

# Stroke Disparities

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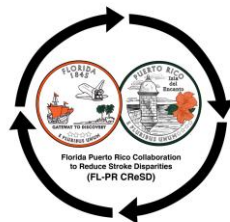
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*Relevant Grant Support:*

Florida-Puerto Rico Collaboration to Reduce Stroke Disparities, PI Core B  
NIH/NINDS U54 NS-081763



# Lecture Outline

- Stroke burden, projections
- Disparities in stroke mortality, risk factors, and treatment
- Design of FL-PR CReSD
- Stroke disparities in the FL-PR CReSD
- Education and feedback interventions
- Next Steps

# Defining Disparity

- Health disparity: unequal distribution of a condition or disease across a population of interest
  - Many determinants across multiple levels of influence:
    - Genetic factors
    - Environmental risk conditions
    - Health behaviors
    - Socio-cultural norms on health and disease prevention
    - Access and utilization of healthcare
  - CDC Healthy People 2010:
    - Achieve health equity
    - Eliminate disparities
    - Improve the health of all groups
- Save >100,000 lives/yr  
Save 200 billion/yr

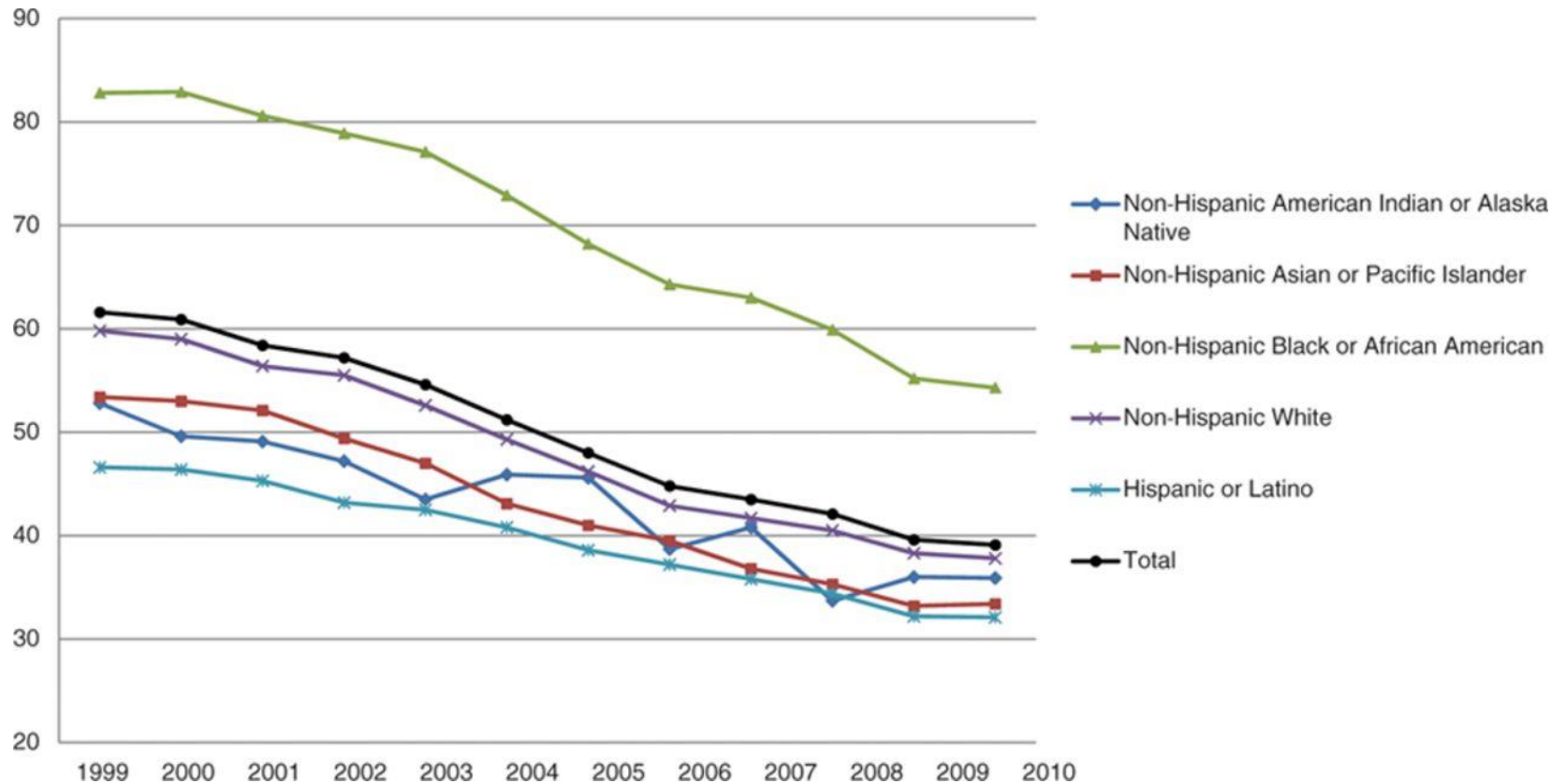
Burden of stroke, improved mortality,  
anticipated increased incidence and  
disability

# Burden of Stroke

- 5th cause of death in US (170 K); 2nd cause of death worldwide
- 795,000 new strokes each year; 185,000 are recurrent events
- 3.22% adult US population has had a stroke (3.9% by 2030)
- Main cause of disability: ¼ institutionalized, 70% unable to return to usual activities
- Affects minorities disproportionately
- Annual costs: Direct \$71.6 Billion (\$184.1 B by 2030)

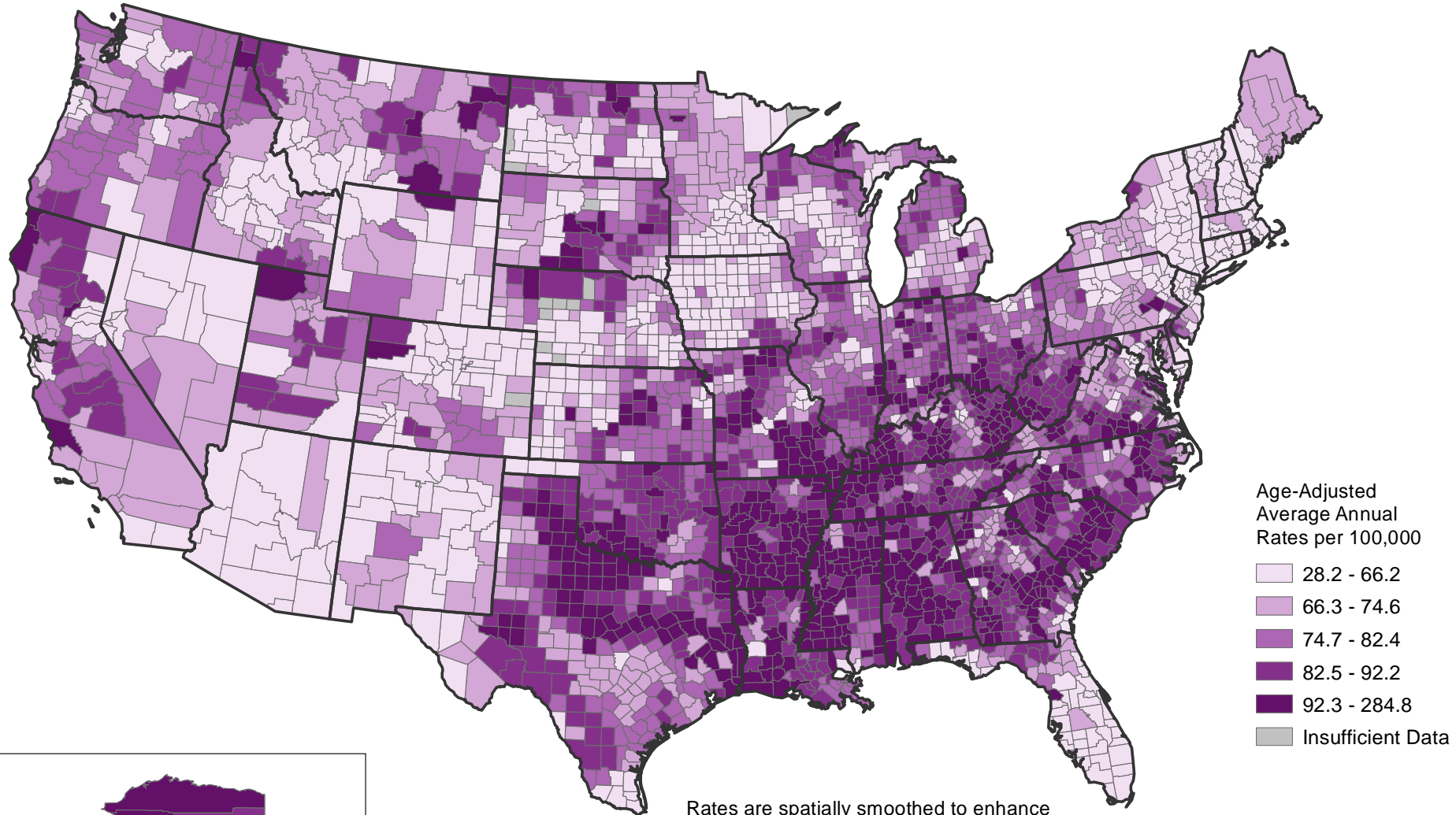
Lost Productivity: \$33.7 Billion (\$56.5B 2030)

# Stroke Mortality by Race/Ethnicity



**Age-adjusted death rates for cerebrovascular disease by race and by year: US, 1999 to 2010.**

# Stroke Death Rates, 2011-2013 Adults, Ages 35+, by County



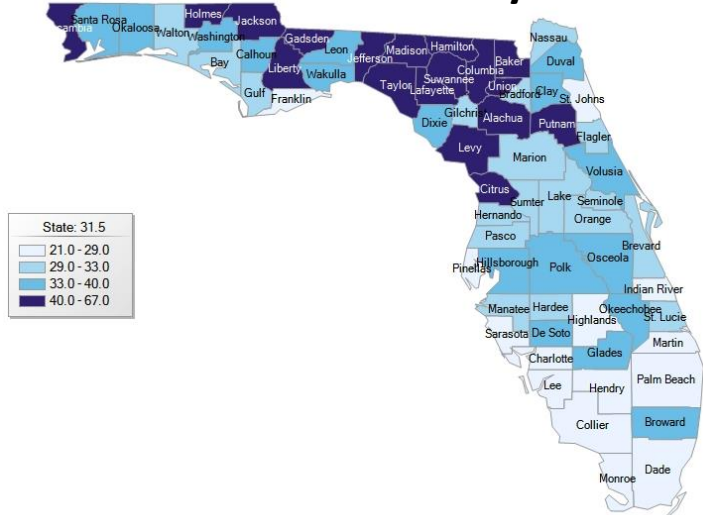
Rates are spatially smoothed to enhance the stability of rates in counties with small populations.

Data Source:  
National Vital Statistics System  
National Center for Health Statistics

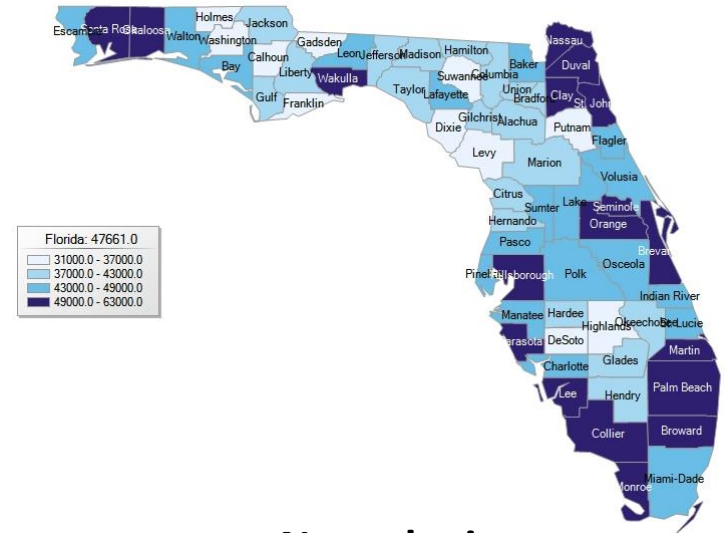


# Exploring Disparities in Stroke Mortality

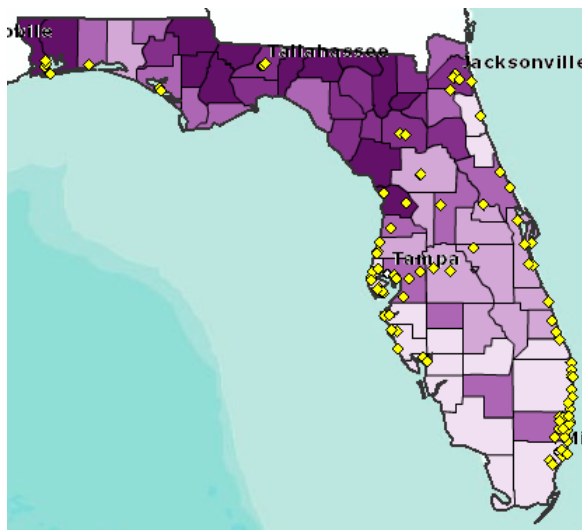
## Mortality



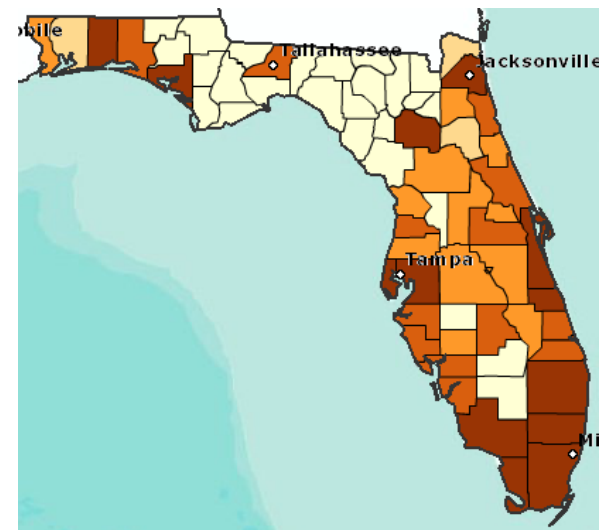
## Median Income



## Stroke Centers & Mortality

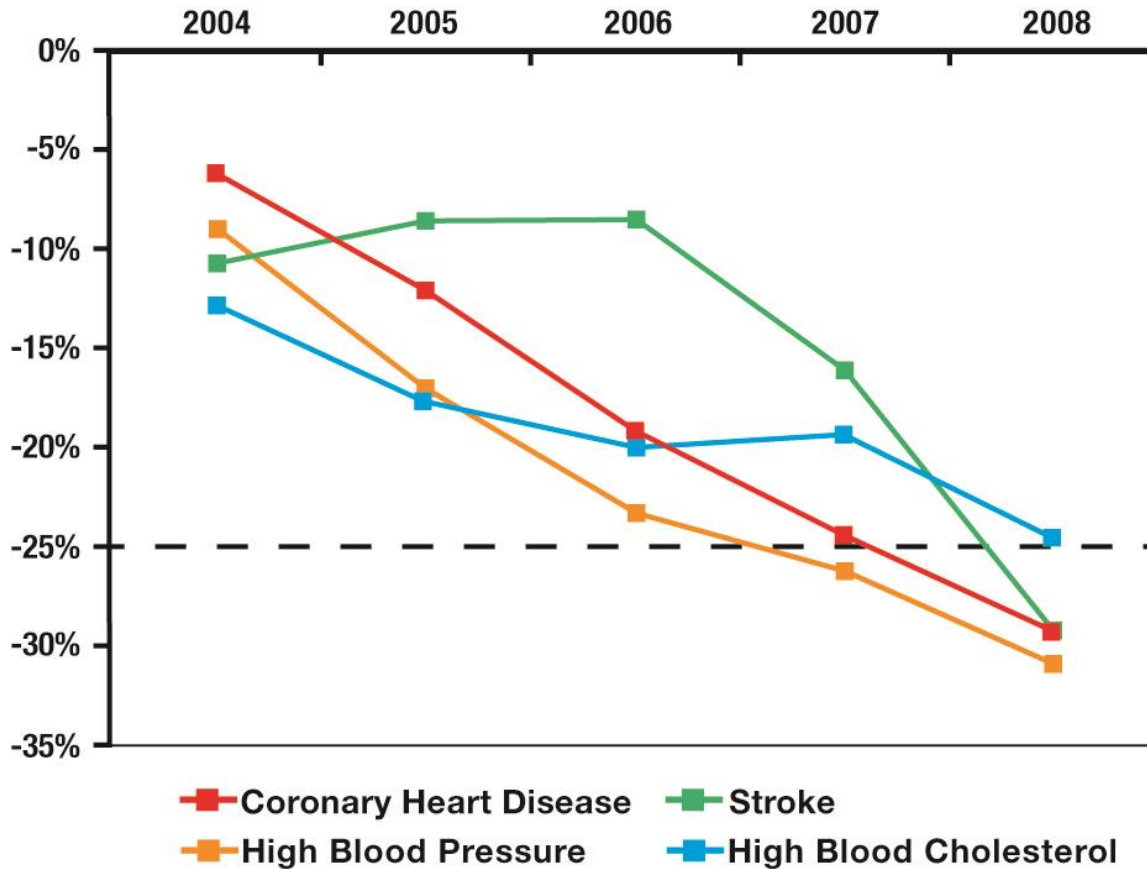


## Neurologists





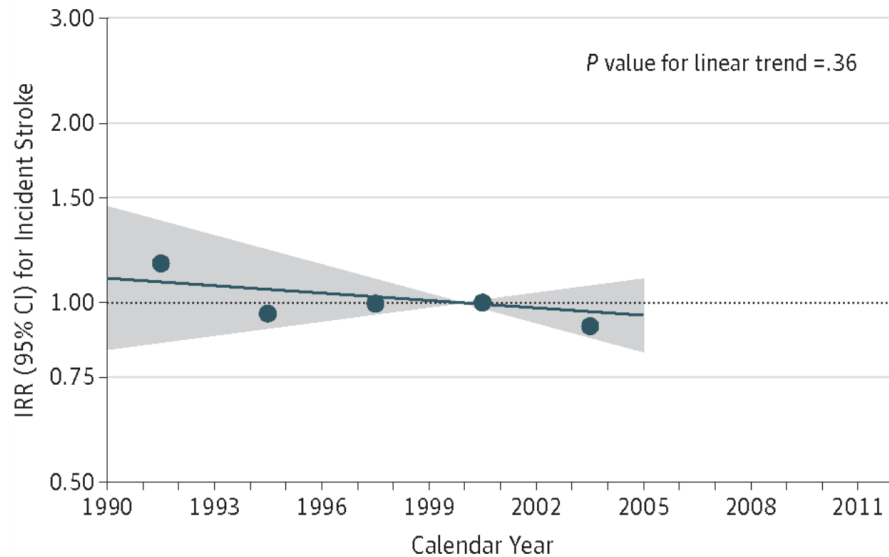
# Reduction in vascular disease and risk factors



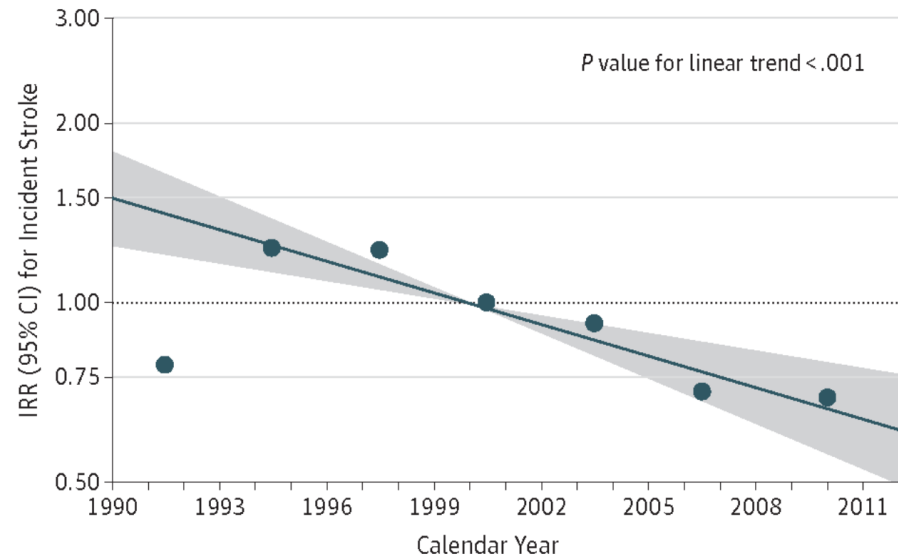
CHD -35.7%  
Stroke -32.5%  
HBP -27.7%  
CHOL -22.1%

# Stroke incidence decreasing for elderly

**A** Age <65y

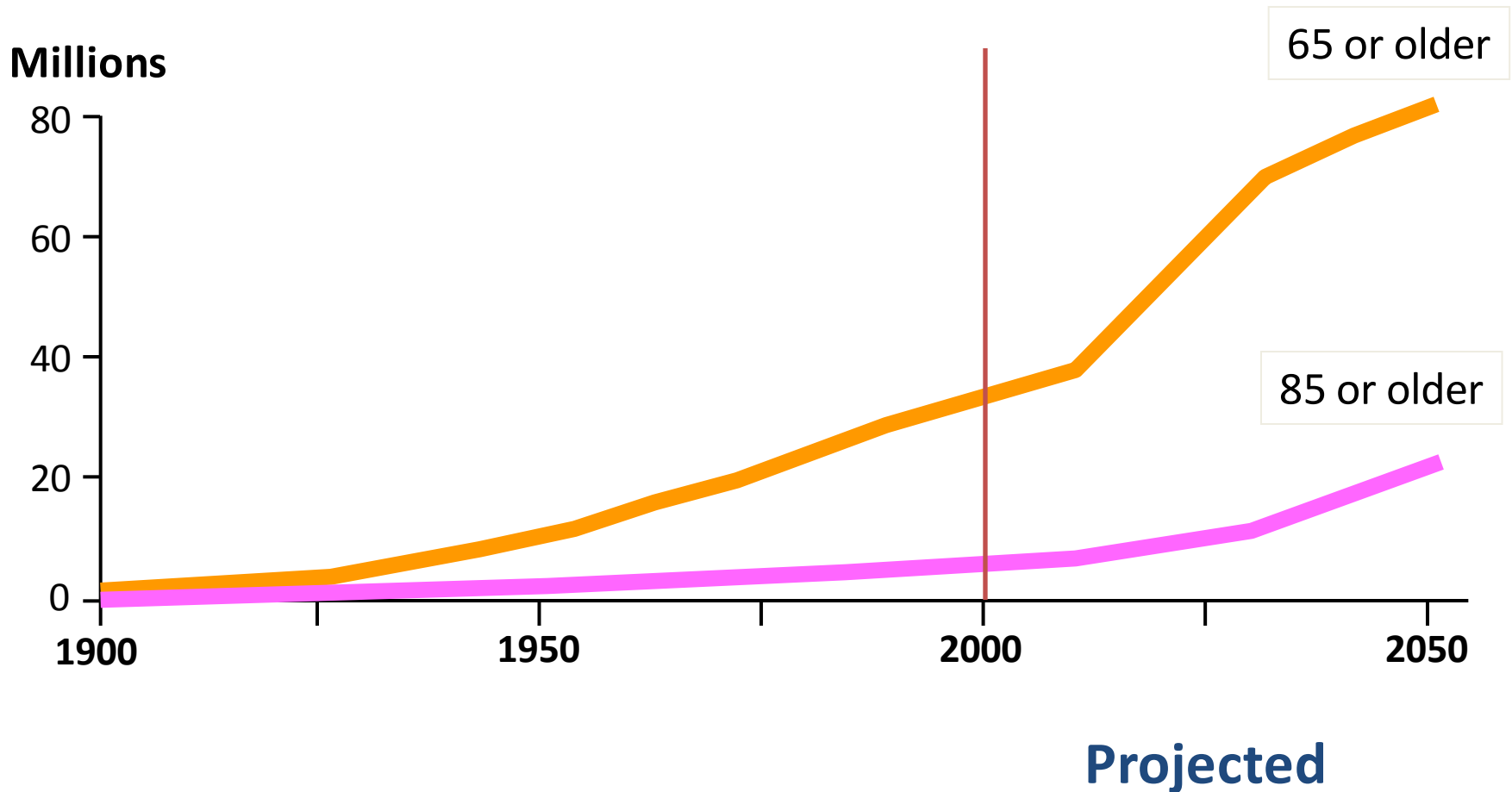


**B** Age ≥65y



ARIC: Adjusted for age, sex, race and center, HTN, DM, CAD, cholesterol-lowering meds, smoking.

# Growth population $\geq 65$ years in US



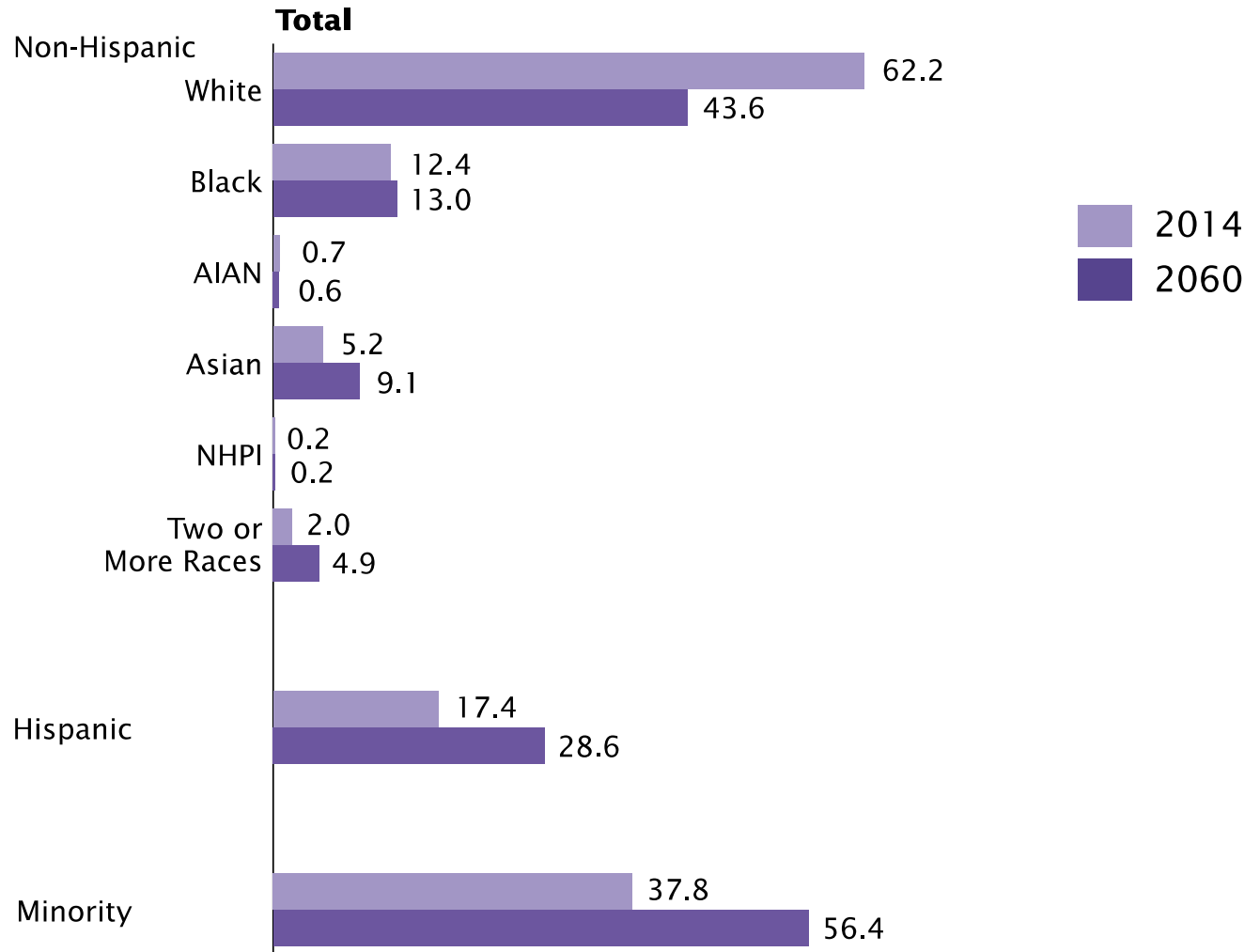
US Census Bureau, Decennial Census Data and Population Projections

Note: Data for the years 2000 to 2050 are middle-series projections of the population.

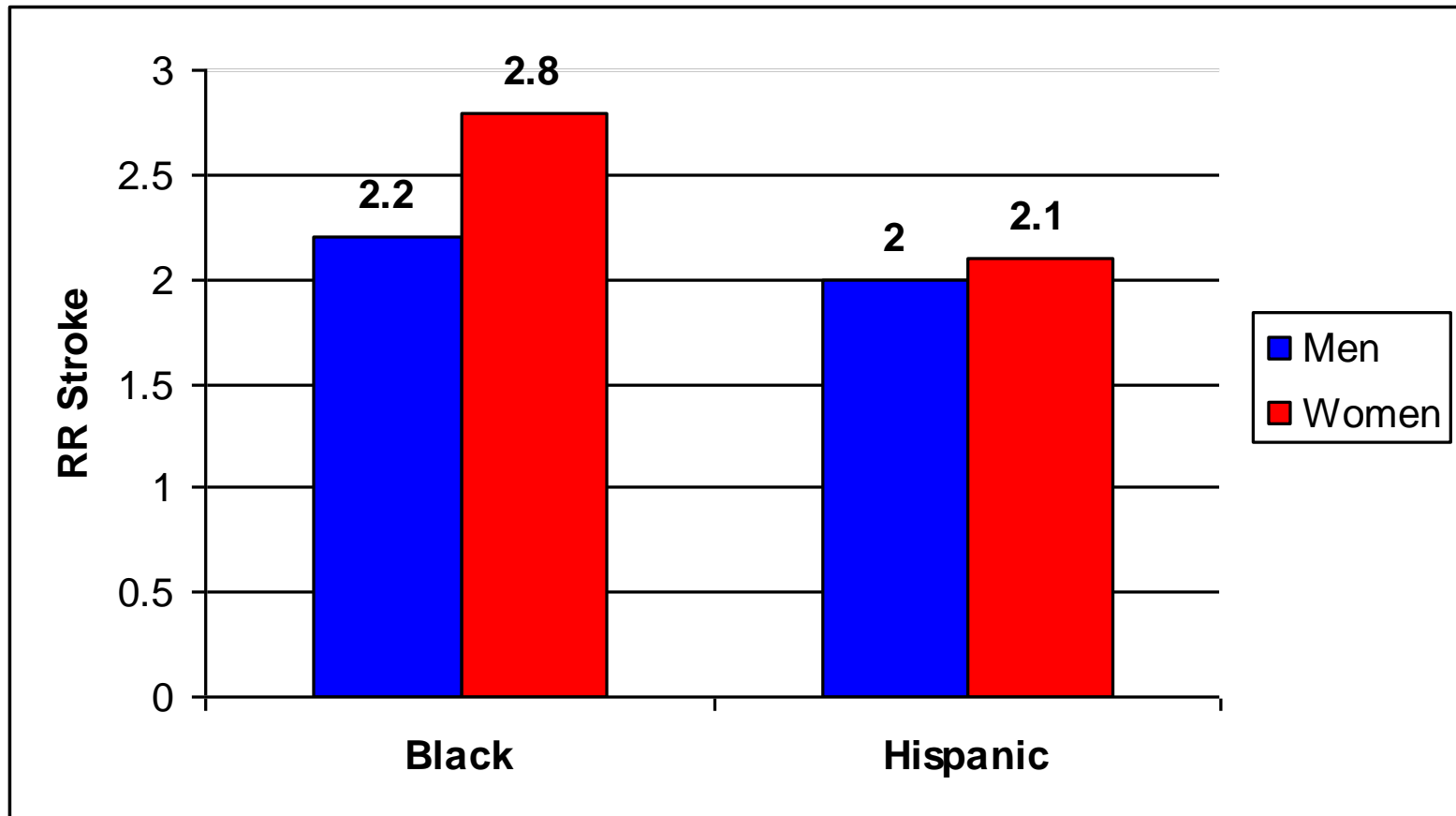
Reference population: These data refer to the resident population.

Courtesy RL Sacco

# Population Projection by Race & Ethnicity 2014- 2060

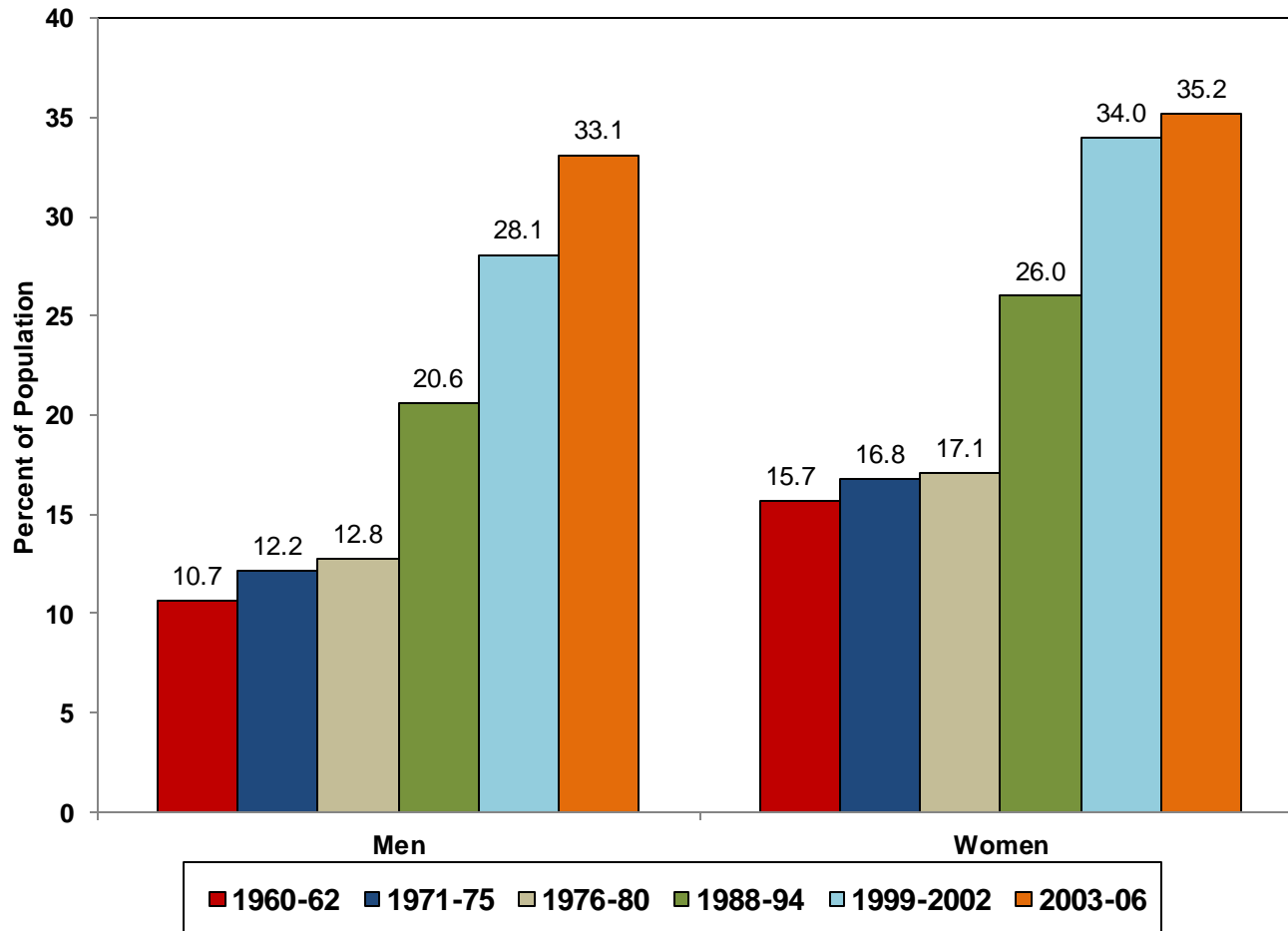


# Relative Risk of Stroke by Race: NOMAS



White race-ethnicity is reference

# Trends in Obesity

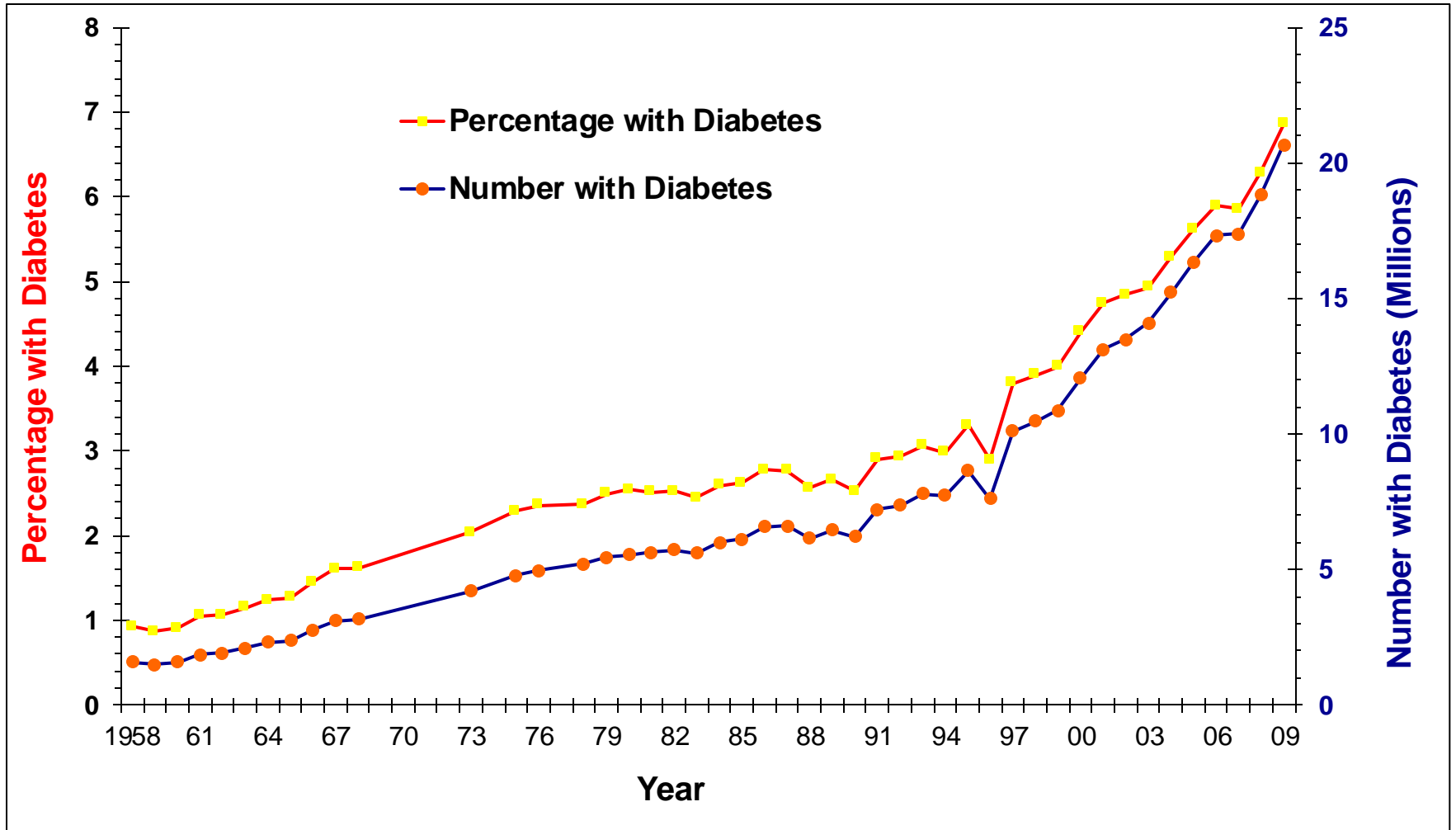


Age-adjusted prevalence of obesity (BMI<sub>≥</sub>30) in adults 20–74 years of age

Roger VL et al. *Circulation*. 2010.

NHES: 1960–1962; NHANES: 1971–1975, 1976–1980, 1988–1994, 1999–2002 and 2003–2006

# Trends in Diabetes



# Projected stroke in US

- Lower mortality and stable or increased incidence: higher prevalence by 25% by 2030
- Cost projected to increase by 238% by 2030
- Total cost of stroke from 2005 to 2050 (cumulative):
  - \$1.52 trillion for non-Hispanic Whites: \$15,597 per capita
  - \$313 billion for Hispanics: \$17,201 per capita
  - \$379 billion for African Americans: \$25,782 per capita



# Disparities in Cardiovascular and Cerebrovascular Risk Factors

# Cardiovascular (and Cerebrovascular) Health



| Goal/Metric       | Ideal   | Intermediate                      | Poor                  |
|-------------------|---|-----------------------------------|-----------------------|
| Current smoking   | Never, quit >12 mo                            | Former $\leq$ 12 mo               | Current <3 mo         |
| Physical activity | $\geq$ 150 min/wk mod<br>$\geq$ 75 min/wk vig | <150 min/wk mod<br><75 min/wk vig | None                  |
| Healthy diet      | 4–5 components                                | 2-3 components                    | 0-1 components        |
| Body mass index   | <25 kg/m <sup>2</sup>                         | 25-29.9 kg/m <sup>2</sup>         | >30 kg/m <sup>2</sup> |
| Fasting glucose   | <100 mg/dL                                    | 100-125 mg/dL<br>Treated to goal  | >126 mg/dL            |
| Total cholesterol | <200 mg/dL                                    | 200-239 mg/dL<br>Treated to goal  | $\geq$ 240 mg/dL      |
| Blood pressure    | <120/<80 mmHg                                 | 120-139/80-89 mmHg                | $\geq$ 140/90 mmHg    |

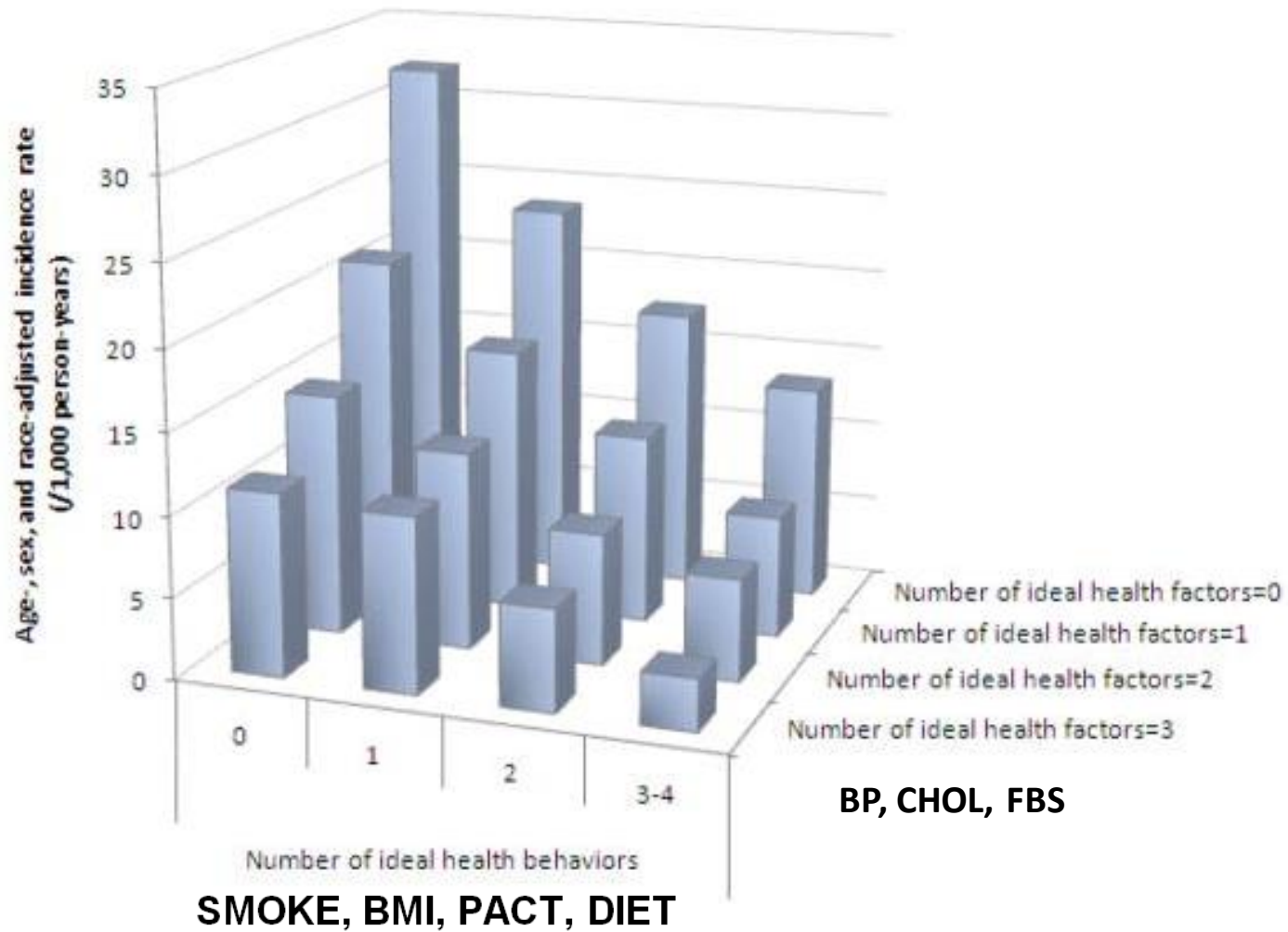
Age-standardized Mean Score of Cardiovascular Health: FL Ranks **#21** in US (BRFSFS)

# Ideal Dietary Recommendations

|           |                           |   |
|-----------|---------------------------|---|
| Primary   | Fruits and vegetables     | $\geq 4.5$ cups per day                                       |
|           | Fish                      | $\geq$ two 3.5-oz servings per week<br>(preferably oily fish) |
|           | Fiber-rich whole grains   | $\geq$ three 1-oz-equivalent servings per day                 |
|           | Sodium                    | $< 1500$ mg per day   |
|           | Sugar-sweetened beverages | $\leq 450$ kcal (36 oz) per week                              |
| Secondary | Nuts, legumes, seeds      | $\geq 4$ servings per week                                    |
|           | Processed meats           | none or $\leq 2$ servings per week                            |
|           | Saturated fat             | $< 7\%$ of total energy intake                                |

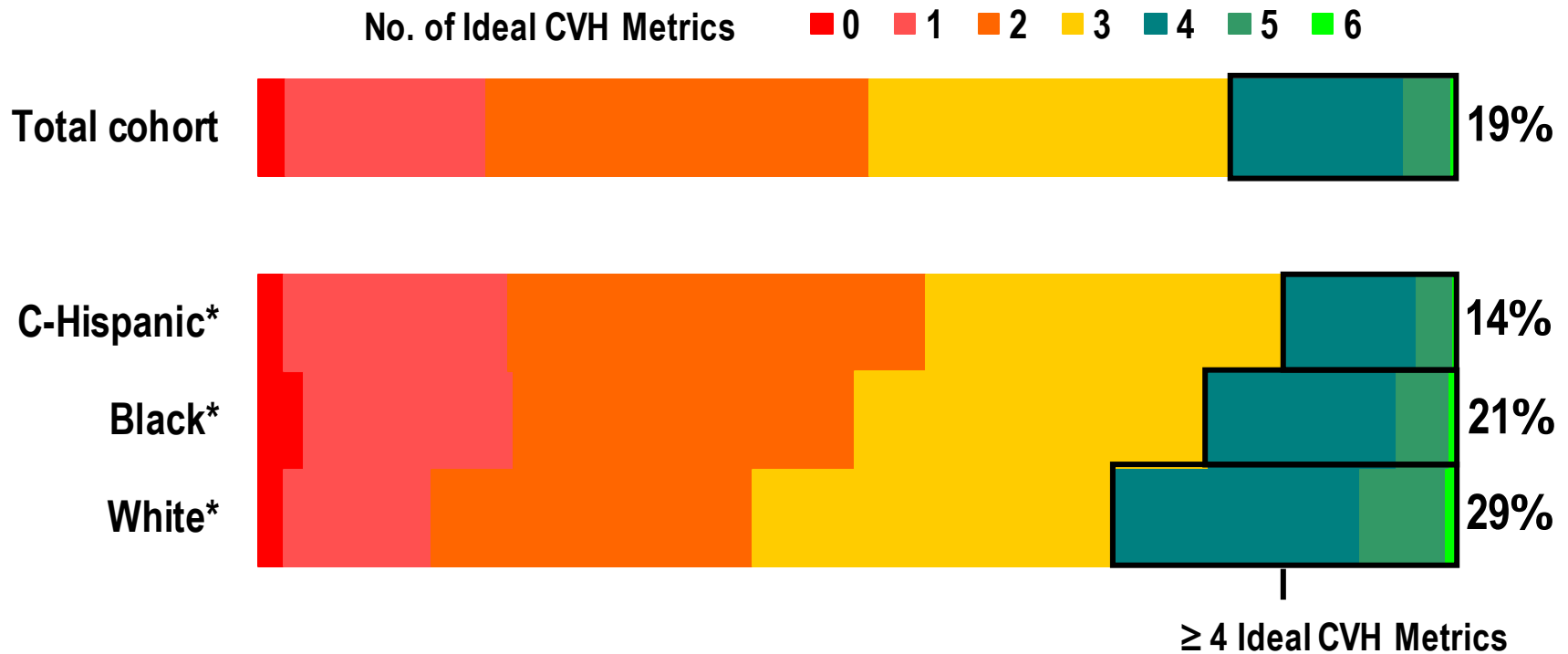
\* Intake goals are expressed for a 2000-kcal diet

# Incidence of cardiovascular disease by health indicator



# Prevalence of Ideal Cardiovascular Health By Race-Ethnicity, NOMAS

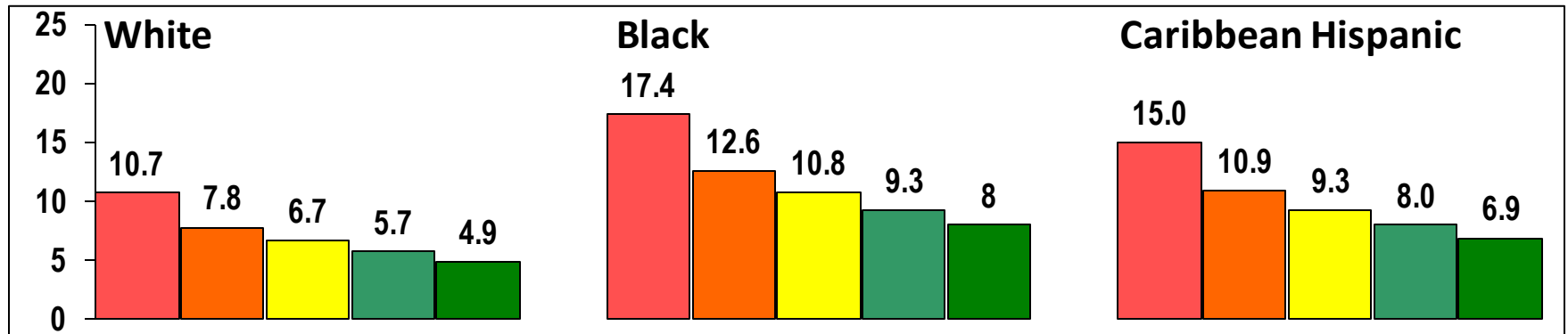
No one had all 7 factors and 0.5% had 6 factors  
4 or more Ideal Factors: Women 15.3%, Men 25%



\* Age- and sex- standardized

# Ideal CVH and Incidence of Stroke by Race-Ethnicity in NOMAS

Adjusted Incidence Rate (per 1000 PY)

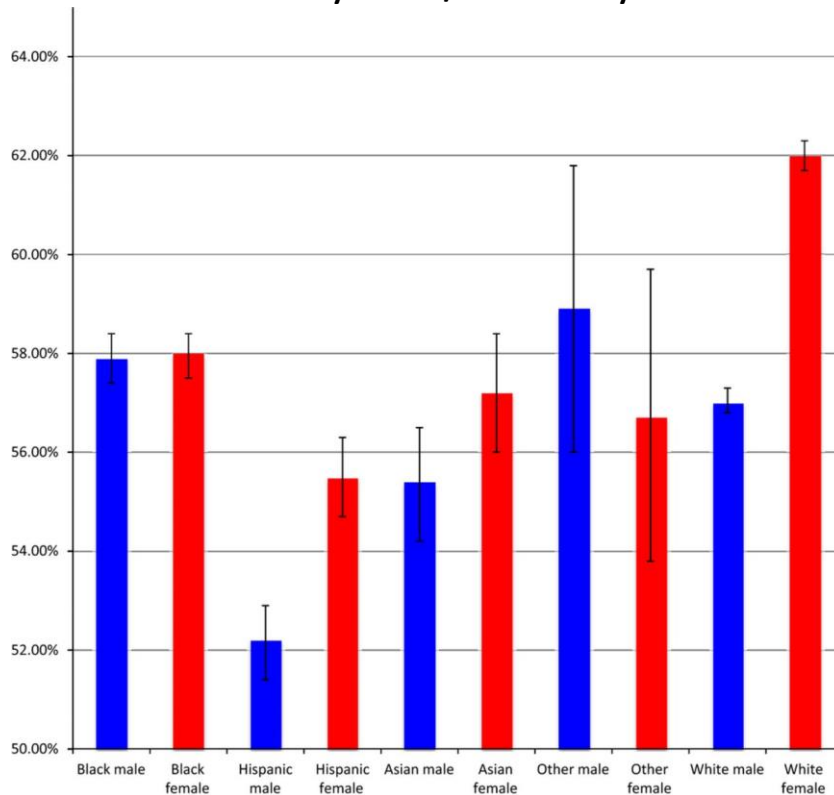


Number of Ideal Health Metrics

# Disparities in Acute Stroke Care

# EMS use in Stroke

EMS use by race/ethnicity and sex



Only 59% strokes arrive by EMS

EMS use > with classic sx:  
aphasia, weakness, altered  
consciousness.

After MV adjustment, EMS use:

- Hispanic men aOR 0.77
- Hispanic women aOR 0.71
- Black women aOR 0.87
- Asian men aOR 0.80
- Asian women aOR 0.71



# Disparities in access to thrombolysis

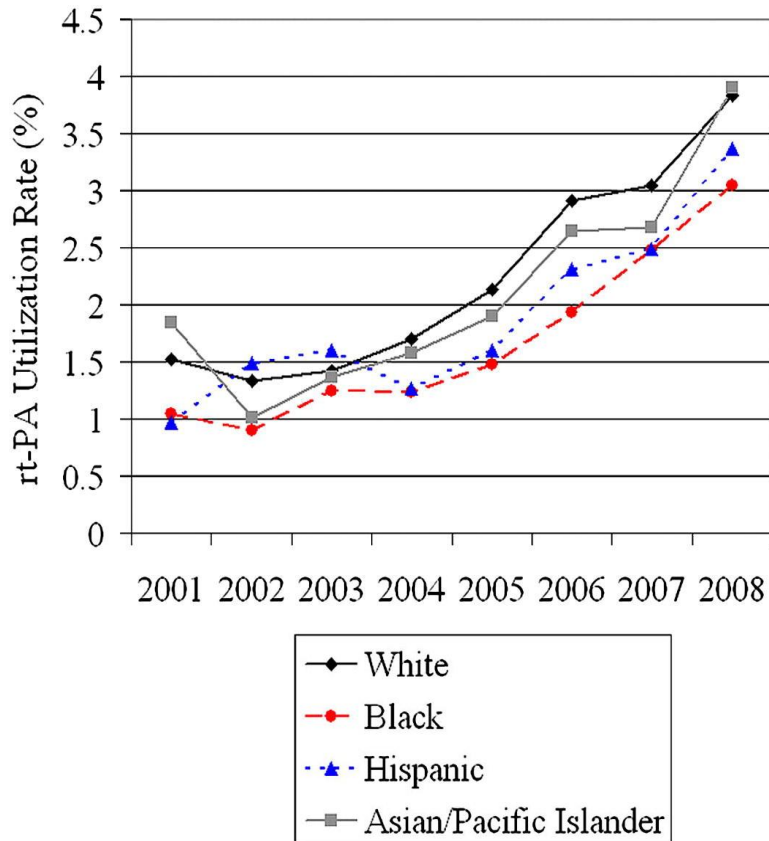
- Delay in arrival to ED as a reason for tPA ineligibility<sup>1</sup>
  - AA 81.3%
  - NHW 58.1%
- Emergency Department waiting time >10 min<sup>2</sup>
  - NHW 55%
  - Hispanics 62% (adjusted OR 1.07, 95%CI 0.52-2.22)
  - AA 70% (adjusted OR 2.08, 95%CI 1.05-4.09)

1) N=574, 5 JC PSC, 5 non-JC hospitals. Bhattacharya P et al. J Stroke Cerebrovasc Dis 2013;22:383

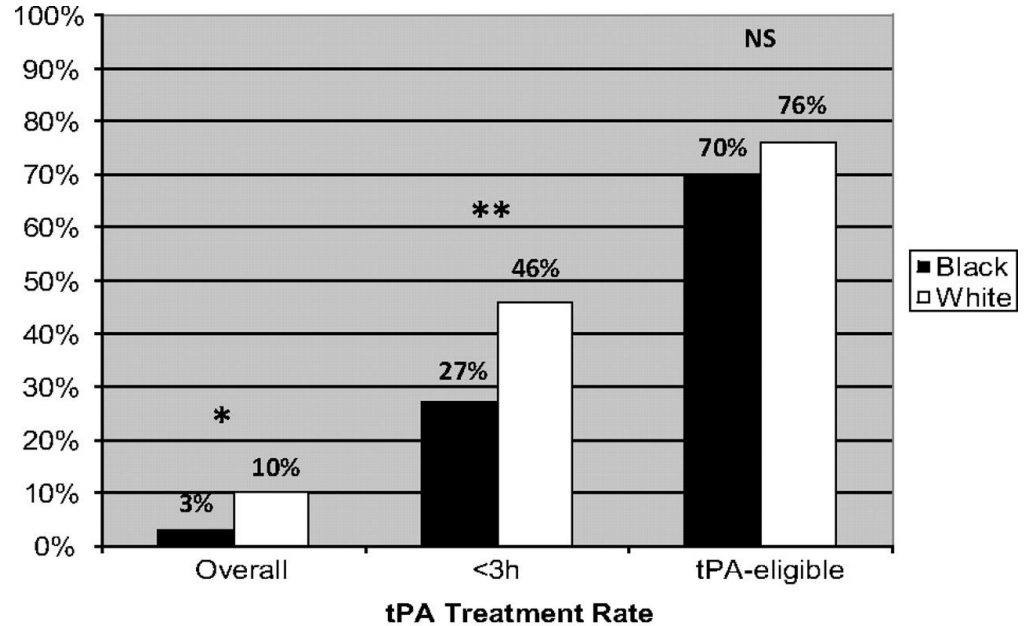
2) NHAMC Survey. SJ Karve et al. J Stroke Cerebrovasc Dis 2011;20:30

# Disparities in IV rtPA utilization

Trends in tPA utilization rates



IV rtPA use by race



\*p<0.001  
\*\*p=0.023

National Inpatient Sample, 47,402 AIS treated with IV rtPA  
Nasr D et al. J Stroke Cerebrovasc Dis.2013;22:154-160

7 Hospitals in DC, 1044 AIS, 74% AA, 2008-2009  
Hsia A W et al. Stroke 2011;42:2217-2221

# Disparities in IV rtPA utilization

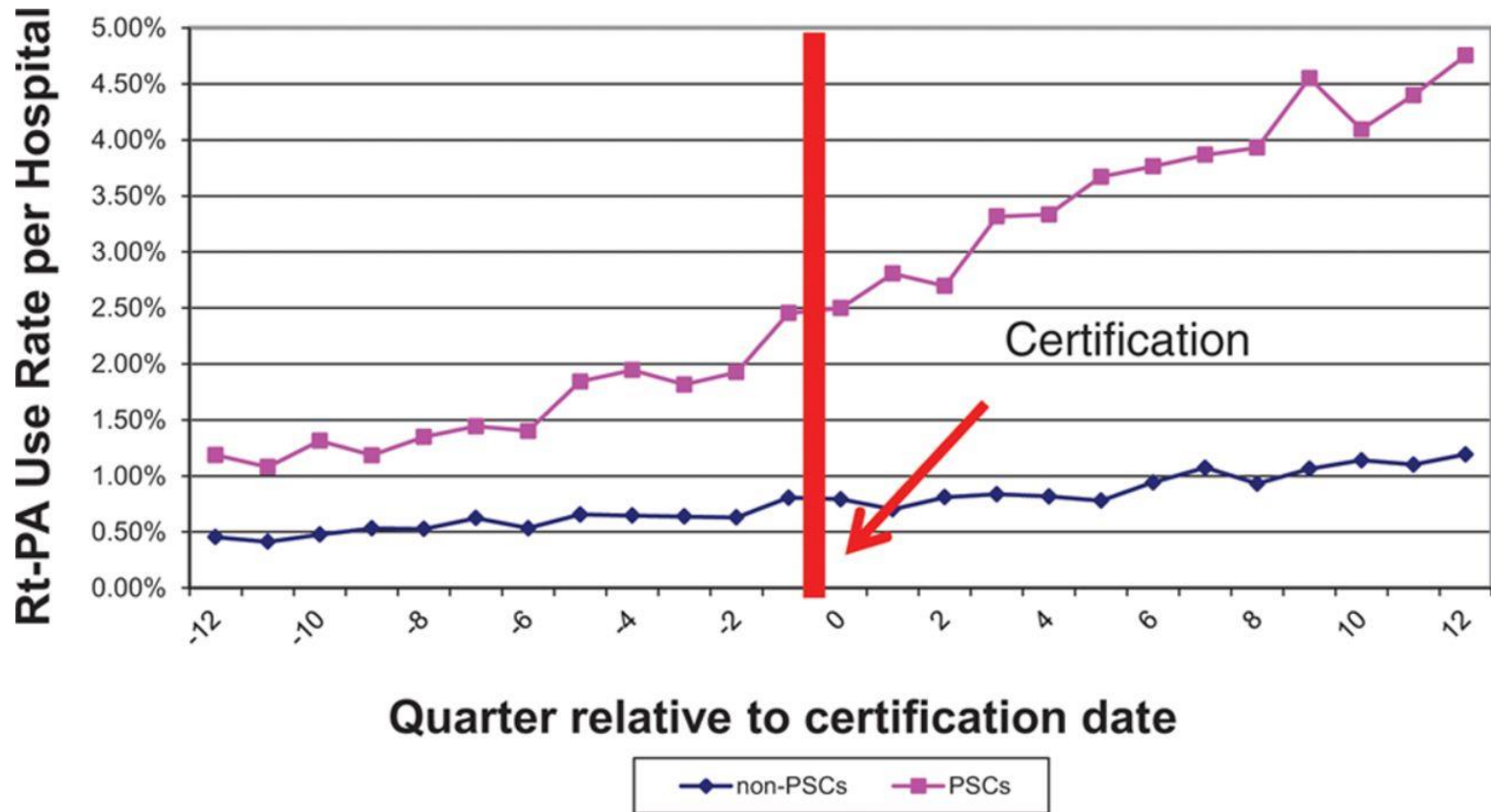
*Odds of intravenous thrombolysis use by median income when compared to the poorest incomes*

| Median income quartile | OR   | 95% CI    | P value |
|------------------------|------|-----------|---------|
| High                   | 1.55 | 1.37-1.76 | <.0001  |
| Middle to high         | 1.48 | 1.33-1.64 | <.0001  |
| Low to middle          | 1.26 | 1.14-1.39 | <.0001  |

# Disparities in endovascular approaches/thrombectomy

- 0.15% treated with IA approaches
- 1% treated with IA approaches in thrombectomy centers
  - OR Black vs. White: 0.41 (0.27-0.60)
  - OR Hispanic vs. White: 0.83 (0.46-1.36)

# Effect of Stroke Center Certification on rtPA use



rtPA use rates by quarter, pre, and post primary stroke center (PSC) certification, compared with non-stroke center hospitals (2001 to 2010). Kleindorfer D et al. *Stroke* 2013

# Design of the Florida-Puerto Rico Collaboration to Reduce Stroke Disparities

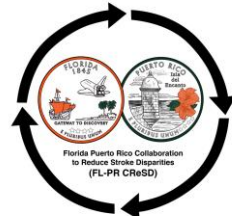
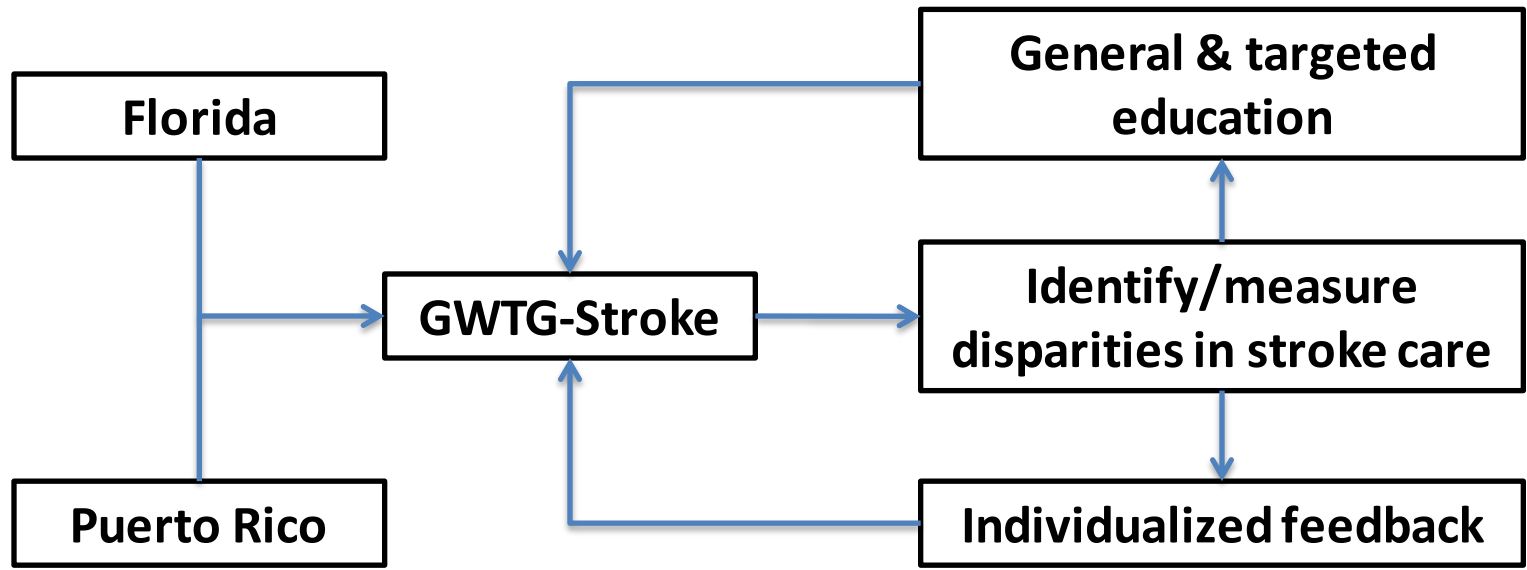
# NINDS SPIRP Centers

Mission: eliminate disparities in stroke outcome



# FL-PR Collaboration to Reduce Stroke Disparities (FL-PR CReSD)

*Long term objective:* eliminate disparities in stroke prevention and care among Hispanics and all underserved populations.





# The FL-PR CReSD Team

## Core A:

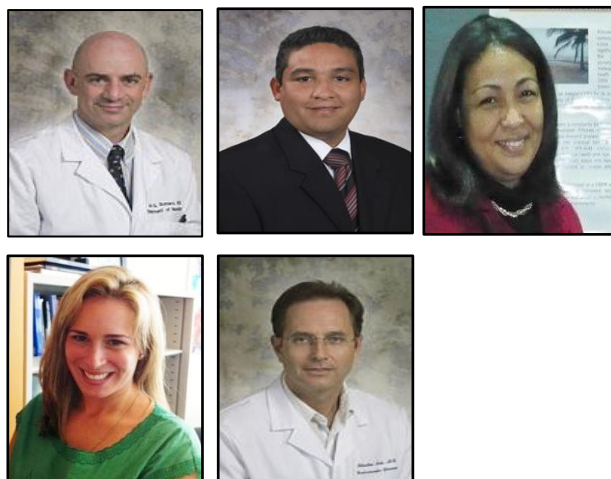
### Administrative Core

#### Project PI



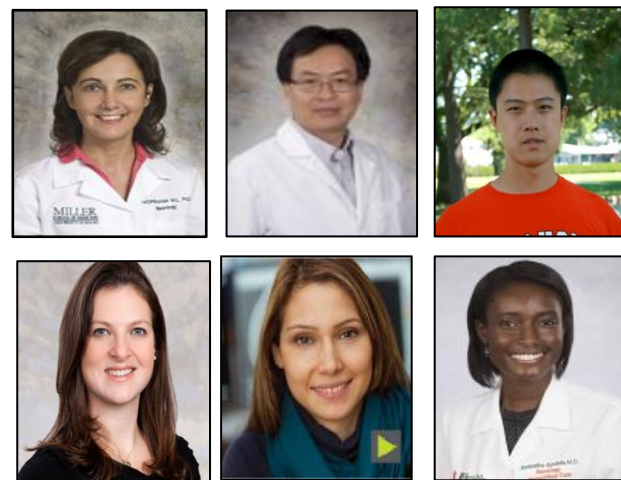
## Core B:

### Research/Education Training Plan Core



## Core C:

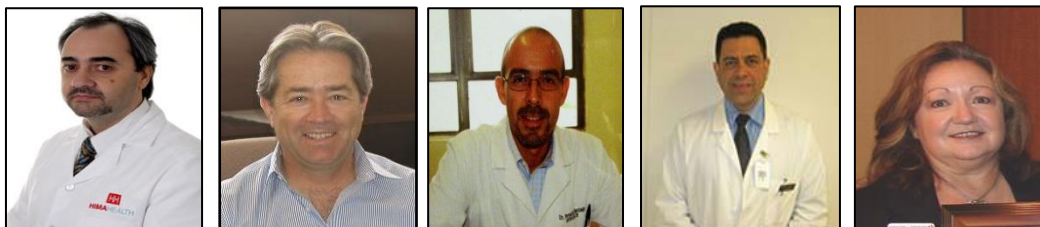
### Data Management/ Biostatistics Core



## AHA Staff:

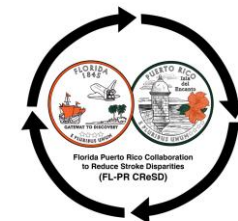
Dianne Foster  
 Julia Mora  
 Kathy Fenelon  
 Sandra Diaz-Acosta  
 Jeffrey Walker

## Consultants:

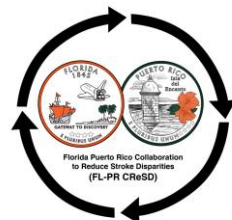
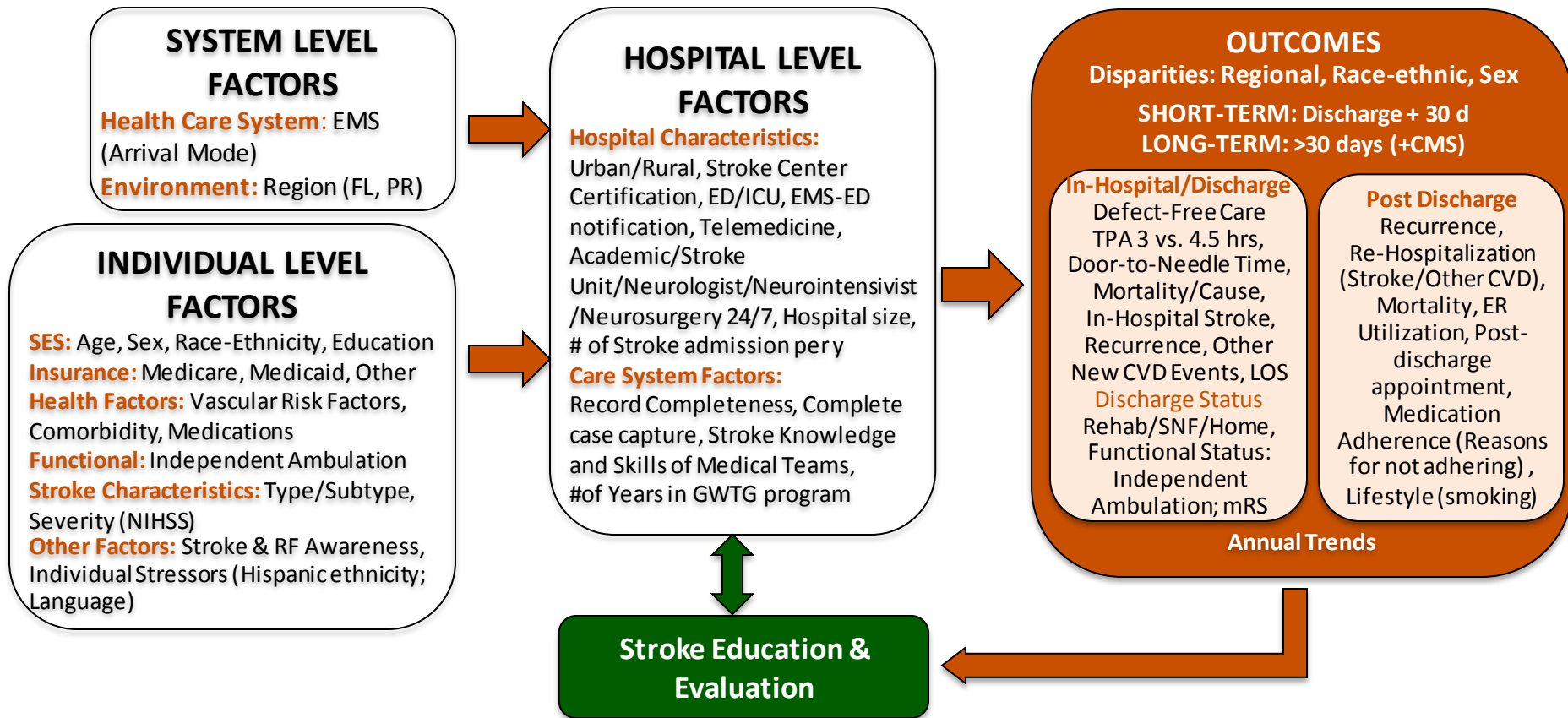


**Advisors**

**Participating Hospitals**



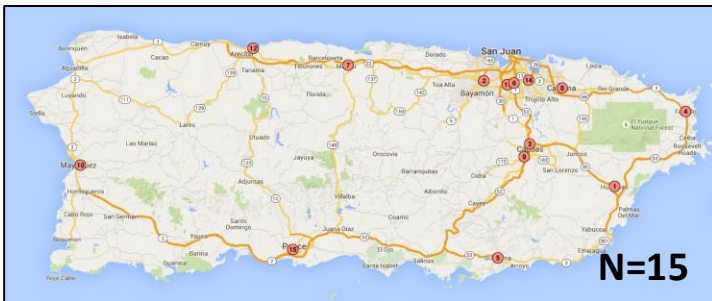
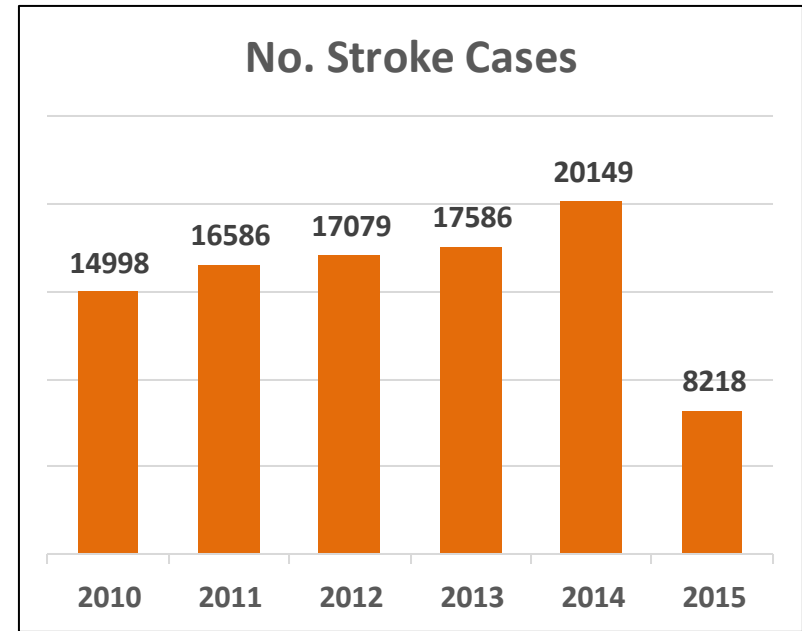
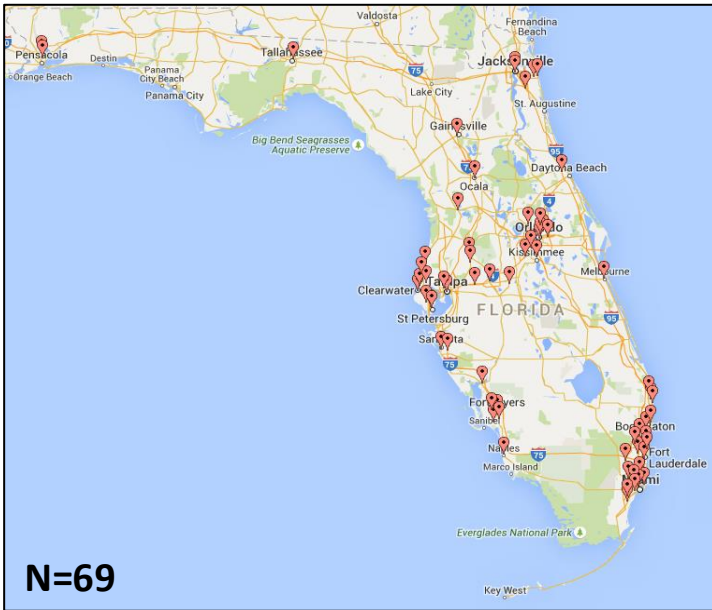
# Conceptual Framework to Inform the FL-PR CReSD Program Outcome



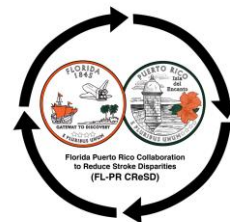
# Disparities in the Florida-Puerto Rico Stroke Registry



# FL-PR Stroke Registry



From 69 FL & 9 PR hospitals  
Last Data Download – June 2015



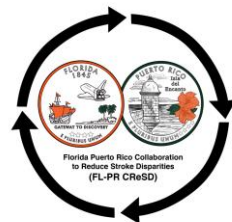
# GWTG-S Performance Metrics Comparison: National, FL, and FL-PR Stroke Registry

| 2013 Stroke Performance Metrics, %    | National | Florida | FL-PR Stroke Registry |
|---------------------------------------|----------|---------|-----------------------|
| IV tPA, Arrive by 2, Treat by 3 Hours | 87       | 91      | 92                    |
| Early Antithrombotics                 | 98       | 98      | 98                    |
| VTE Prophylaxis                       | 95       | 97      | 96                    |
| Antithrombotics at Discharge          | 98       | 99      | 99                    |
| Anticoagulant for A Fib               | 95       | 97      | 97                    |
| Smoking Cessation Counseling          | 97       | 96      | 96                    |
| LDL >100, Discharge on Statin         | 94       | 96      | 96                    |
| Defect Free Care                      | 90       | 92      | 91                    |
| Door to CT in ≤ 25 min - all strokes  | 31       | 30      | 26                    |
| DTN w/in 60 min - regardless of time  | 59       | 53      | 50                    |

# Overall Stroke Types

## 2010-2015 Race/Ethnicity

| Stroke Type     | All<br>N = 94,616 | FL-White<br>n = 60,154 | FL-Black<br>n = 16,413 | FL-Hispanic<br>n = 12,717 | PR<br>n = 5,332 |
|-----------------|-------------------|------------------------|------------------------|---------------------------|-----------------|
| Ischemic Stroke | 69%               | 68%                    | 72%                    | 70%                       | 71%             |
| TIA             | 13%               | 15%                    | 10%                    | 11%                       | 12%             |
| ICH             | 12%               | 12%                    | 12%                    | 12%                       | 12%             |
| SAH             | 5%                | 5%                     | 5%                     | 6%                        | 3%              |
| Stroke NOS      | 0.6%              | 0.6%                   | 0.4%                   | 0.4%                      | 2%              |



# Ischemic Stroke Patient Demographics

| FL-PR Stroke Registry ISC | All<br>N= 5654 | Race-Ethnicity    |                   |                   |                   | Sex               |                 |
|---------------------------|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------|
|                           |                | FL-NHW<br>N=41161 | FL-NHB<br>N=11784 | FL-Hisp<br>N=8918 | PR-Hisp<br>N=3791 | Female<br>N=32501 | Male<br>N=33153 |
|                           |                | %                 | %                 | %                 | %                 | %                 | %               |
| <b>Age, Mean</b>          | 71             | 73                | <b>63</b>         | 71                | 70                | <b>73</b>         | 69              |
| <b>18 to 64</b>           | 32             | 27                | <b>55</b>         | 31                | 31                | 27                | 38              |
| <b>65 to 79</b>           | 36             | 36                | 31                | 37                | 43                | 33                | 38              |
| <b>Above 79</b>           | 32             | 37                | 14                | 32                | 26                | 40                | 24              |
| <b>Insurance Status</b>   |                |                   |                   |                   |                   |                   |                 |
| <b>Medicare</b>           | 33             | 33                | 30                | 38.5              | 24                | 35                | 29              |
| <b>No Insurance</b>       | 11             | 8                 | <b>23</b>         | <b>15.5</b>       | 2                 | 10                | 13              |
| <b>Private</b>            | 37             | 43                | 29                | 21                | 29                | 36                | 38              |
| <b>Unknown</b>            | 19             | 16                | 18                | 25                | 45                | 19                | 20              |

# Ischemic Stroke Clinical Characteristics

| FL-PR Stroke Registry<br>ISC Profiles | All<br>N=65654 | Race-Ethnicity    |                   |                       |                       | Sex               |                 |
|---------------------------------------|----------------|-------------------|-------------------|-----------------------|-----------------------|-------------------|-----------------|
|                                       |                | FL-NHW<br>N=41161 | FL-NHB<br>N=11784 | FL-Hispanic<br>N=8918 | PR-Hispanic<br>N=3791 | Female<br>N=32501 | Male<br>N=33153 |
|                                       | %              | %                 | %                 | %                     | %                     | %                 |                 |
| Smoker                                | 17             | 17                | 20                | 14                    | 8                     | 13                | 21              |
| Hypertension                          | 66             | 65                | 71                | 55                    | 84                    | 67                | 64              |
| Diabetes                              | 29             | 25                | 38                | 28                    | 50                    | 29                | 29              |
| Dyslipidemia                          | 37             | 42                | 33                | 29                    | 26                    | 37                | 38              |
| Atrial Fibrillation                   | 18             | 22                | 9                 | 15                    | 9                     | 19                | 16              |
| CAD                                   | 22             | 25                | 15                | 18                    | 25                    | 19                | 25              |
| PVD                                   | 4              | 5                 | 3                 | 3                     | < 1                   | 4                 | 4               |
| Prior Stroke/TIA                      | 26             | 26                | 29                | 22                    | 22                    | 26                | 25              |
| Arrival by EMS                        | 51             | 52                | 48                | 52                    | 49                    | 54                | 49              |
| NIHSS ≤ 5                             | 37             | 39                | 38                | 32                    | 27                    | 35                | 39              |
| NIHSS >5                              | 30             | 30                | 28                | 27                    | 46                    | 32                | 28              |
| NIHSS Missing                         | 33             | 31                | 34                | 41                    | 27                    | 33                | 33              |



# FL PR CReSD Measures

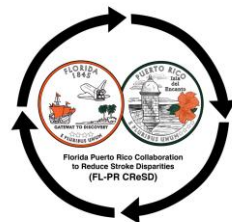
## Race/Ethnic, Sex, Geographic disparities

### Defect-free Care Measure:

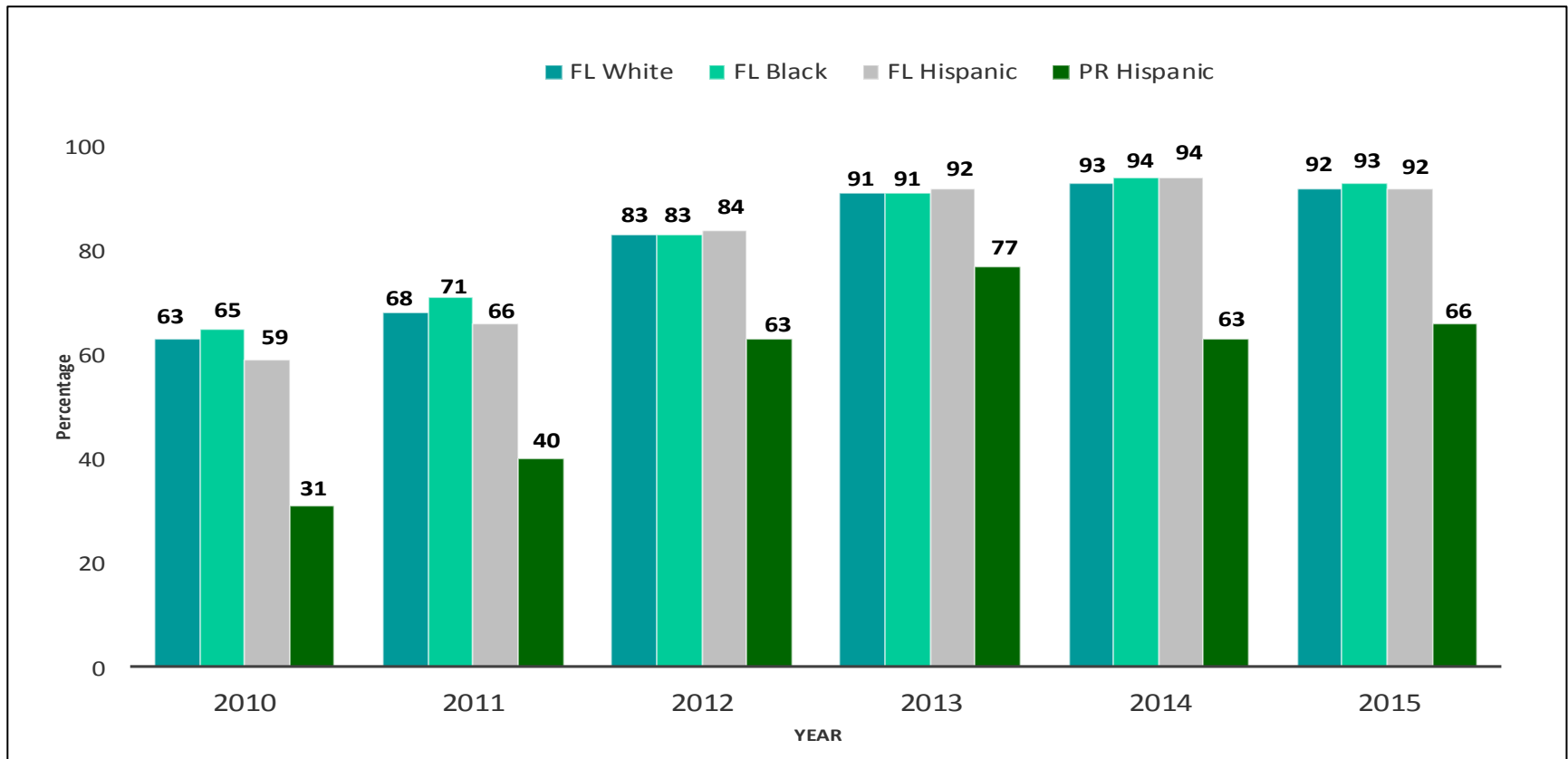
- IV tPA arrive 2 h, treat by 3 h
- Early antithrombotics (2 days)
- VTE Prophylaxis
- Antithrombotics at discharge
- Anticoagulation for AF at discharge
- Statin for LDL <100 or ND
- Smoking Cessation Counseling

### Other metrics:

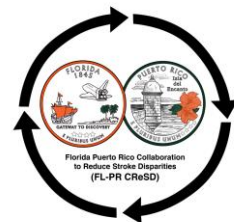
- IV tPA overall
- Door to CT
- Endovascular acute therapy
- In-Hospital Mortality (7-day)
- Ambulatory Status at DC
- mRS at Discharge



# Defect Free Care Race/Ethnicity, 2010-2015



**DFC:** compliance with all eligible metrics amongst: IV tPA (arrival 2 h & treat by 3 h); antithrombotic <2 days; VTE Prophylaxis ; antithrombotics at dc; anticoagulation for AF; statin; smoking cessation counseling



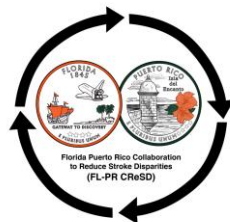
# Acute Treatment Disparities: CT Race-Ethnicity and Sex, 2010-2015

## Adjusted Odds Ratio

*\* Denotes  $p < 0.05$*

| Performance Metric                       | NHB vs.<br>NHW | FL-H vs.<br>NHW | W vs.<br>M   |
|--|----------------|-----------------|--------------|
| CT $\leq$ 25 min                         | <b>0.83*</b>   | 0.96            | <b>0.90*</b> |
| CT $\leq$ 25 min for symptom onset < 8 h | <b>0.85*</b>   | 0.93            | <b>0.90*</b> |

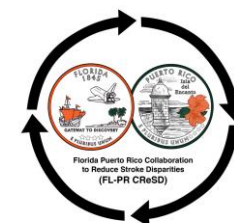
Adjusted for: age, smoker, PMH (HTN, diabetes, dyslipidemia, Afib/flutter, CAD, PVD, TIA/stroke), length of stay, ambulatory status at admission, insurance status, mode of hospital arrival, hospital's academic status, # of beds, yrs in GWTG, NIHSS.



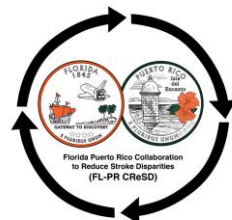
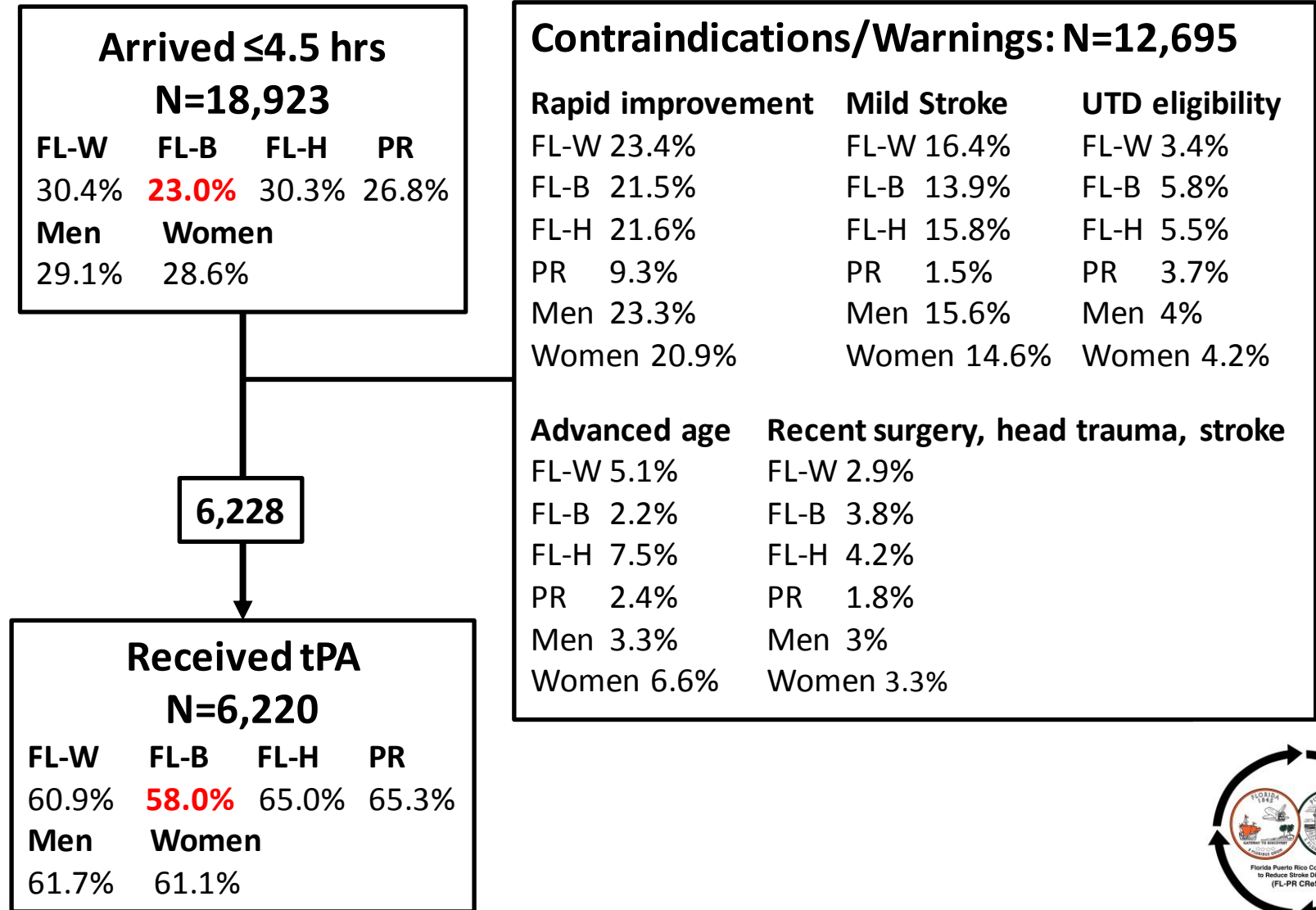
# Overall tPA Administration

## Race/Ethnicity and Sex, 2010-2015

| Time window                              | All<br>N= 65,654 | NH-White<br>n= 41,161 | NH-Black<br>n= 11,784 | FL-Hispanic<br>n= 8,918 | PR-Hispanic<br>n= 3,791 | Men<br>n=33,153 | Women<br>n=32,501 |
|--|------------------|-----------------------|-----------------------|-------------------------|-------------------------|-----------------|-------------------|
| Arrive within 2,<br>treated by 3 hrs     | 89%              | 90%                   | 89%                   | 93%                     | 72%                     | 89%             | 89%               |
| Arrive within 3.5,<br>treated by 4.5 hrs | 79%              | 80%                   | 76%                   | 80%                     | 76%                     | 79%             | 79%               |
| Arrive within 4.5,<br>tPA Administered   | 61%              | 61%                   | 58%                   | 65%                     | 65%                     | 61%             | 62%               |
| Overall treatment<br>amongst IS          | 10%              | 10%                   | 8%                    | 11%                     | 14%                     | 10%             | 10%               |



# IV rtPA Eligibility by race/ethnicity and sex



# Acute Treatment Disparities: IV rtPA Race-Ethnicity and Sex, 2010-2015

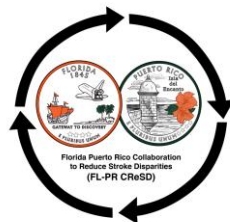
## Adjusted Odds Ratio

\* Denotes  $p < 0.05$

| Performance Metric                              | NHB vs. NHW  | FL-H vs. NHW | W vs. M      |
|---|--------------|--------------|--------------|
| tPA arrive 3.5, treat 4.5                       | <b>0.69*</b> | 0.88         | 0.99         |
| tPA arrive 3.5, treat 4.5 on hours <sup>§</sup> | 0.93         | 0.99         | 0.97         |
| tPA arrive 3.5, treat 4.5 off hours             | <b>0.54*</b> | 0.80         | 1.02         |
| DTN $\leq$ 60 min                               | 0.91         | 1.18         | <b>0.82*</b> |

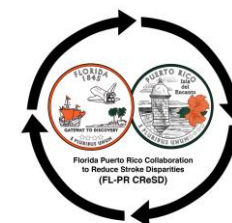
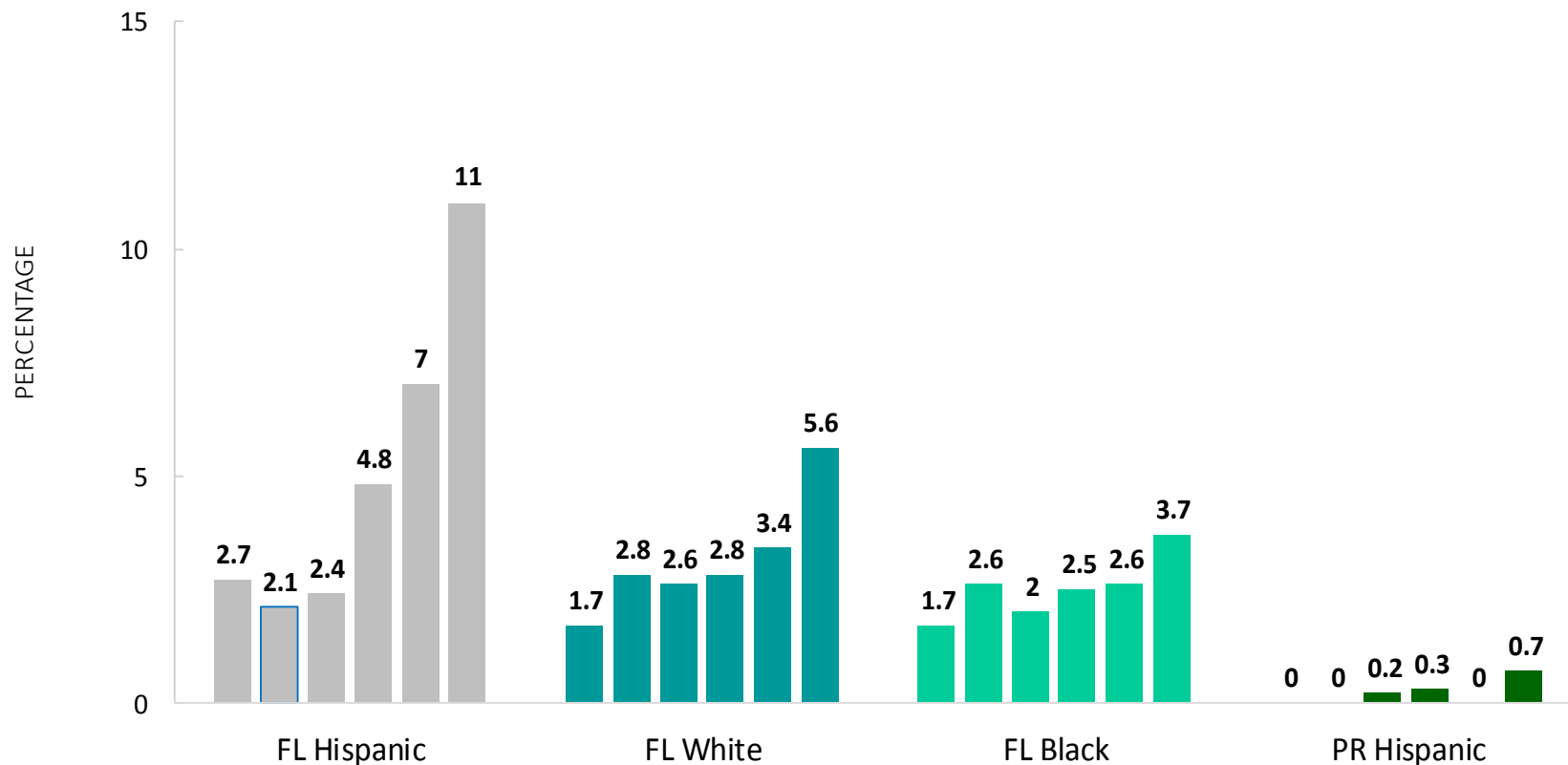
<sup>§</sup> On hours: 7AM-6PM weekdays

Adjusted for: age, smoker, PMH (HTN, diabetes, dyslipidemia, Afib/flutter, CAD, PVD, TIA/stroke), length of stay, ambulatory status at admission, insurance status, mode of hospital arrival, hospital's academic status, # of beds, yrs in GWTG, NIHSS.

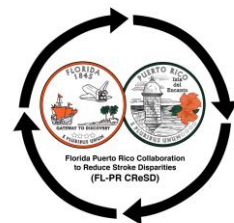
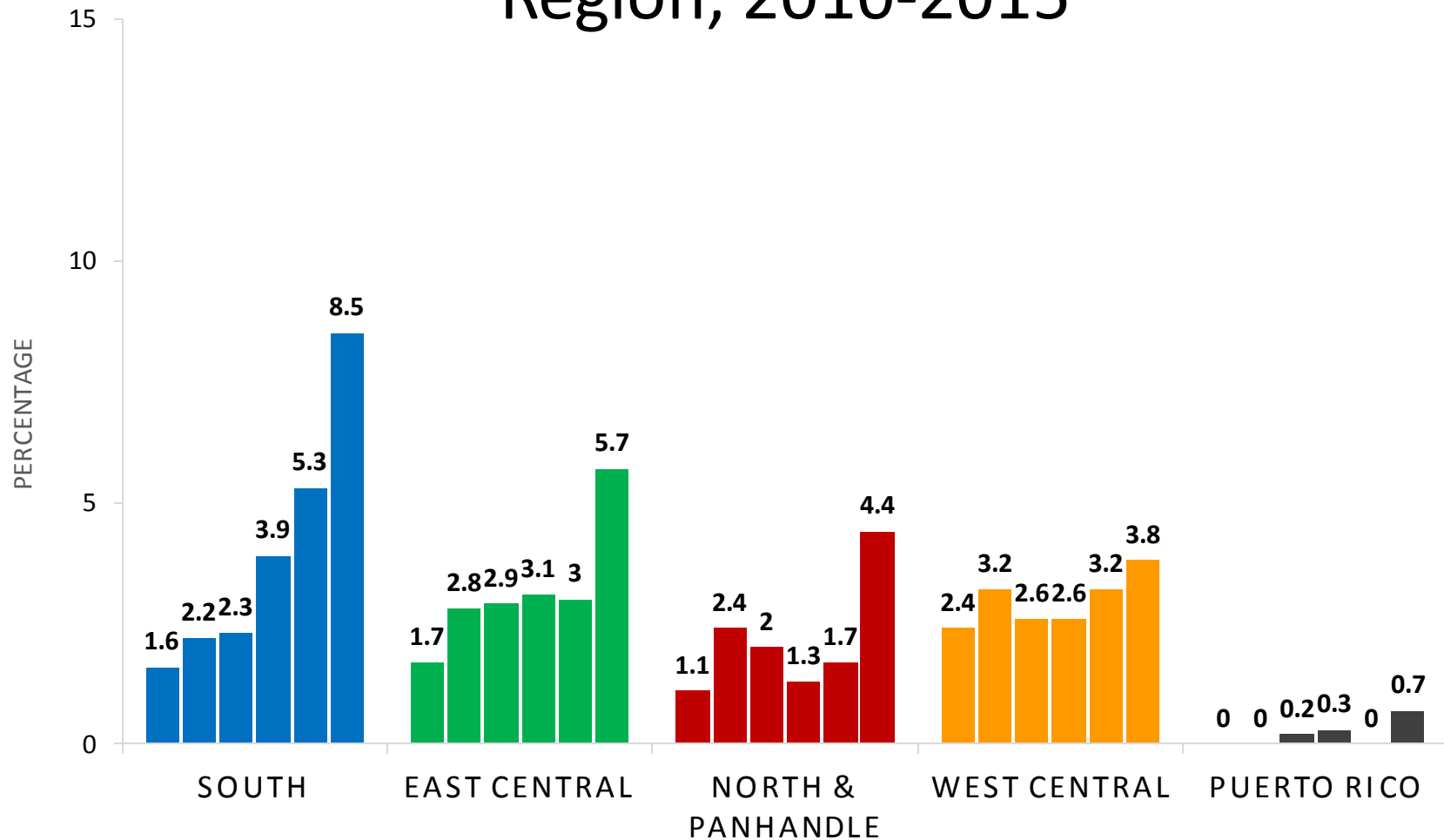


# Endovascular acute ischemic stroke therapy

## Race/Ethnicity, 2010-2015



# Endovascular acute ischemic stroke therapy Region, 2010-2015





# Outcomes

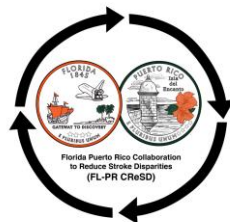
## Race-Ethnicity and Sex, 2010-2015

### Adjusted Odds Ratio

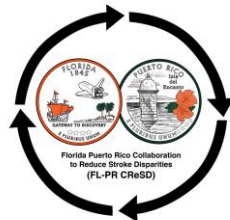
*\* Denotes  $p < 0.05$*

| Performance Metric           | NHB vs. NHW  | FL-H vs. NHW | W vs. M      |
|------------------------------|--------------|--------------|--------------|
| Independent ambulation at DC | <b>0.83*</b> | 0.94         | <b>0.81*</b> |
| mRS 3-6 at discharge         | <b>1.38*</b> | 1.02         | <b>1.20*</b> |
| Home or Rehab discharge      | <b>0.86*</b> | 1.08         | <b>0.86*</b> |
| In house mortality           | <b>0.83*</b> | 0.99         | <b>0.84*</b> |
| Mortality within 7 days      | 0.87         | 0.99         | <b>0.90*</b> |

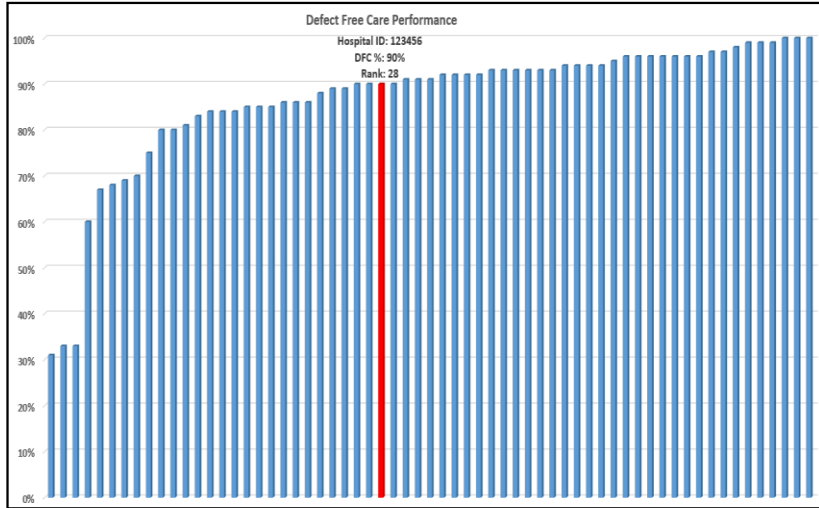
Adjusted for: age, smoker, PMH (HTN, diabetes, dyslipidemia, Afib/flutter, CAD, PVD, TIA/stroke), length of stay, ambulatory, status at admission, insurance status, mode of hospital arrival, hospital's academic status, # of beds, yrs in GWTG, NIHSS.



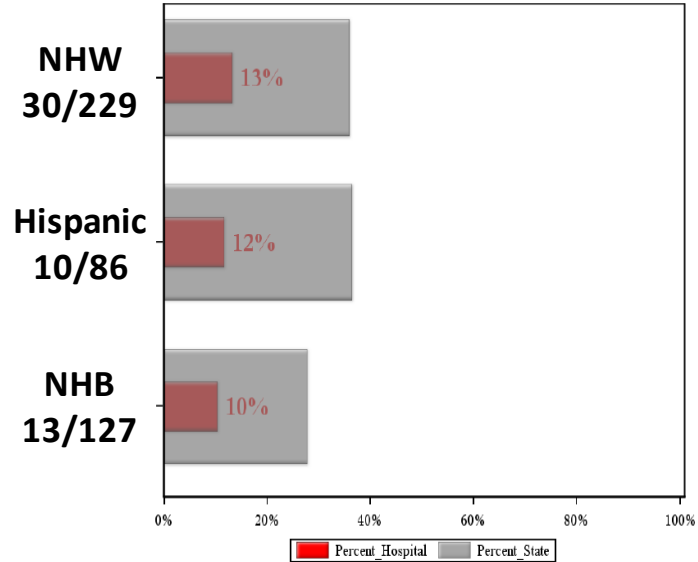
# Interventions to decrease Disparities in the Florida-Puerto Rico Stroke Registry



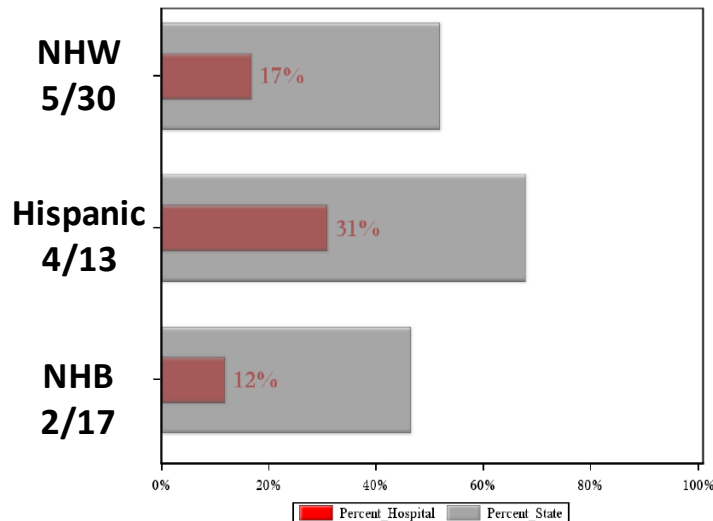
# FL-PR CReSD Disparities Dashboard



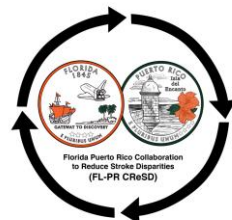
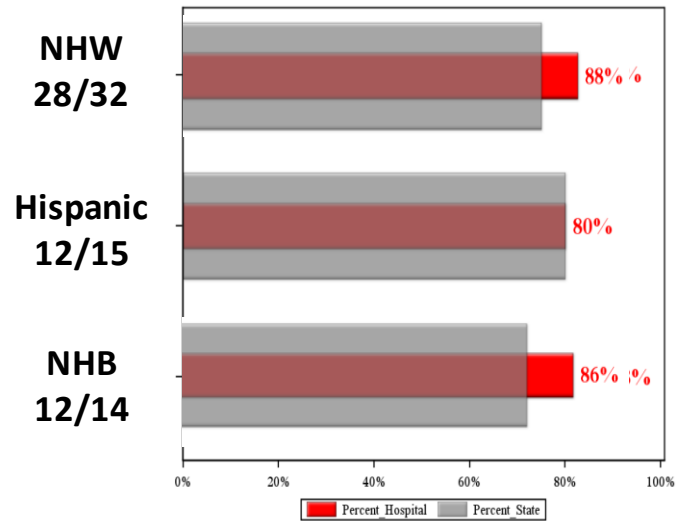
## Door To CT W/in 25 Min (All Strokes)



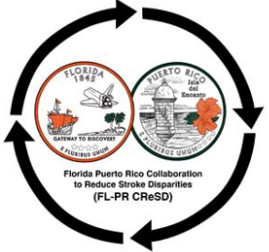
## Door To Needle W/in 60 Min



## rTPA arrive by 3.5 hr, treat by 4.5 hr



# Door To Needle Time Interactive Module



**Achieving Door-To-Needle Target**  
Evidence-Based Interventions

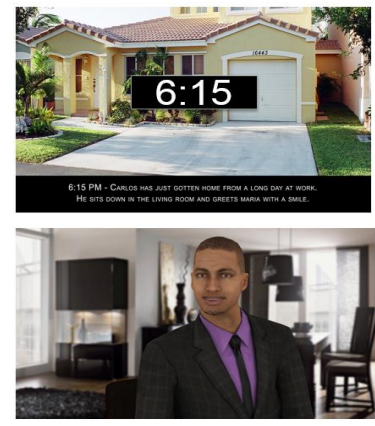
**TRAINING MODULE 1**

**6:15** ➔ **6:55**

Florida-Puerto Rico Collaboration  
to Reduce Stroke Disparities

## SCENE 1

Carlos and Maria at home and the story begins with the acute event.



Carlos has just gotten home from a long day at work. He greets Maria with a smile.



- Note:
1. Each scene will be narrated and can have subtitles in Spanish.
  2. The avatars can be changed to African-American and can be an older age.

## SCENE 2

Paramedic in ambulance assessing Carlos for stroke; driver calling hospital.


Ambulance driver en-route to hospital. Paramedic says his FAST exam of the patient is positive for possible stroke.

Doctor in ED gets call from ambulance that they are en-route with a possible stroke patient.

1 Which hospital do we transport this patient?  
A. Nearest hospital  
B. Most appropriate hospital

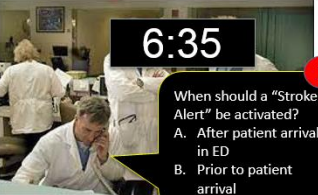
2 APPROPRIATE ANSWER  
A. Here is correct answer and why

3 CORRECT ANSWER  
B. Yes, this is correct and why.

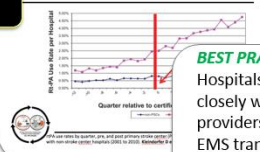


6:35

1 When should a "Stroke Alert" be activated?  
A. After patient arrival in ED  
B. Prior to patient arrival



Show data of efficacy on stroke centers vs. non stroke centers and offer "best practice."



4 **BEST PRACTICE**  
Hospitals work closely with their EMS providers to review their EMS transport and pre-notification of the ED policies.

2 APPROPRIATE ANSWER  
A. Here is correct answer and why

3 CORRECT ANSWER  
B. Yes, this is correct and why

- BEST PRACTICE**  
Stroke Alert goes to:  
• ED physician  
• Neurologist  
• Stroke Nurse  
• Fellow/Resident  
• Radiology  
• Lab  
• Registration/Placement

## SCENE 4

Patient arrives in CT scanner area.



2 CORRECT ANSWER  
A. Here is correct answer and why

APPROPRIATE ANSWER  
B. Here is correct answer and why

CORRECT ANSWER  
C. Yes, this is correct and why.

1 Patient's glucose is normal, has no prior history of anticoagulant use. Should we go forward with rt-PA without the Radiologist read and the other labs?  
A. Bring pharma box to CT scanner and begin rt-PA  
B. Take patient to ED bed and wait for other labs and Radiologist read  
C. Take patient to ED bed and begin rt-PA

3 **LEADING PRACTICE**  
Stroke teams accompany patient to CT, obtain history, get labs, view CT real-time and make rt-PA decision. Shortest DTN times would be achieved by beginning administration of rt-PA in the CT area.



Stroke team member is on phone in CT with patient's family.



Physician and nurse look at CT image as it is completed, discuss labs, patient history.



Home

About

Program Components

↳ Administration

↳ Biostatistics and Data Management

↳ Research/ Training Education Program

↳ Florida Puerto Rico Stroke Registry

Partners

FL-PR Stroke Registry Participants

Committees

FL-PR CReSD CITI Training Modules

↳ RETP Stroke Disparities Video

Program Components : Research/ Training Education Program

## Research/Training and Education Program



The overall goal of the Research Education and Training Plan (Core B) is to train a broad spectrum of stakeholders in the skills and strategies needed to enhance stroke disparities research and decrease stroke disparities in the African American and Hispanic communities.

Evidence-based disparities training will focus on raising awareness and empowering medical providers, research personnel, and healthcare trainees involved in the care of stroke cases or investigating stroke or vascular disease in South Florida and Puerto Rico.

The overarching aim of Core B is to produce a scalable educational tool that can be expanded across the United States. Some specific aims include:

- Educating healthcare professionals in South Florida and Puerto Rico to positively impact stroke risk factor control and reduce stroke disparities.
- Training healthcare providers in
  - a) understanding the causes and consequences of health disparities, and
  - b) stroke prevention strategies with a bilingual curriculum.
- Providing primary care providers in South Florida and Puerto Rico with the tools to implement evidence-based measures to reduce stroke disparities for

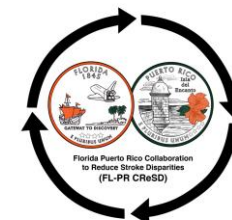
## Program Components

Administration

Biostatistics and Data Management

Research/ Training Education Program

Florida Puerto Rico Stroke Registry



# FL-PR CReSD: Future Plans

- Regional analyses
- CMS-matched data for longer term outcomes
- EMS-matched data across Florida for pre-hospital covariates
- Education Interventions and trend analyses
- Advocacy

