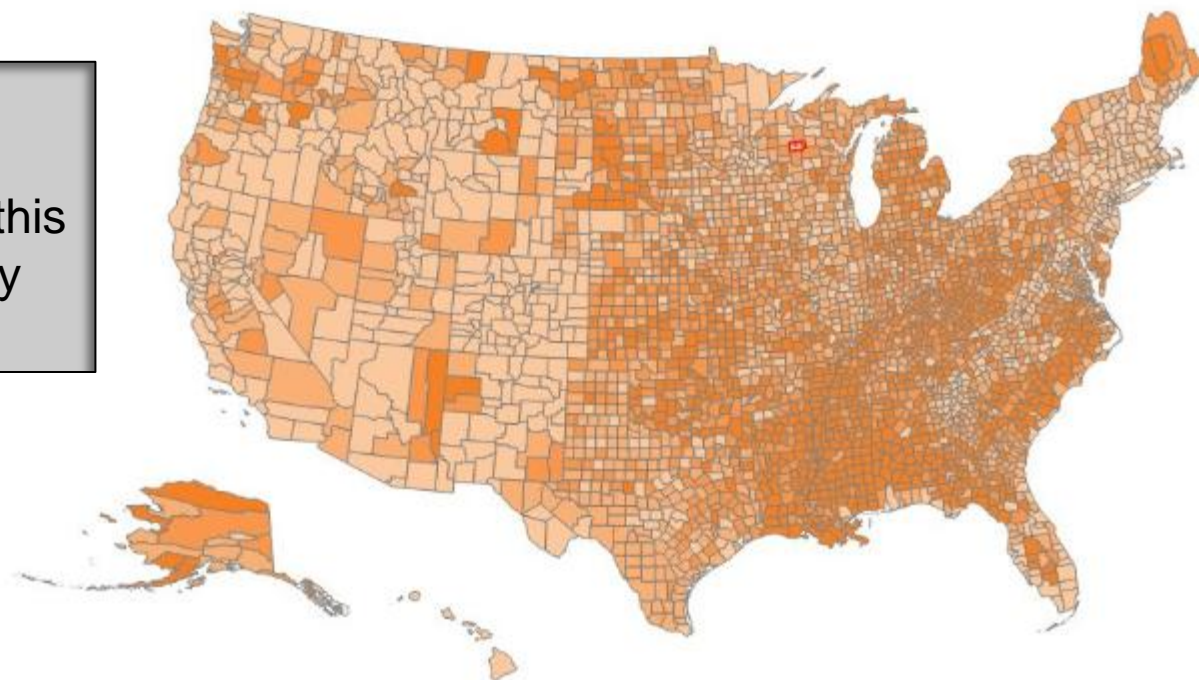
### Location

United States

### Data

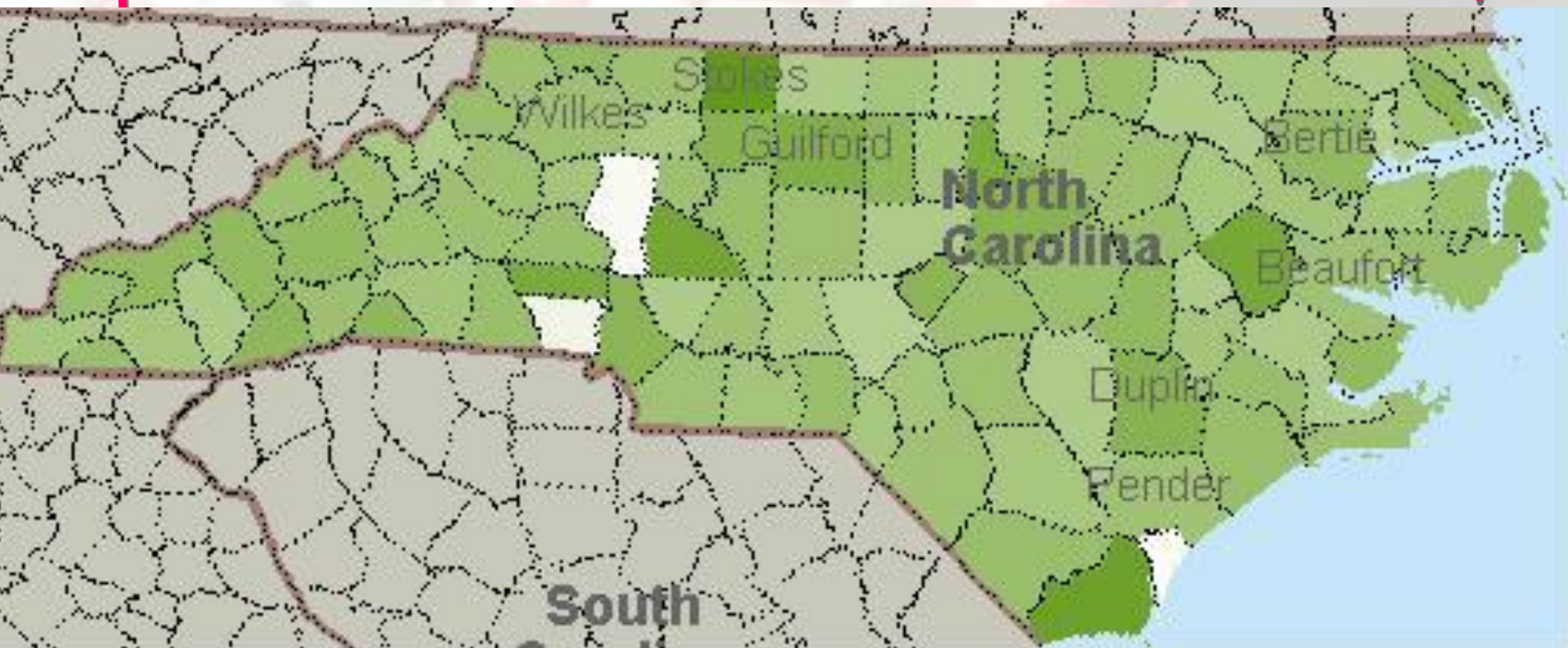
Risk Factors: Obesity Prevalence Rate

You can display risk factors by state or nationally – such as this example of obesity by county for the U.S.

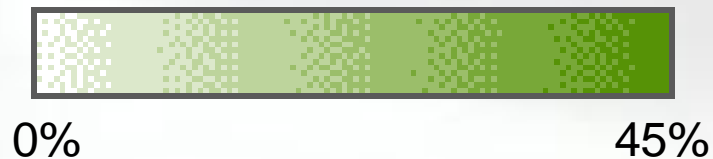


Print

# Regional Trends



Utstein Style Survival Rates



# Improving outcomes in cardiac arrest

## Conclusions:

- Cardiac arrest is common and the third leading cause of death.
- Victims of out of hospital cardiac arrest are unlikely to survive
- Simple interventions in the chain of survival are likely to improve survival
- Data drives change

**USE YOUR CARES DATA  
TO IT'S FULL POTENTIAL!**





Let's make NC the best  
place in the country  
to have a heart attack  
or a cardiac arrest!





# Plans: 1115-1200

	<b>West</b>
<b>Community</b>	Frye, April Traxler
<b>Pre hospital</b>	Stokes EMS, Greg Collins plus data
<b>Hospital</b>	FMC, Karen Norman, change since inception
<b>Regional plan</b>	CMC, Dave Pearson, to address CC transport a non pci center cooling
<b>Data</b>	Stokes to comment



# Community Updates:

- [House Bill 837](#) -passed
  - requires students to learn CPR
  - pass a test showing proficiency in order to graduate
  - Effective with the Class of 2015
- [House Bill 914](#) -passed
  - requires at least one AED in every state building
  - state workers must be trained to use them

