

How AHA and EMS Can Help You Save Lives and Money

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City of San Diego Medical Director (EMS)

Professor Emeritus, UCSD Emergency Medicine

President, San Diego AHA Board of Directors

Goals

- ▶ Introduce 2020 AHA National Goals
- ▶ Describe two valuable AHA tools
 - Life's Simple 7 – quantifies individual's CV health
 - GWTG–Outpatient – HER data extraction software
- ▶ Describe Vision for San Diego EMS
 - Two examples of successful partnerships
 - New opportunities for accountable, meaningful care

American's health Fest to Community

Secondary prevention

Emergency response

Primary prevention

Primordial prevention





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Circulation

AHA Special Report

Defining and Setting National Goals for Cardiovascular Health Promotion and Disease Reduction The American Heart Association's Strategic Impact Goal Through 2020 and Beyond

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Wayne D. Rosamond, PhD, FAHA; on behalf of the American Heart Association Strategic Planning Task Force
and Statistics Committee

Remodeling Through the Inhibition of the
Akt/GSK3- β /NFAT Axis p 1231

Chest Compression Fraction Determines Survival in
Patients With Out-of-Hospital Ventricular Fibrillation p 1241

Pulmonary Hypertensive Medical Therapy in Chronic
Thromboembolic Pulmonary Hypertension Before
Pulmonary Thromboendarterectomy p 1248

Competence and Training Statement

ACCF/AHA/ACP 2009 Competence and Training
Statement: A Curriculum on Prevention of
Cardiovascular Disease: A Report of the American
College of Cardiology Foundation/American Heart
Association/American College of Physicians Task Force
on Competence and Training (Writing Committee to
Develop a Competence and Training Statement on
Prevention of Cardiovascular Disease) p e100

2020 Impact Goals

- Improve CV health of all Americans by *20%*
- Reduce death from heart disease stroke by *20%*



20 % positive difference on measurable health gains



20 % negative difference on death rates

Strategic Plan

- ▶ Define ideal CV health
- ▶ Provide tool to objectively measure health
- ▶ Quantify health along continuum
 - Poor --- Intermediate --- Ideal
- ▶ Support and assist



Ideal CV Health Factors

Goal/Metric	Ideal Cardiovascular Health Definition
Current Smoking	
Adults ≥ 20 yo	Never or quit > 12 months ago
Children 12–19 yo	Never tried; never smoked whole cigarette
Total Cholesterol	
Adults ≥ 20 yo	< 200 mg/dL*
Children 6–19 yo	< 170 mg/dL*
Blood Pressure	
Adults ≥ 20 yo	$< 120 / < 80$ mm Hg*
Children 8–19 yo	$< 90^{\text{th}}$ percentile*
Fasting Glucose	
Adults ≥ 20 yo	< 100 mg/dL*
Children 12–19 yo	< 100 mg/dL*

*Untreated

Ideal CV Health Behaviors

Goal	Ideal CV Health Definition
BMI	
Adults \geq 20 yo	$<25 \text{ kg/m}^2$
Children 2–19 yo	$<85^{\text{th}}$ percentile
Physical Activity	
Adults \geq 20 yo	150+ min/wk mod or 75+ min/wk vigorous
Children 12–19 yo	60+ min mod. or intense vigorous daily
Healthy Diet	
Adults \geq 20 yo	4–5 components
Children 5–19 yo	4–5 components

Overall CV Health States



Goal/Metric	Poor Health	Intermediate Health	Ideal Health
Current Smoking			
Adults ≥20 yo	Yes	Former ≤12 months	Never or quit >12 months
Children 12-19 yo	Tried prior 30 days		Never tried; never whole cigarette
Body Mass Index			
Adults ≥20 yo	≥30 kg/m ²	25-29.9 kg/m ²	<25 kg/m ²
Children 2-19 yo	>95 th percentile	85 th -95 th percentile	<85 th percentile
Physical Activity			
Adults ≥20 yo	None	1-149 min/wk moderate or 1-74 min/wk vigorous or 1-149 min/wk mod + vig	150+ min/wk moderate or 75+ min/wk vigorous or 150+ min/wk mod + vig
Children 12-19 yo	None	>0 and <60 min of moderate or vigorous daily	60+ min of mod or vig daily
Healthy Diet Score			
Adults ≥20 yo	0-1 components	2-3 components	4-5 components
Children 5-19 yo	0-1 components	2-3 components	4-5 components
Total Cholesterol			
Adults ≥20 yo	≥240 mg/dL	200-239 mg/dL or treated to goal	<200 mg/dL
Children 6-19 yo	≥200 mg/dL	170-199 mg/dL	<170 mg/dL
Blood Pressure			
Adults ≥20 yo	SBP ≥140 or DBP ≥90 mm Hg	SBP 120-139 or DBP 80-89 or Rx to goal	<120/<80 mm Hg
Children 8-19 yo	>95 th percentile	90 th -95 th percentile or SBP ≥120 or DBP ≥80 mm Hg	<90 th percentile
Fasting Plasma Glucose			
Adults ≥20 yo	≥126 mg/dL	100-125 or treated to goal	<100
Children 12-19 yo	≥126 mg/dL	100-125	<100



My Life Check



American Heart Association | American Stroke Association

Learn and Live..



Life's Simple 7 Success Plan

This assessment is based on the knowledge and experience of American Heart Association medical experts.

It can help you:

- Understand your current level of cardiovascular health
- Assess your individual health needs
- Commit to steps to improve your health and quality of life
- Move closer to your personal health goals

GET STARTED

EXIT

<http://mylifecheck.heart.org/>

My Life Check

My Life Check



QUESTIONS 1 TO 9

Are you male or female ?	<input checked="" type="radio"/> Male <input type="radio"/> Female	Do you have diabetes ? (either type 1 or type 2)	<input type="radio"/> Yes <input checked="" type="radio"/> No
What is your age ?	<input type="text" value="50"/> years (limit: 2 to 99)	What is your weight ?	<input type="text" value="220"/> pounds (limit: 10 to 999)
What is your ethnicity ?	<input type="text" value="I prefer to not indicate an ethnicity"/> ▼	How much physical activity do you get in a week?	<input type="text" value="80"/> minutes of moderate activity <input type="text" value="20"/> minutes of vigorous activity
How tall are you?	<input type="text" value="5"/> feet <input type="text" value="11"/> inches	<ul style="list-style-type: none">You can include both moderate and vigorous activity levels.All types of activity count, such as gardening, walking briskly, or bicycling.	On a scale from 0 to 10: <ul style="list-style-type: none">Sitting = 0Moderate intensity = 5 or 6 A person doing moderate-intensity aerobic activity can usually talk, but not sing, during the activity.Vigorous intensity = 7 or higher A person doing vigorous-intensity activity usually cannot say more than a few words without pausing for a breath.Your highest level of effort = 10
What is your zip code ?	<input type="text" value="55401"/> <input type="checkbox"/> I am not in the USA.	More about physical activity	
Have you been diagnosed by a healthcare provider as having any of these conditions ?	<input type="radio"/> Yes <input checked="" type="radio"/> No <ul style="list-style-type: none">Coronary heart disease (CHD)Heart attack (myocardial infarction)Chest pain (angina pectoris)Heart failureStrokeCongenital heart defects		

EXIT

PREVIOUS

2 / 8

NEXT

<http://mylifecheck.heart.org/>

My Life Check

My Life Check

QUESTIONS 10 TO 15

How much **fruit** do you eat in an average day?

cups of fruit

1 cup of fruit equals:

- 1 large orange or banana
- 1 medium pear or grapefruit
- 1 small apple
- 8 large strawberries
- 32 grapes or 1/2 cup of raisins

[More about fruit](#)

How many **vegetables** do you eat in an average day?

cups of vegetables

1 cup of vegetables equals:

- 1 large bell pepper or ear of corn
- 1 medium potato or large sweet potato
- 1 cup cooked greens
- 2 cups raw greens (lettuce, spinach, etc.)
- 2 medium carrots or 12 baby carrots
- 2 large stalks of celery

[More about vegetables](#)

Do you eat 2 servings or more of **fish** weekly?

Yes No

A serving of fish is 3.5 ounces, approximately the same size as a deck of cards.

[More about fish](#)

Do you eat 4 ounces or more of **whole grains** daily?

Yes No

Whole grains include all whole grain products and whole grains used as ingredients.

[More about whole grains](#)

Do you drink less than 36 ounces (450 calories) of **beverages with added sugar** weekly?

Yes No

Added sugars are the sugars and syrups added to foods and beverages in processing or preparation.

[More about added sugars](#)

Do you eat 1,500 mg of **sodium** or less daily?

Yes No

If you don't track your daily sodium intake by reading the food label, to answer "Yes" you should do at least 2 of the following:

- Avoid eating prepackaged processed food or eat low-sodium versions
- Avoid eating out or ask for low-sodium preparation
- Cook at home without adding salt

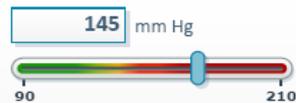
[More about sodium](#)

My Life Check

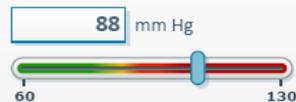
My Life Check

QUESTIONS 16 TO 20

What is your **systolic blood pressure?**
(top or first number)



What is your **diastolic blood pressure?**
(bottom or second number)



[More about blood pressure](#)

- I don't know (one or both).
- I take medication to lower my blood pressure.

What is your **blood cholesterol?**
(total cholesterol)



[More about blood cholesterol](#)

- I don't know this number.
- I take medication to lower my cholesterol.

What is your **blood sugar?**
(fasting blood sugar)



[More about blood sugar](#)

- I don't know this number.
- I take medication to lower my blood sugar.

Do you **smoke?**

Quit (12 or more months) ▼

Includes cigarettes, pipes, and cigars
(smoked tobacco in any form)

EXIT

PREVIOUS

4 / 8

NEXT

My Life Check

My Life Check

YOUR HEART SCORE



Work on improving the simple seven areas above.

By achieving an "Excellent" rating in as many categories as you can, your heart score goes up.
Make a difference in your life today and look forward to a healthy future!

Result Report

Includes your Simple Seven, your Action Items, and heart score.
(4 pages)



Note: Print or save a PDF of this report for your records.

Use your email program to send the PDF anywhere you want.

[PRINT OR SAVE PDF](#)

EXIT

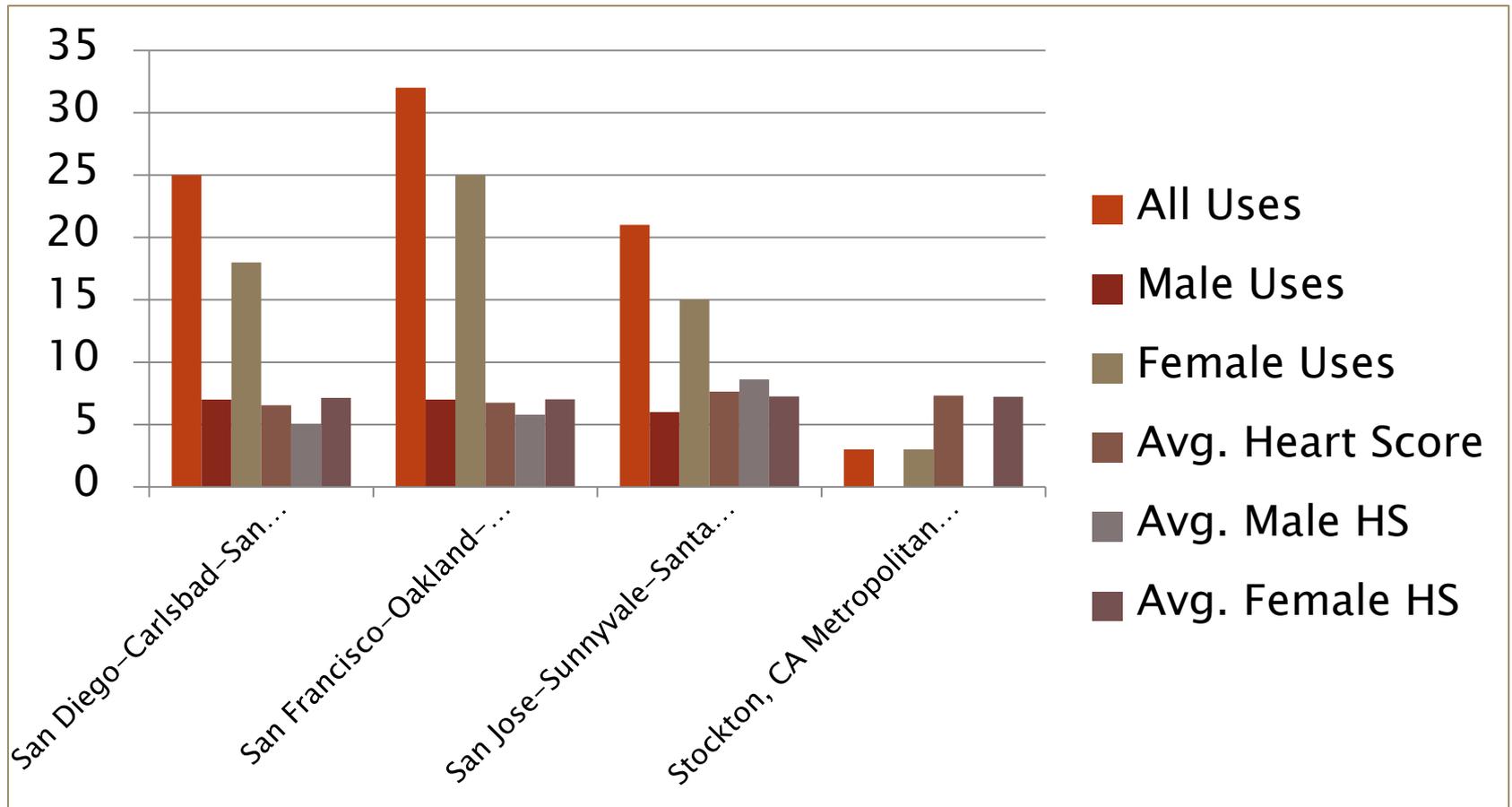
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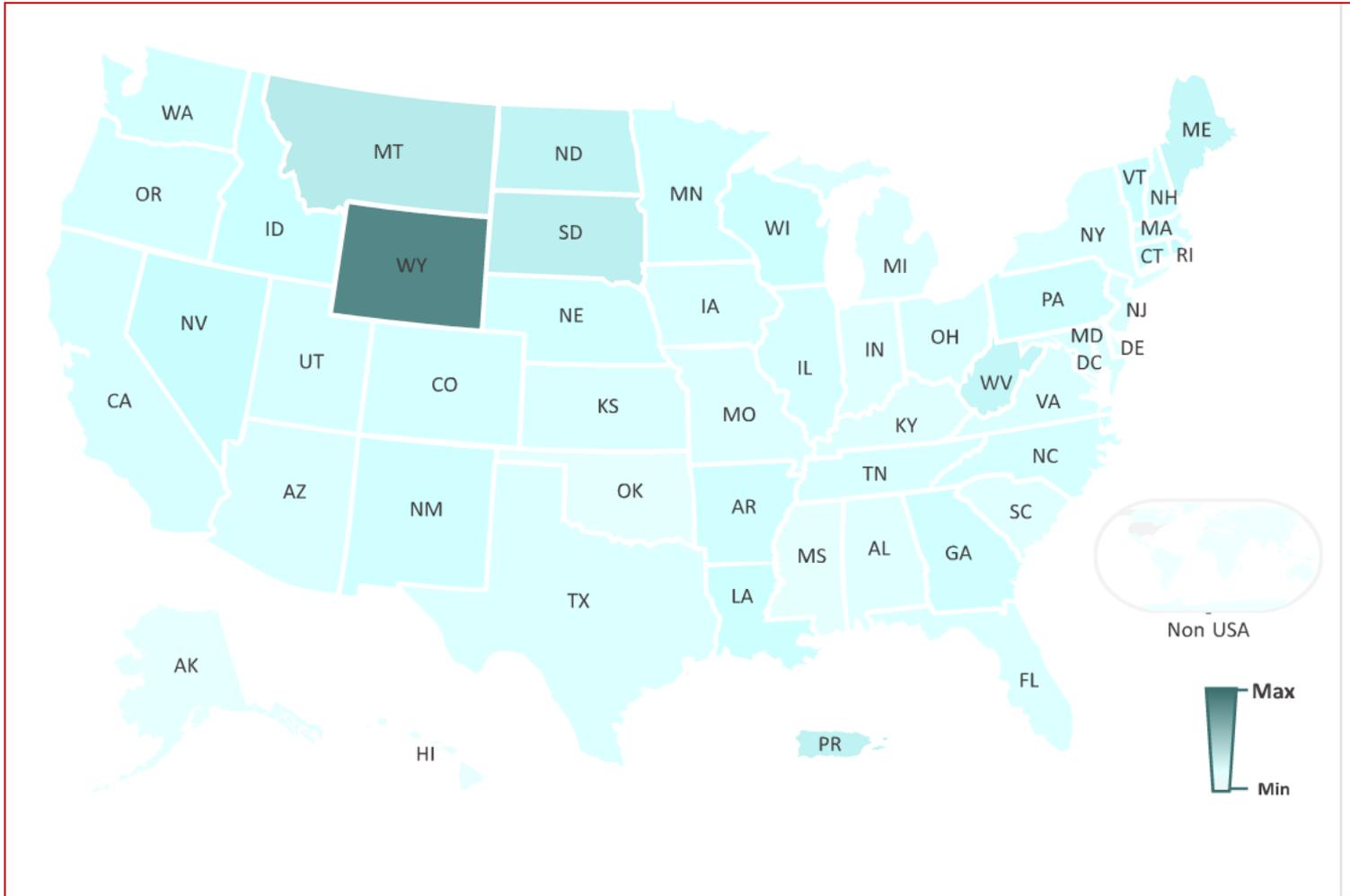
7 / 8

NEXT

Market Level Reports

December 1-31, 2010







**GET WITH THE
GUIDELINES.**
HEART FAILURE



**GET WITH THE
GUIDELINES.**
STROKE



**GET WITH THE
GUIDELINES.**
OUTPATIENT



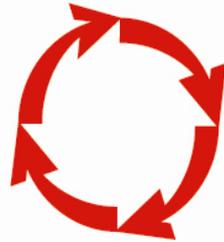
American Heart Association® | American Stroke Association®
Learn and Live.

 **Medtronic**
Get With The Guidelines® - Heart Failure is supported by an unrestricted educational grant from Medtronic, Inc.

©2018, AMERICAN HEART ASSOCIATION

Get With The Guidelines®-Outpatient inaugural support provided by:

  **Medtronic**  **MERCK** / Schering-Plough Pharmaceuticals

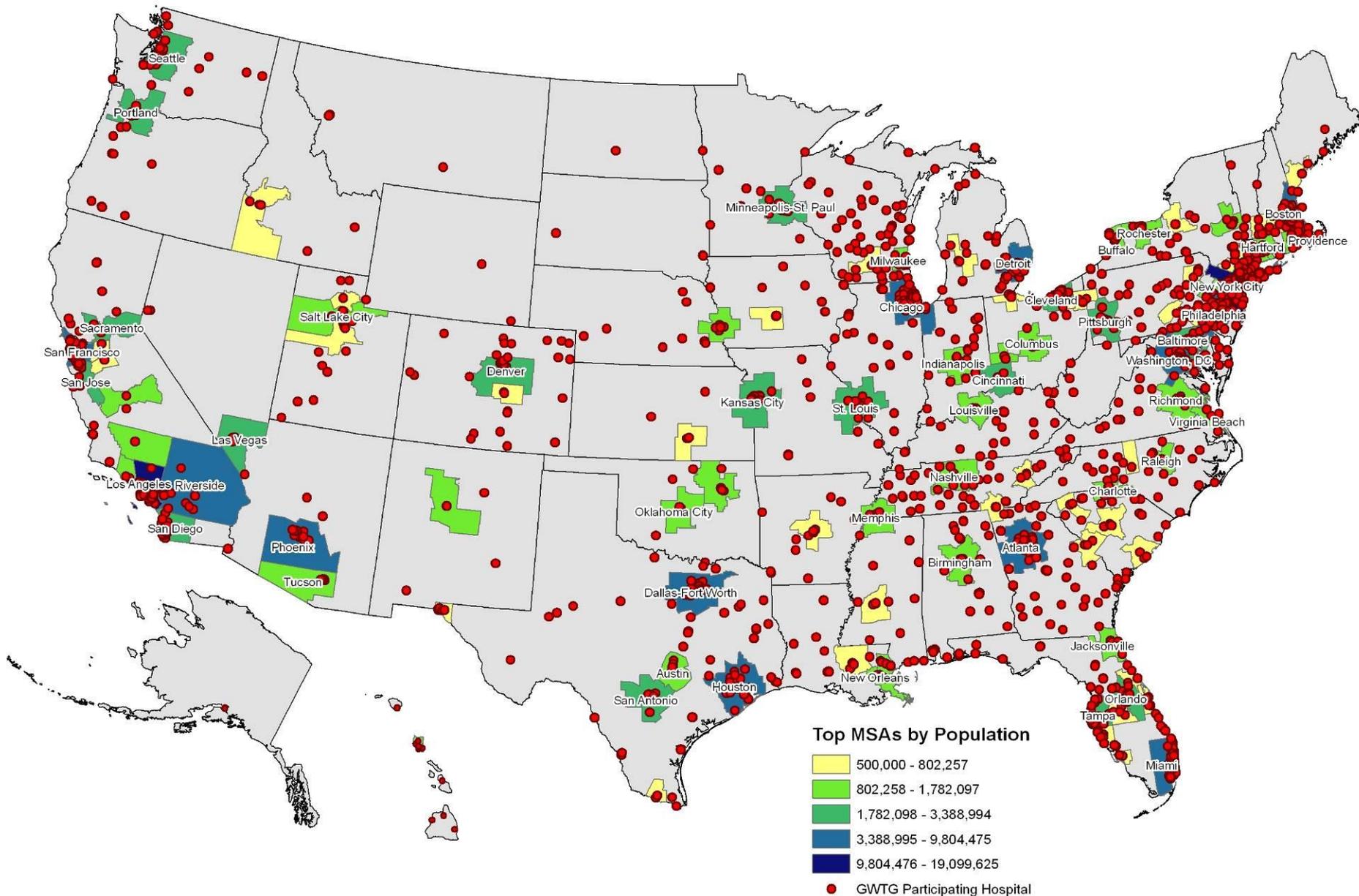


GET WITH THE GUIDELINES[®]

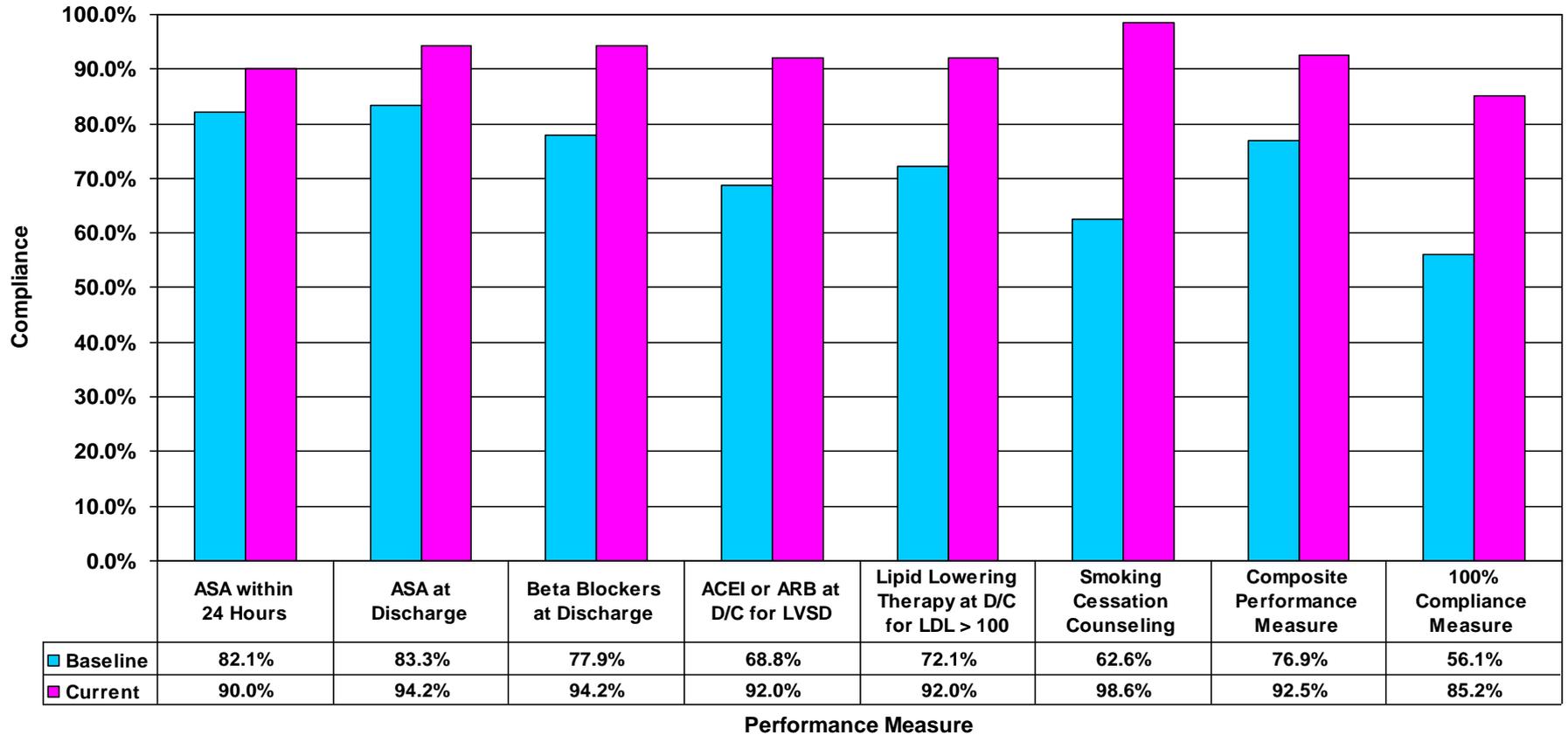
- Instituted 2001
- 1 500 hospitals
- 2 million patient records
- > 55 peer-reviewed publications

Get With The Guidelines Hospitals

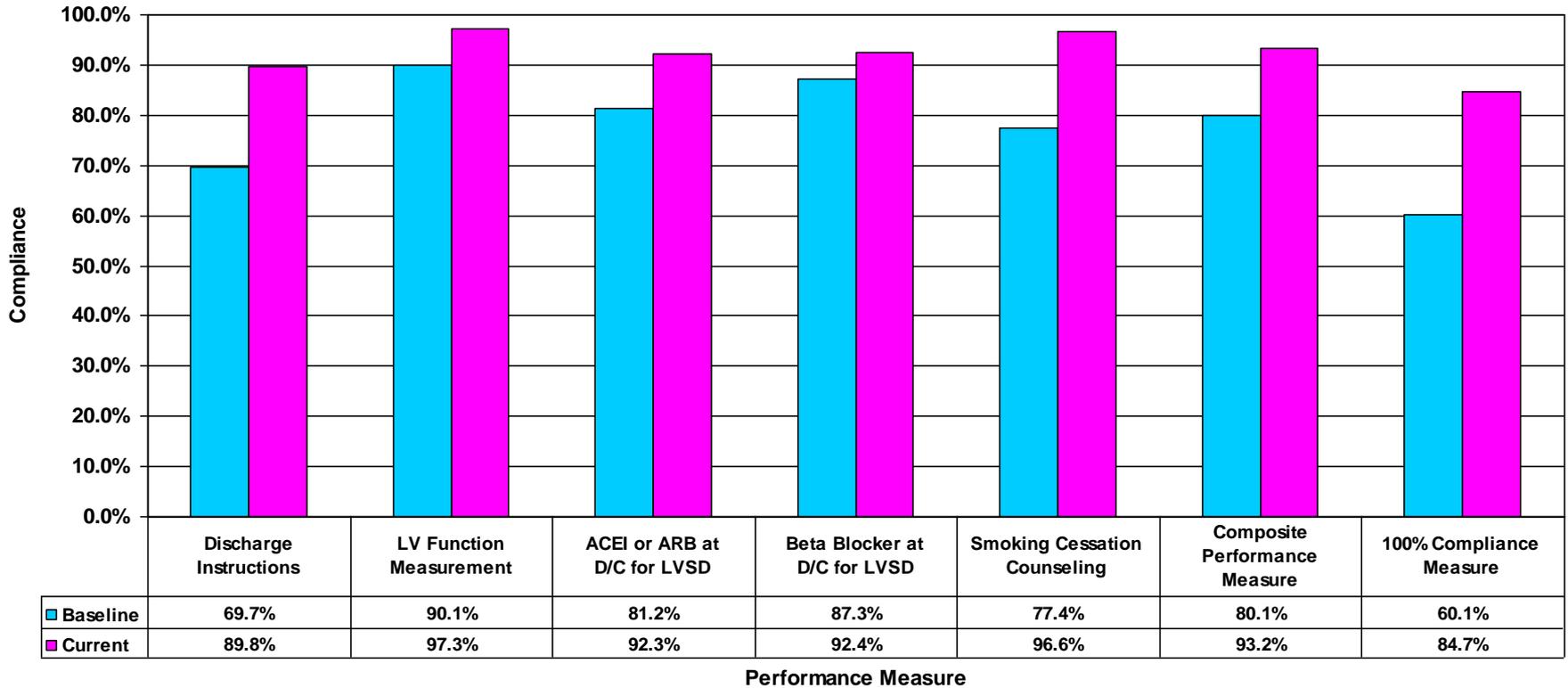
Unique Hospitals Implementing One or More Modules as of March 23, 2009
(n=1,604; 35% market penetration)



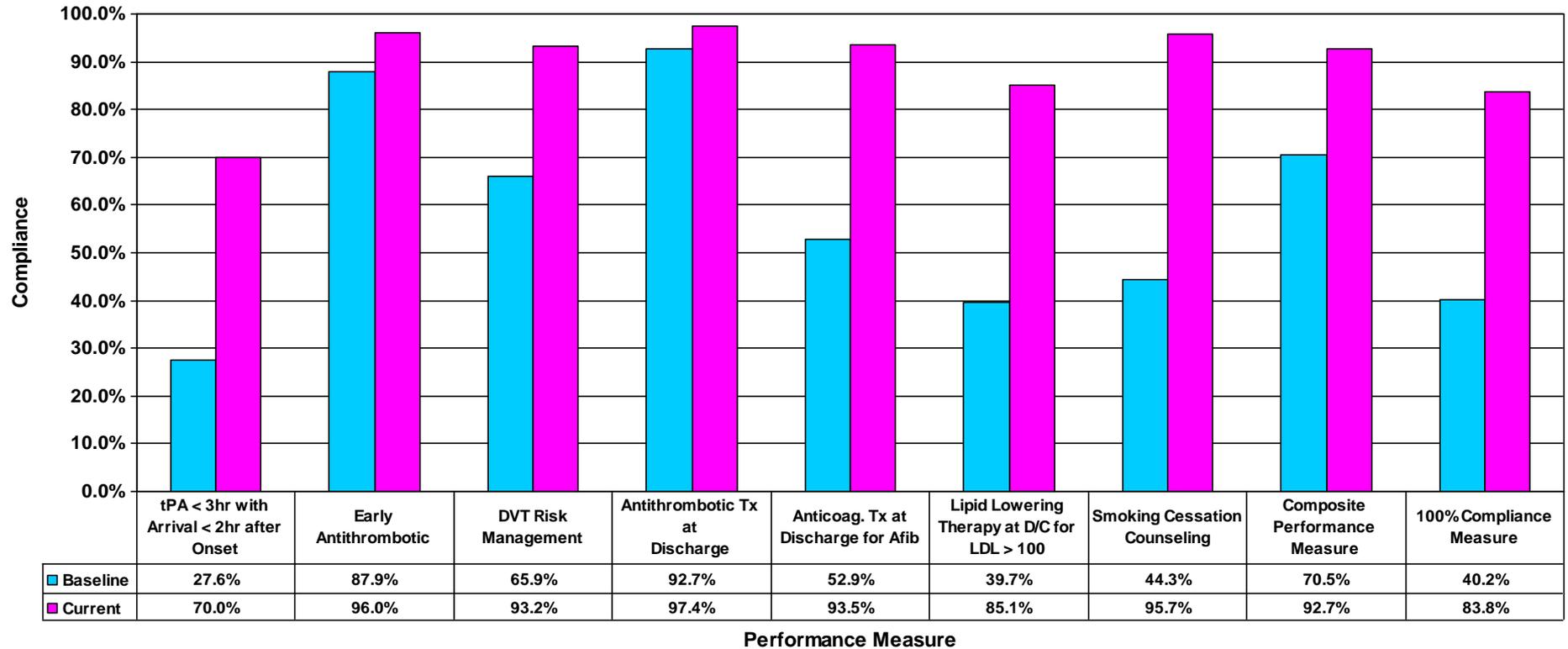
GWTG-CAD: Performance Measures

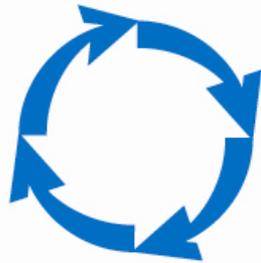


GWTG-HF: Performance Measures



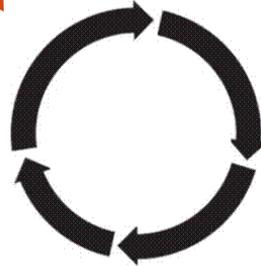
GWTG–Stroke: Performance





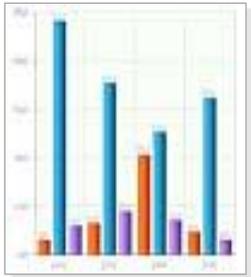
**GET WITH THE
GUIDELINES[®]**

OUTPATIENT



Performance reports

Patient data sent via EHR

A screenshot of a table containing patient data, likely from an EHR system.

Duke Clinical Research Institute



GET WITH THE GUIDELINES[®]

OUTPATIENT

Eligible Specialties

- ▶ Internal Medicine
- ▶ Family Medicine
- ▶ Osteopathic Medicine
- ▶ OB/GYN
- ▶ Cardiology
- ▶ Neurology
- ▶ Geriatric Medicine
- ▶ Etc.

Patients 18 and Over



Ideal Data Elements*

- ▶ Demographics
- ▶ Risk Factors
- ▶ Medical History
- ▶ Hospitalizations
- ▶ Labs
- ▶ Vital Signs
- ▶ Medications
- ▶ Contraindications
- ▶ Mortality



*full list of elements can be found on americanheart.org/outpatient

Measures

- ▶ **AMA/PCPI/ACC/AHA Measures**
 - Coronary Artery Disease
 - Heart Failure
 - Tobacco Use and Counseling
- ▶ **CMS/NCQA**
 - Pneumonia Vaccination
 - Flu Shots for Older Adults
- ▶ **CMS/SCRIPT**
 - Medication Management
- ▶ **PQRI Measures**
 - Screening – Preventive Care
 - Diabetes Mellitus
 - CAD
- ▶ **PQRI**
 - Heart Failure
- ▶ **AHA/ACC 2009 Measures**
 - Primary Prevention
 - Atrial Fibrillation – 2007
 - Pending Heart Failure
- ▶ **Management to Goal**



See GWTG-O handout - FAQ

Collaborating with HER Vendors



Agreements



Benefits to Practices

- ✓ **Simplifies data extraction**
- ✓ **Quarterly reports**
- ✓ **Aligns with incentive-based programs**
- ✓ **National recognition**
- ✓ **Allows participation in research**
- ✓ **Access to AHA resources**
 - ✓ clinical support; professional & patient education



Stanford



Northwestern

San Diego EMS

San Diego EMS

First responder:
1 paramedic
3 EMTs



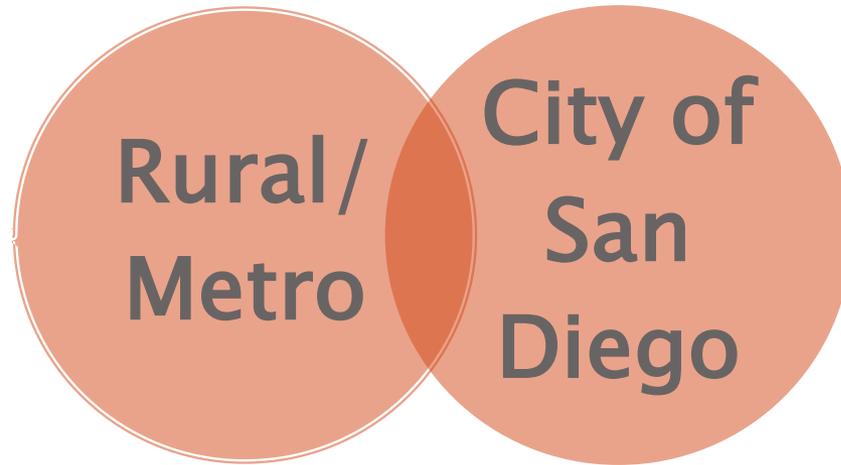
Goal:
< 8 min (90%)

Ambulance:
1 paramedic
1 EMT



Requirement:
< 12 min (90%)

Partnership in Innovation



- Seamless emergency care
- Uniform training and education
- Oversight and transparency



Mission Statement

In partnership
with the
community, we
shall provide
innovative and
quality medical
care



Roles and Responsibilities



- Paramedic 1st response
- Medical call center
- Field operations
- CQI
- CE



- Ambulance personnel
- Supplies and maintenance
- Financial management
 - Capital infusion
- Non-911 transportation
 - BLS, CCT, wheelchair, bariatric
 - Sharp Healthcare
 - Kaiser
 - Palomar-Pomerado

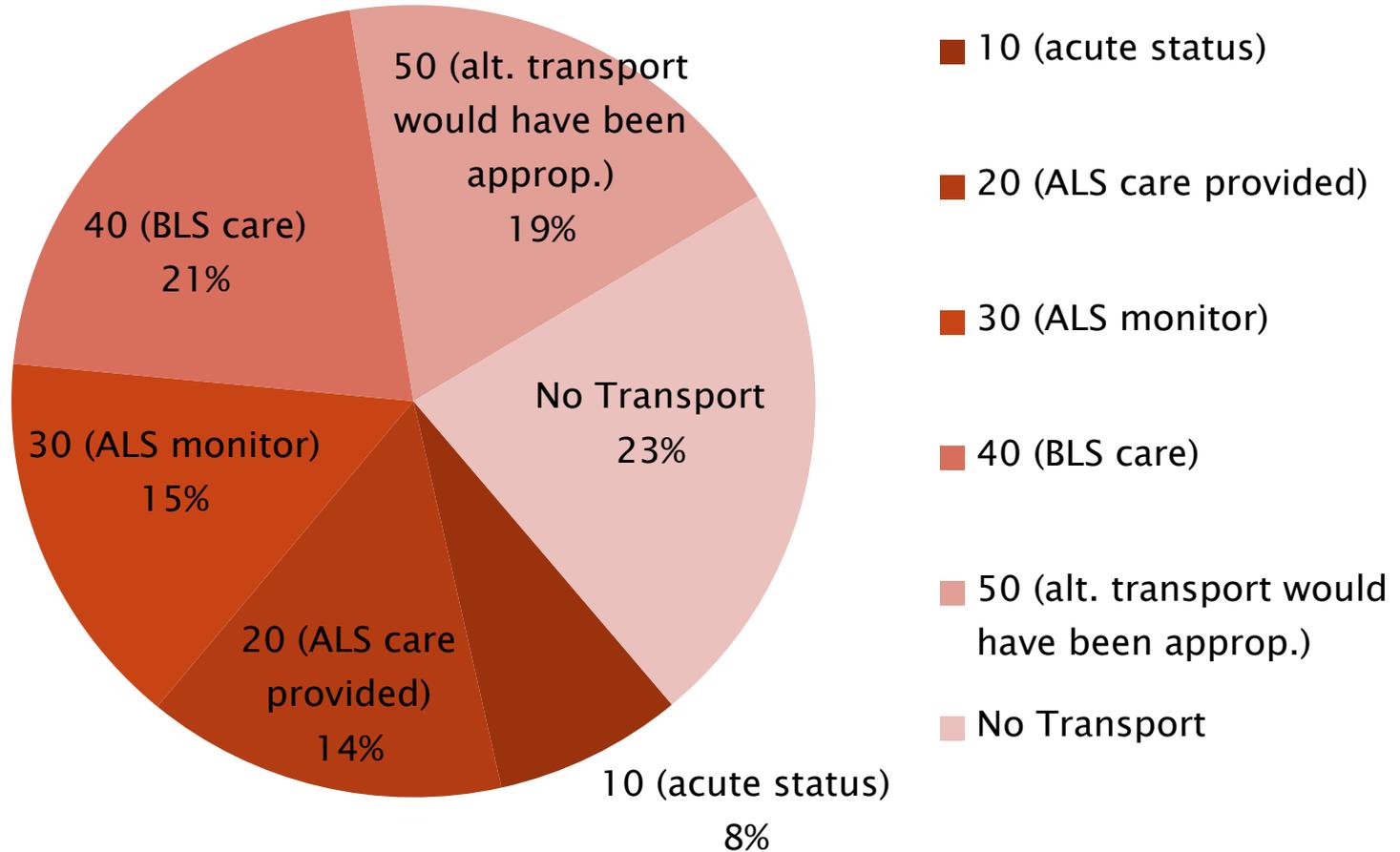
Fire Communications Center





Paramedic acuity codes

(100,000 responses/yr.)





Chronically Homeless Alcoholic Revolving Door

Detox

Hospital

Jail



15 frequent homeless users

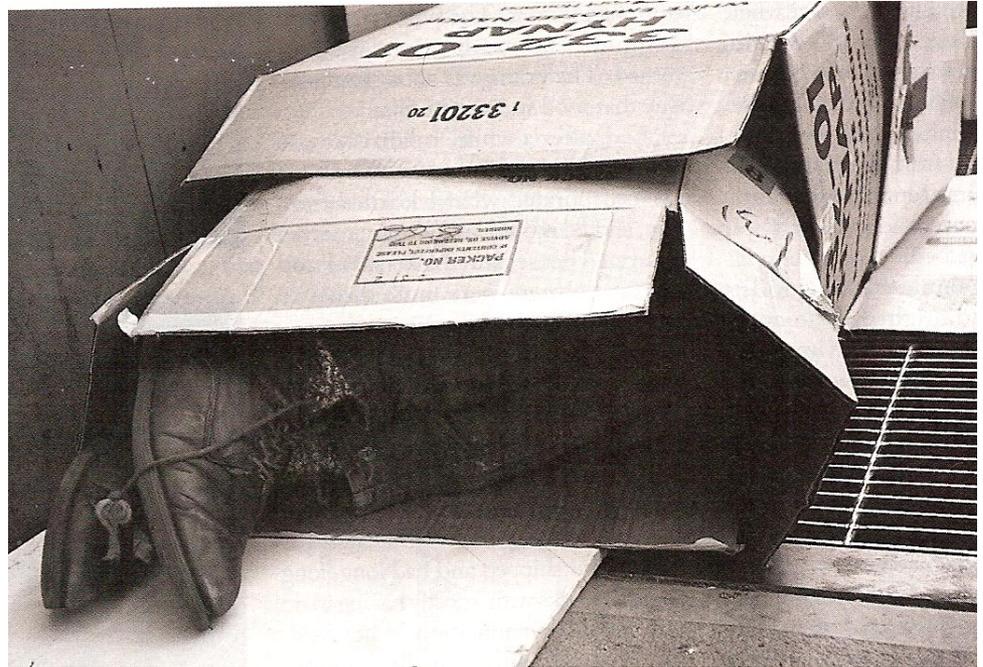
- ▶ 18 months
- ▶ UCSD & Scripps Mercy
- ▶ 312 EMS transports
- ▶ 417 ED visits



\$1,476,000

Dunford J. Report to the SDPD Homeless Outreach Team. 1997

- ▶ In Reno one man ran up > \$1 million in medical bills and still died on the streets



Gladwell M. "Million Dollar Murray". *The New Yorker*. Feb 13, 2006

Serial Inebriate Program



SIP Partners

San Diego Police Department

San Diego EMS

Mental Health Systems, Inc.

SD Sheriff's Department

SD County Alcohol and Drug Services

SD City Attorney

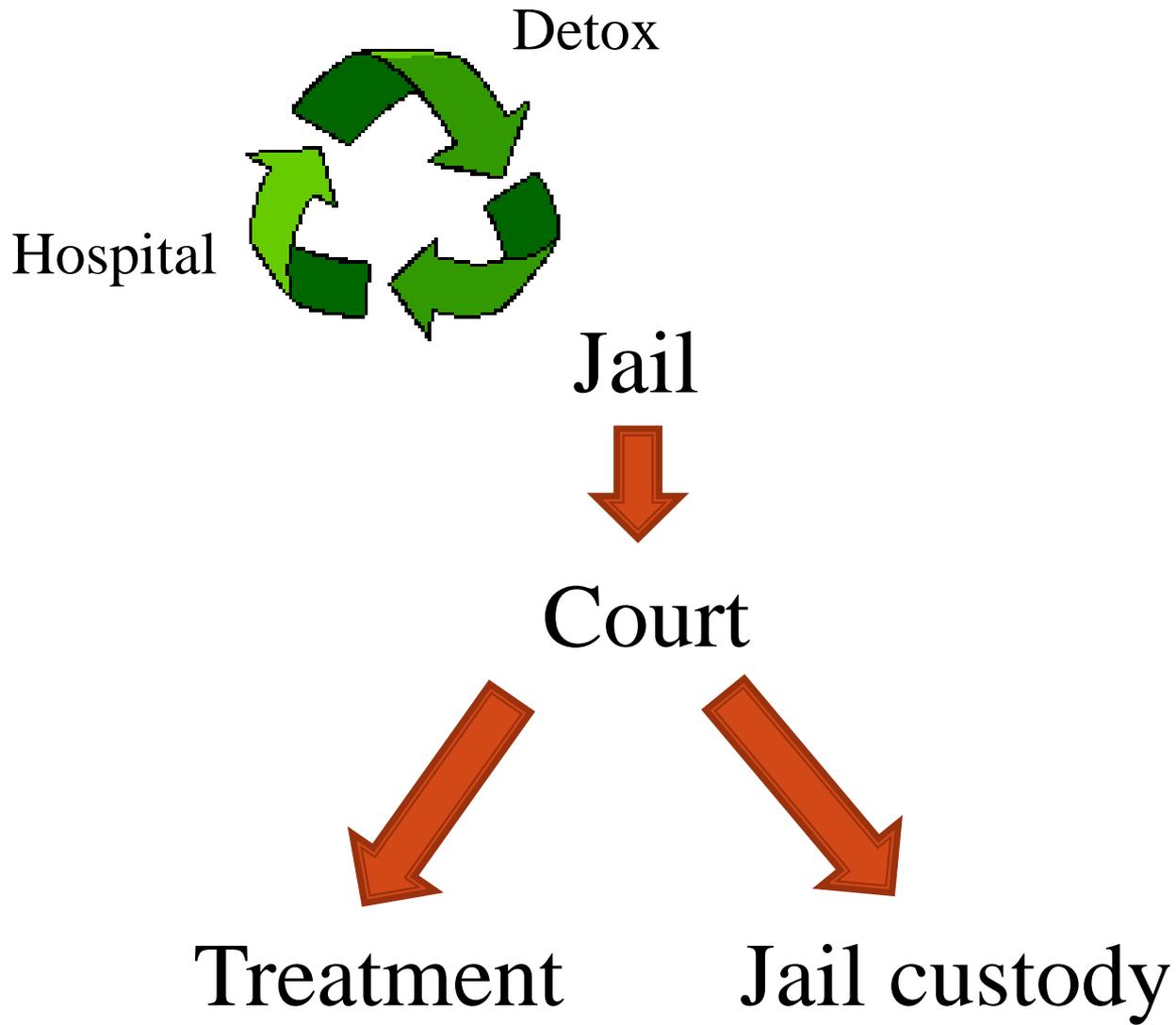
Office of the Public Defender

Superior Court

St. Vincent de Paul Village







Methods

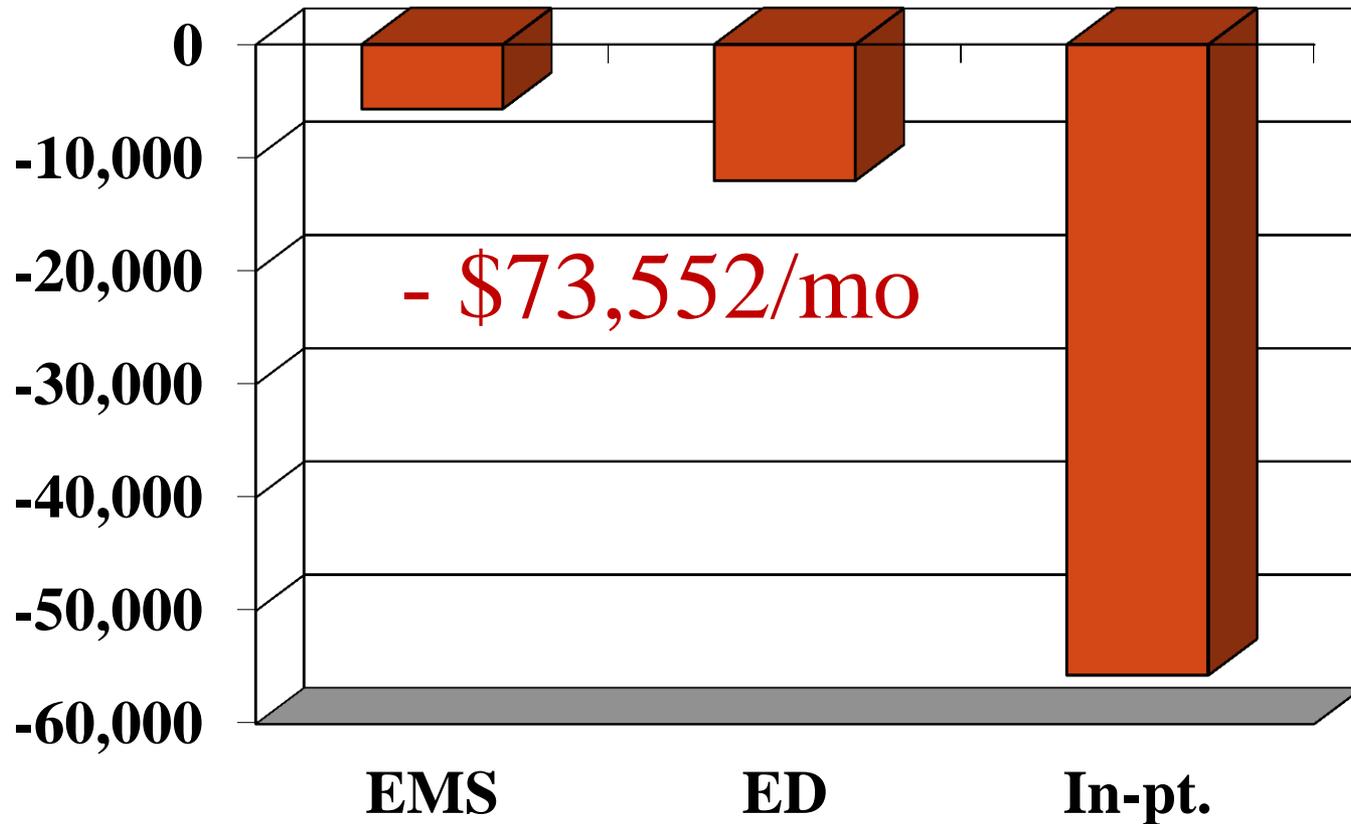
- ▶ 529 patients
- ▶ EMS, ED IP billing data
- ▶ 2000 – 2004
- ▶ UCSD & Scripps Mercy
- ▶ Impact of SIP on utilization of medical resources



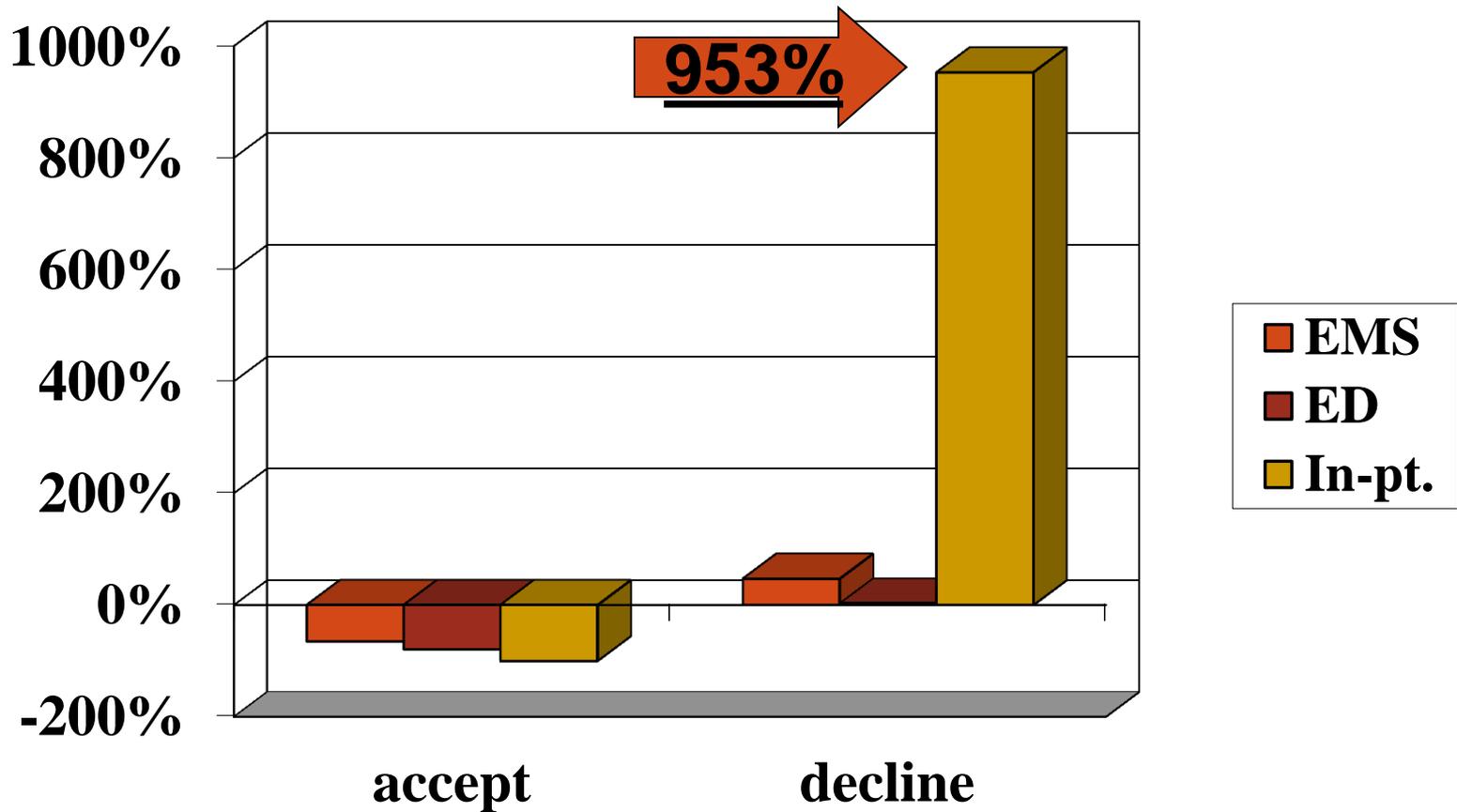
UCSD & Scripps Mercy

	<u>Charges</u>	<u>Payments</u>	<u>%</u>
EMS	\$1,276,977	\$176,725	13.8
ED	\$2,530,398	\$389,286	15.4
IP	\$13,939,910	\$2,742,850	19.7
Total	\$17,747,245	\$3,308,861	18.6

Avg. charges/mo: clients who accepted tx



Avg. charges/mo: accepted vs. declined



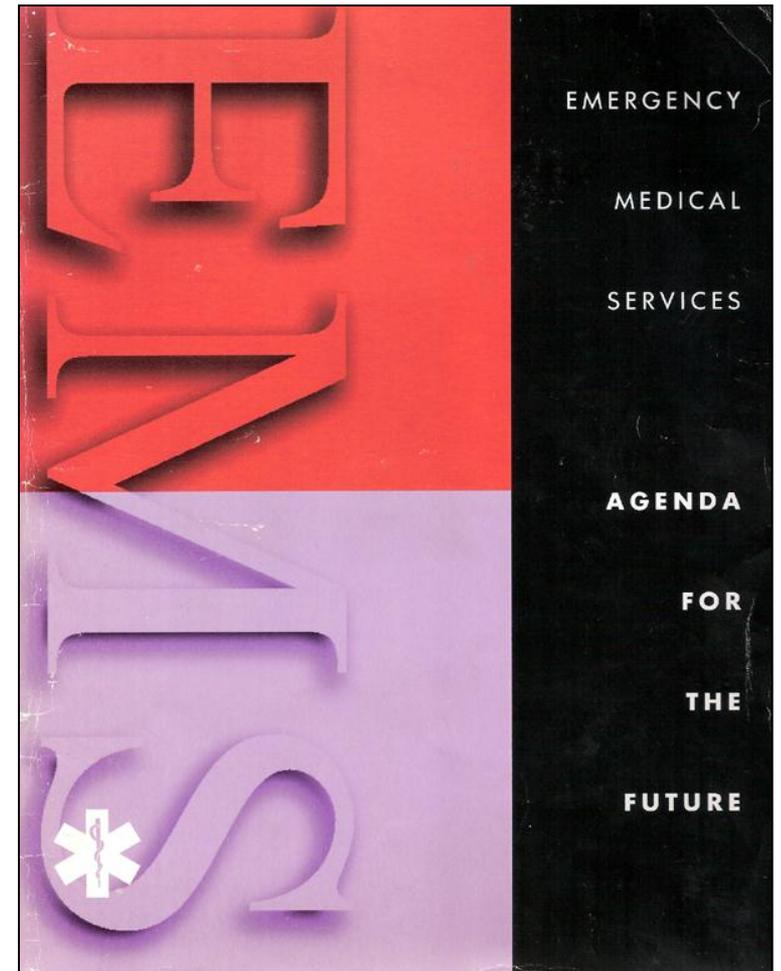
U.S. Interagency Council on Homelessness

“... we’ve unearthed evidence-based research that allows us to make policy and provide investment in these projects”.



Vision for EMS

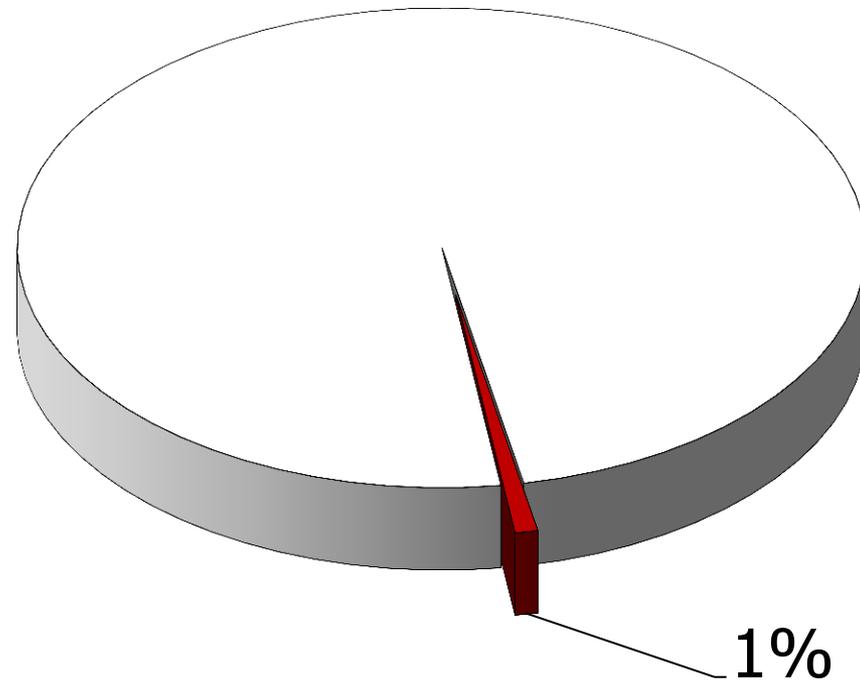
- ▶ Acute care
- ▶ Health management
- ▶ Fully integrated
- ▶ Identify & modify risk
- ▶ Monitor community health



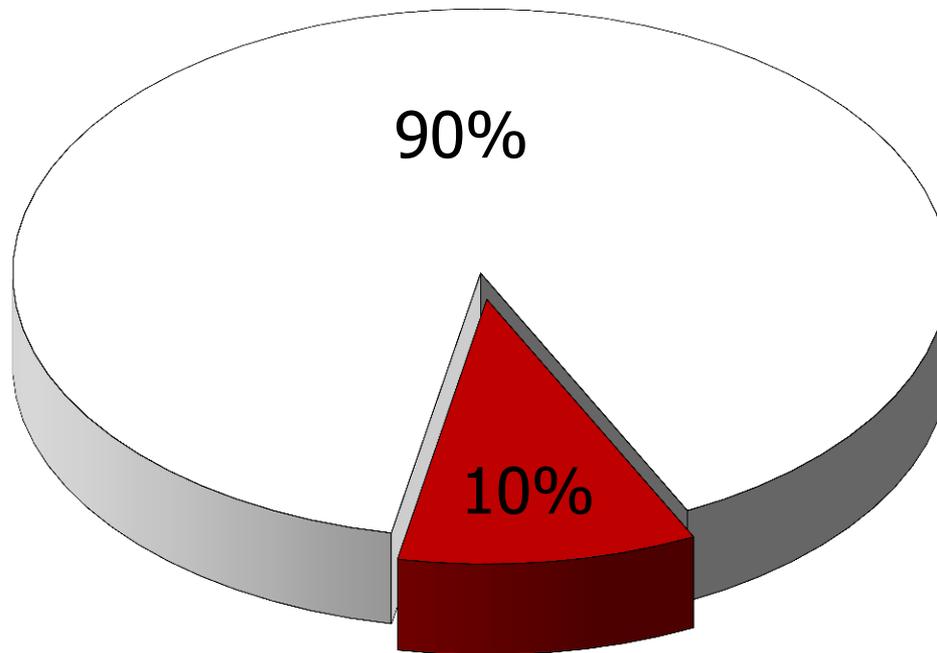
August 1996

ED patients with ≥ 10 visits /yr (%)

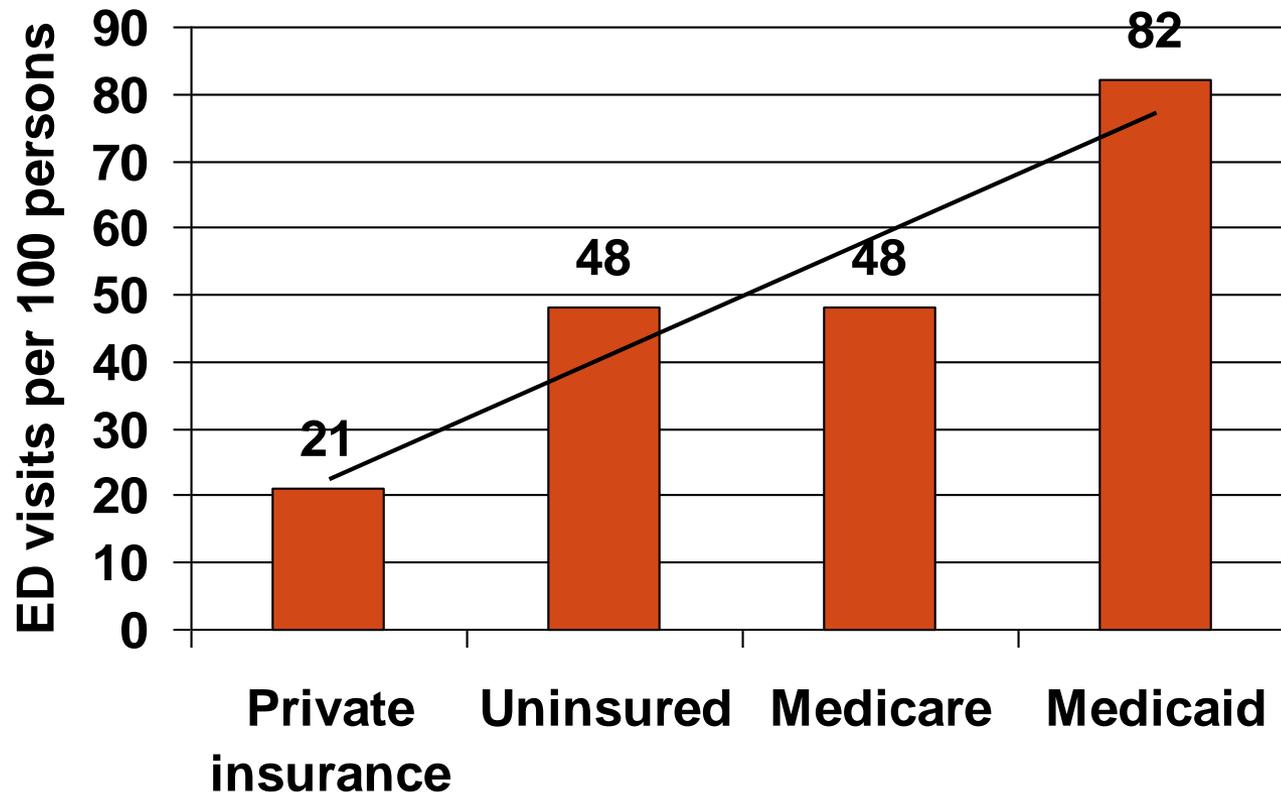
UCSDMC-Hillcrest, 2001



Contribution to ED census : ≥ 10 visits/yr. UCSDMC-Hillcrest, 2001



Frequent users of acute services

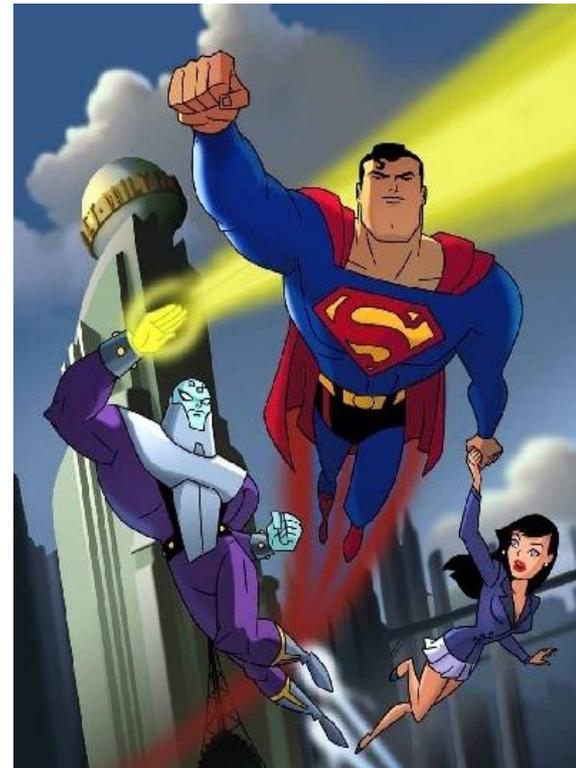


CDC/NCHS. National Hospital Ambulatory Medical Care Survey. 2006

Super Users

(\geq 10 EMS transports in 2008)

- ▶ 214 patients
- ▶ 3126 transports
 - 4% of all transports in City!



Resource Access Program (RAP)



SDPD



EMS

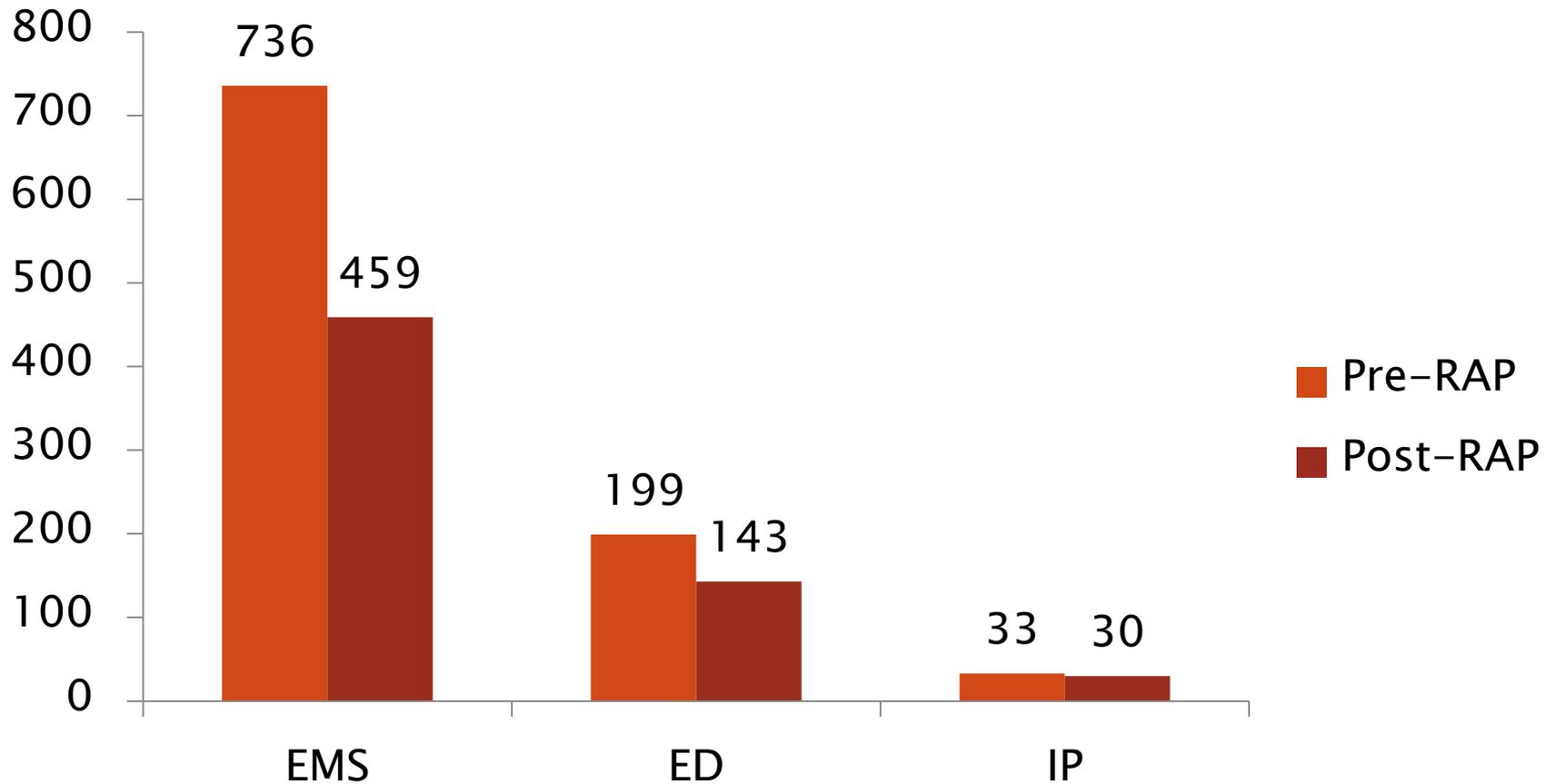


PERT

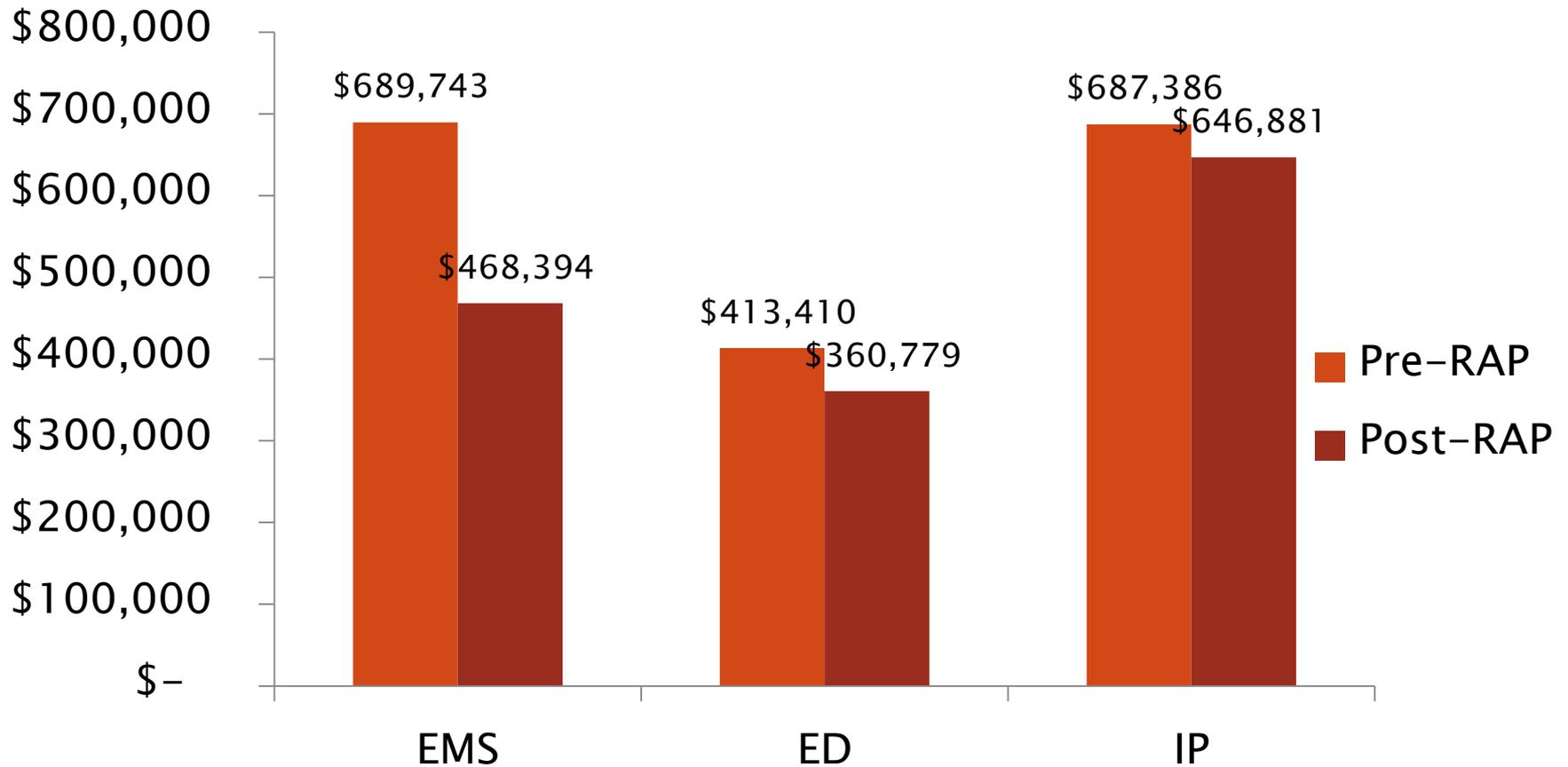


HHSA

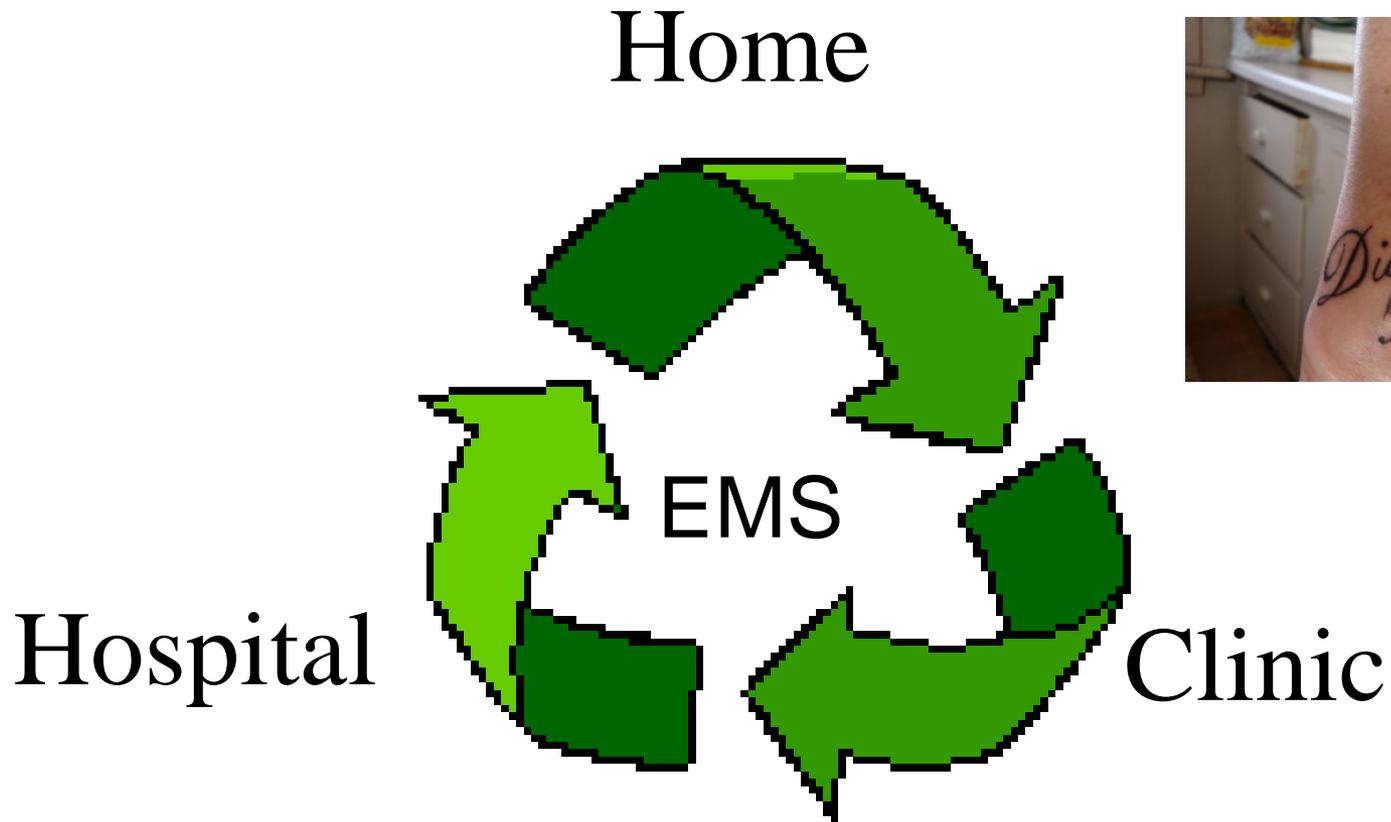
Effect of RAP on medical encounters (51 clients)



Effect of RAP on medical encounters (51 clients)



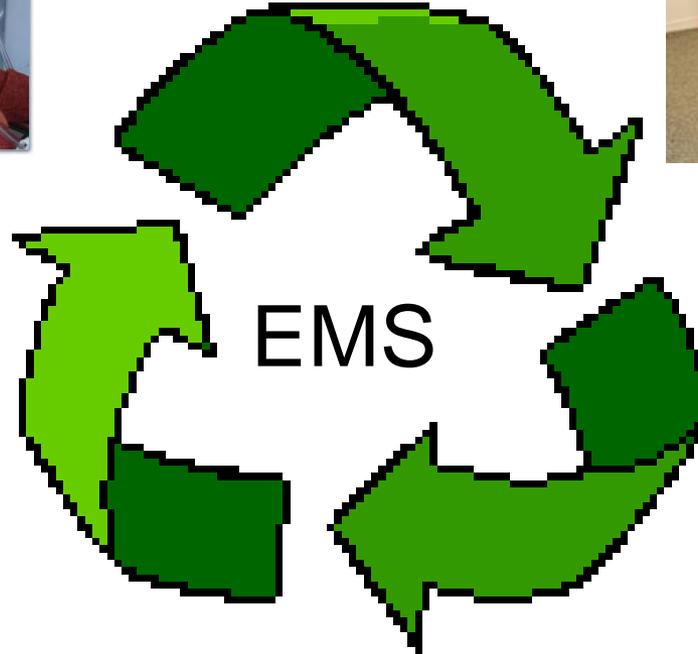
The Diabetes Revolving Door



The Heart Failure Revolving Door



Name Any Chronic Disease



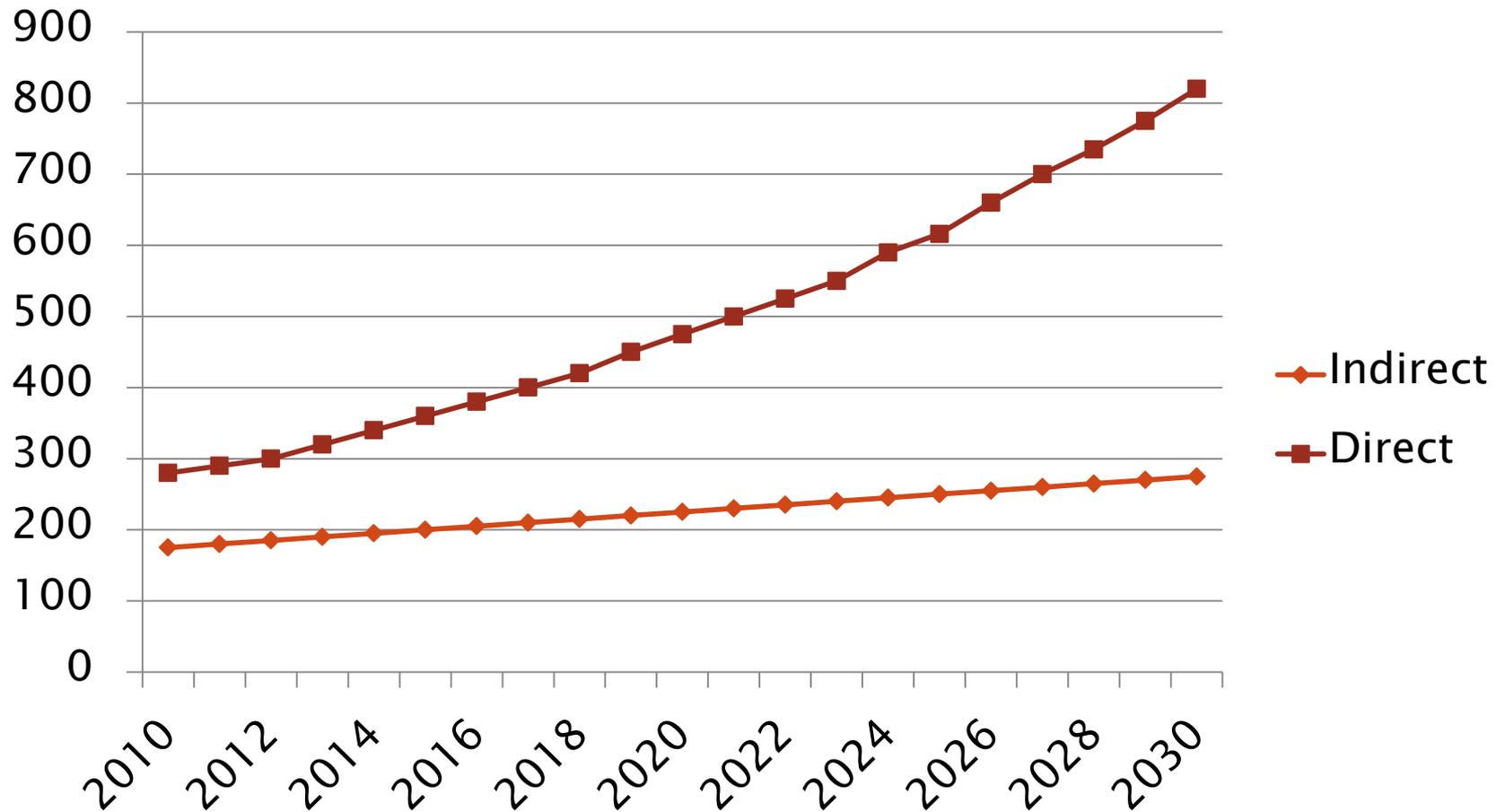
- ▶ In Camden New Jersey, 1% of patients account for a third of the city's medical costs



Gawande A. "The Hot Spotters". The New Yorker. January 24, 2011

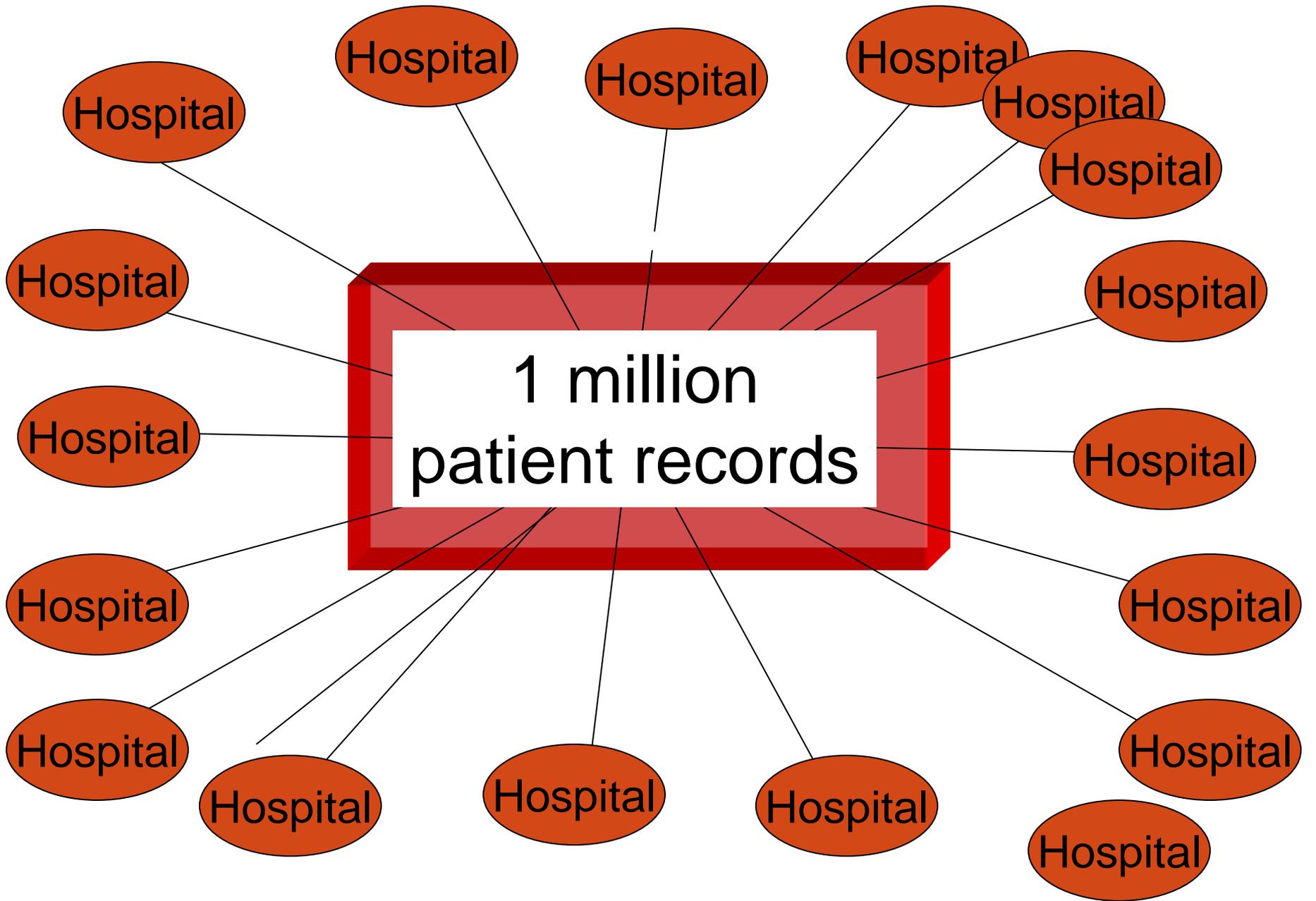
Projected direct and indirect costs: all CVD

(in billions 2008\$)



EMS EHR – Tapchart





EMS Surveillance



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[FAQ](#)

[Resources](#)

[About Us](#)

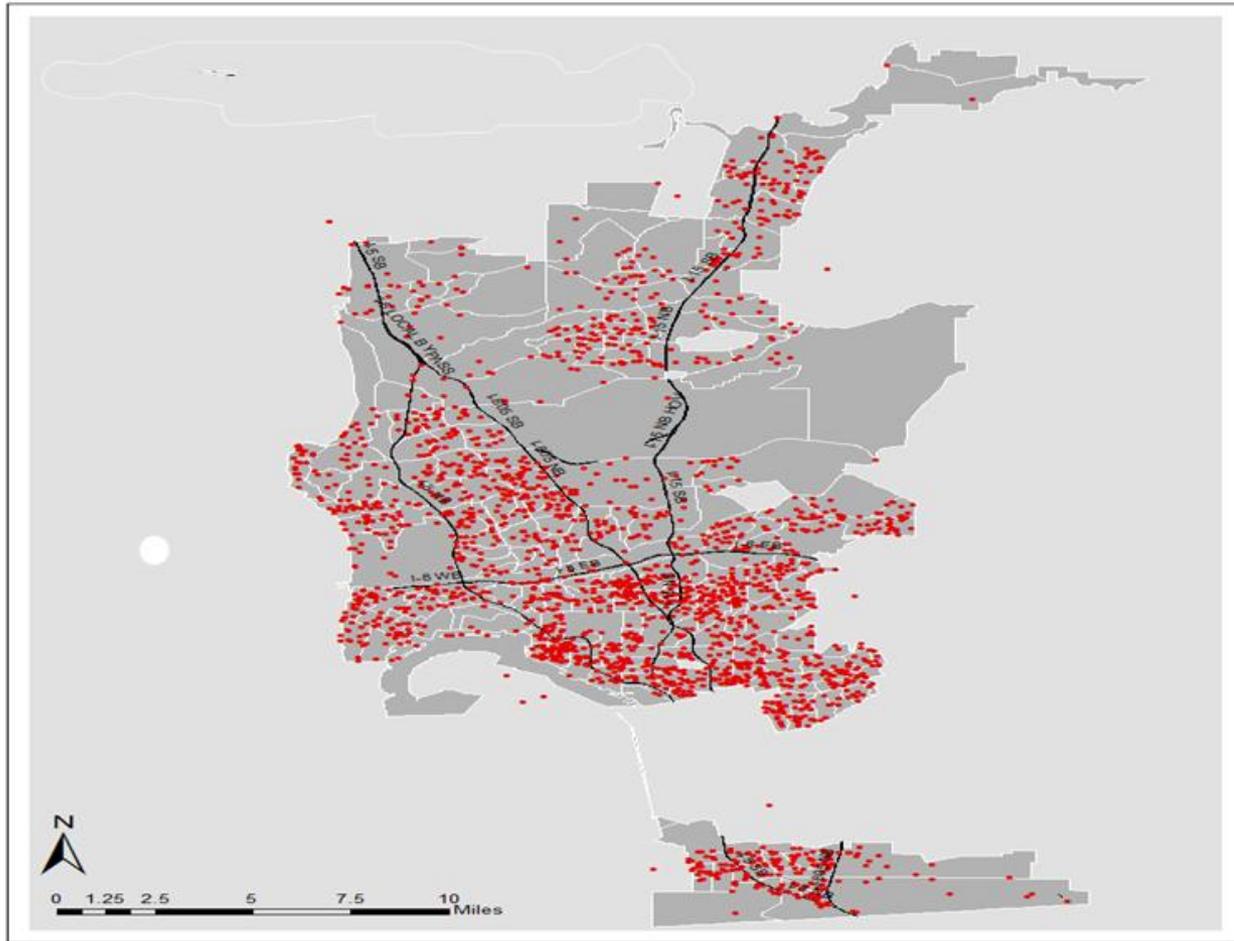
[Contact Us](#)

[LOGIN](#)

Bioterrorism. Epidemics. Crime Patterns. Operational Vulnerabilities.

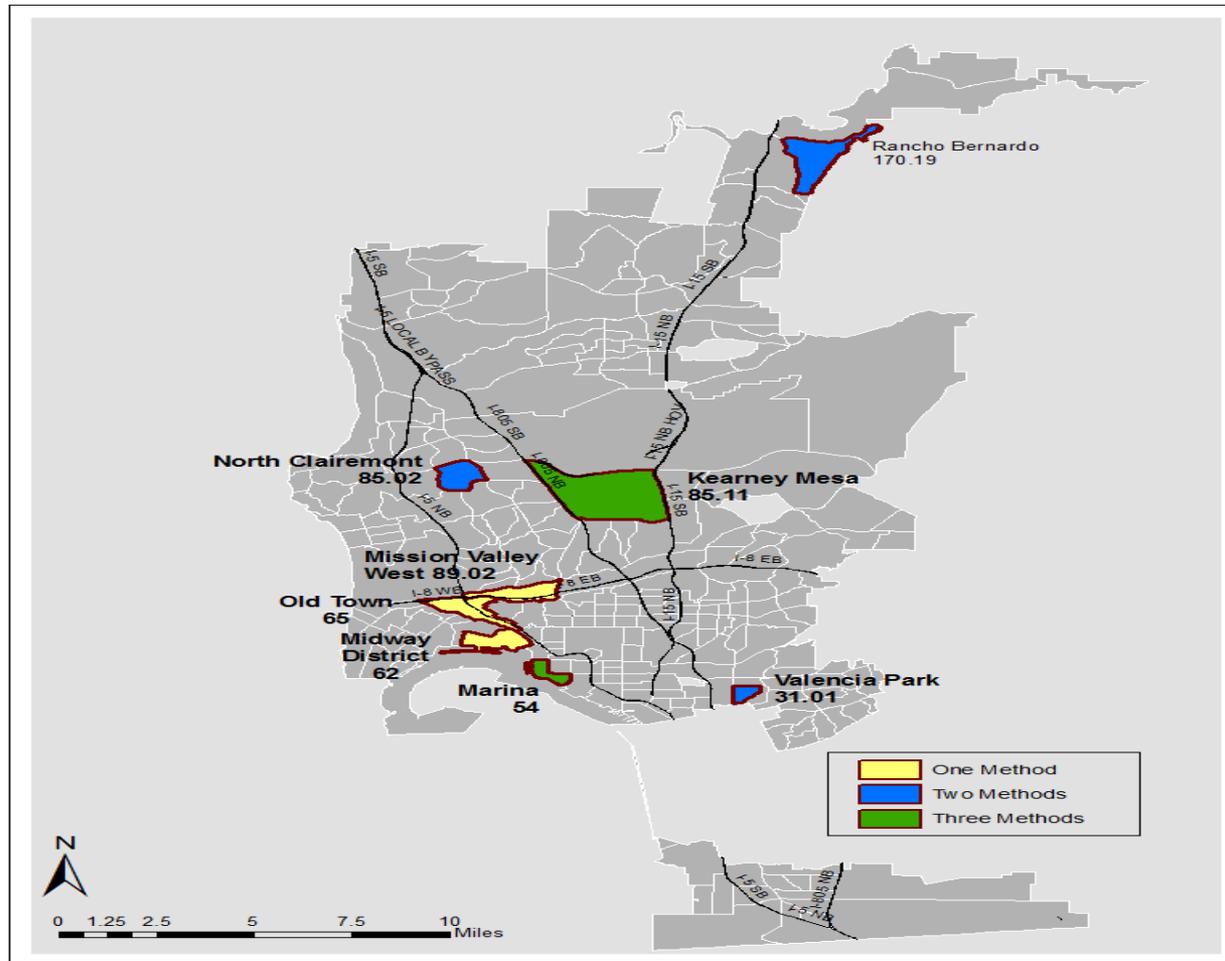
For any kind of threat, earlier detection means earlier action. Know first with FirstWatch.

Cardiac arrests: City of San Diego 2003 -2009 (n = 2301)



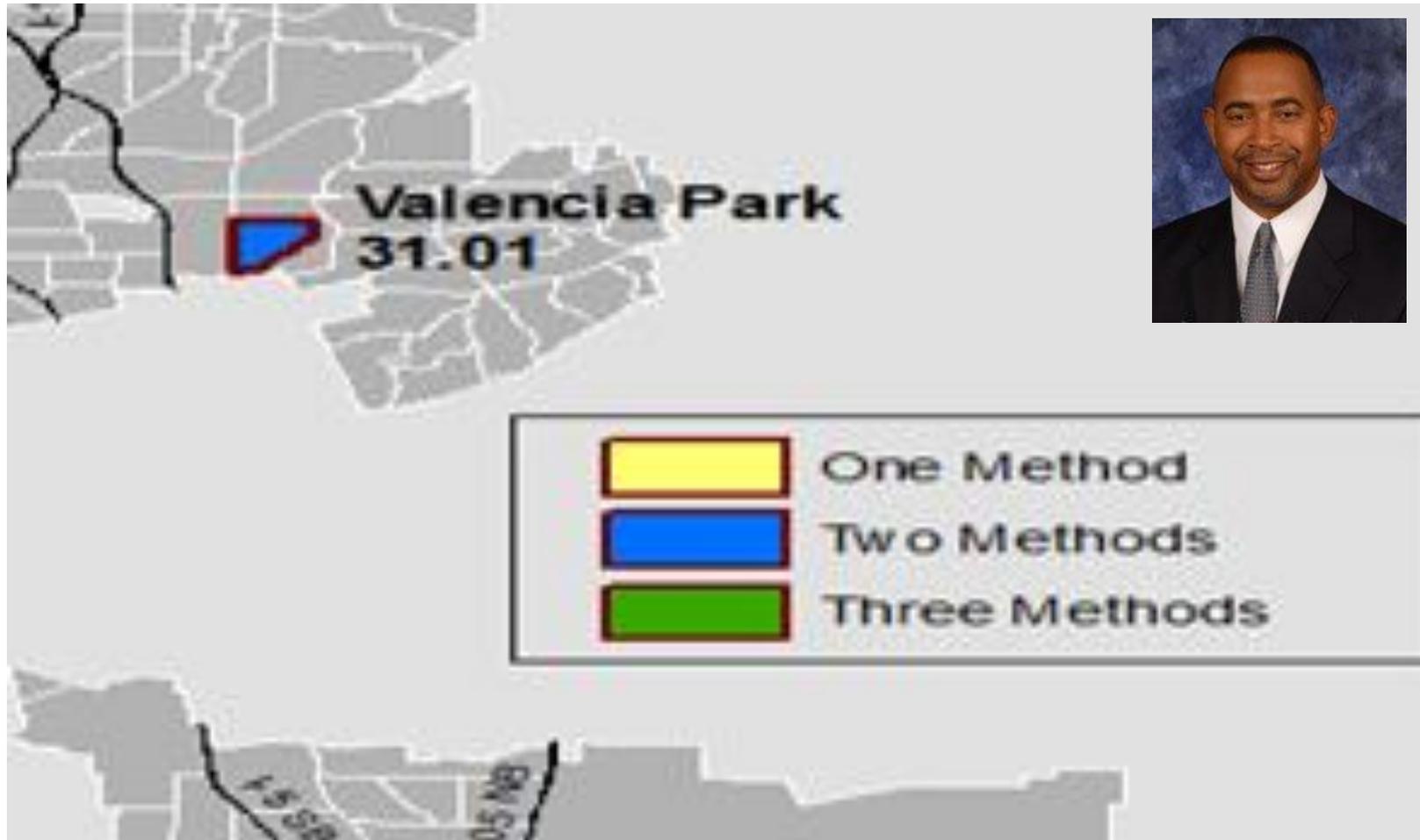
Serra J. SDSU MPH thesis, 2011.

High Risk Neighborhoods



Serra J. SDSU MPH thesis, 2011.

Target Intervention



EMS EHR - Tapchart2



City EMS Health Information Network

