

# Implementing H2H in the VA Health Care System

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# Presenter Disclosure Information

- We will not discuss off label use or investigational use in my presentation
- We have no financial relationships to disclose

# Outline

Background on Heart Failure in the VA

VA's interest in H2H

Heart Failure Network

Randomized trial of encouraging H2H  
enrollment

Which hospitals enrolled?

What did they do?

Was there an impact of H2H on outcome?

# Background on U.S. Heart Failure

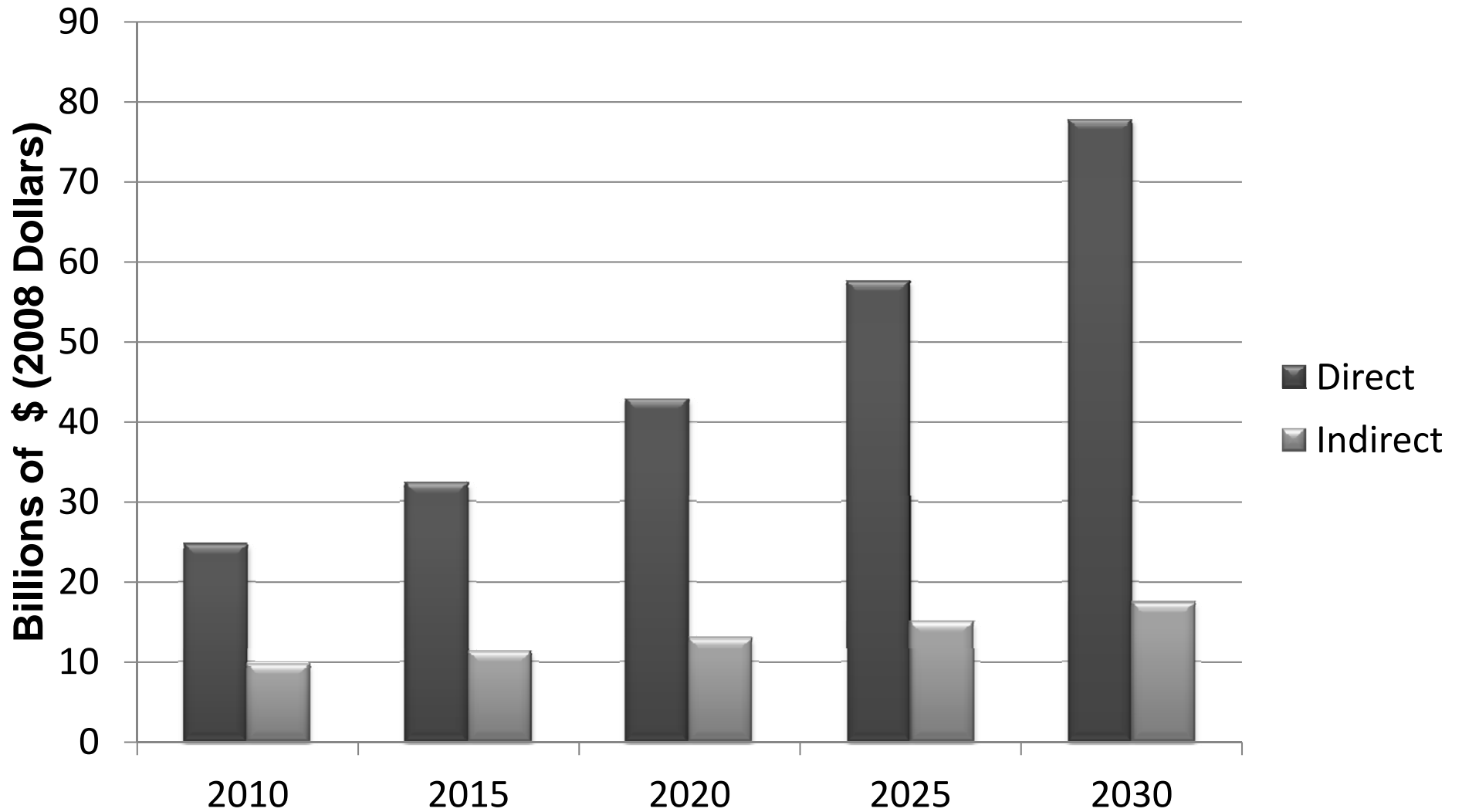
<b>Population Group</b>	<b>Prevalence</b>	<b>Incidence</b>	<b>Mortality</b>	<b>Hospital Discharges</b>	<b>Cost</b>
Total population	5,300,000	660,000	284,965	1,084,000	\$34.8 billion

VA prevalence near 140,000 or 2.6%

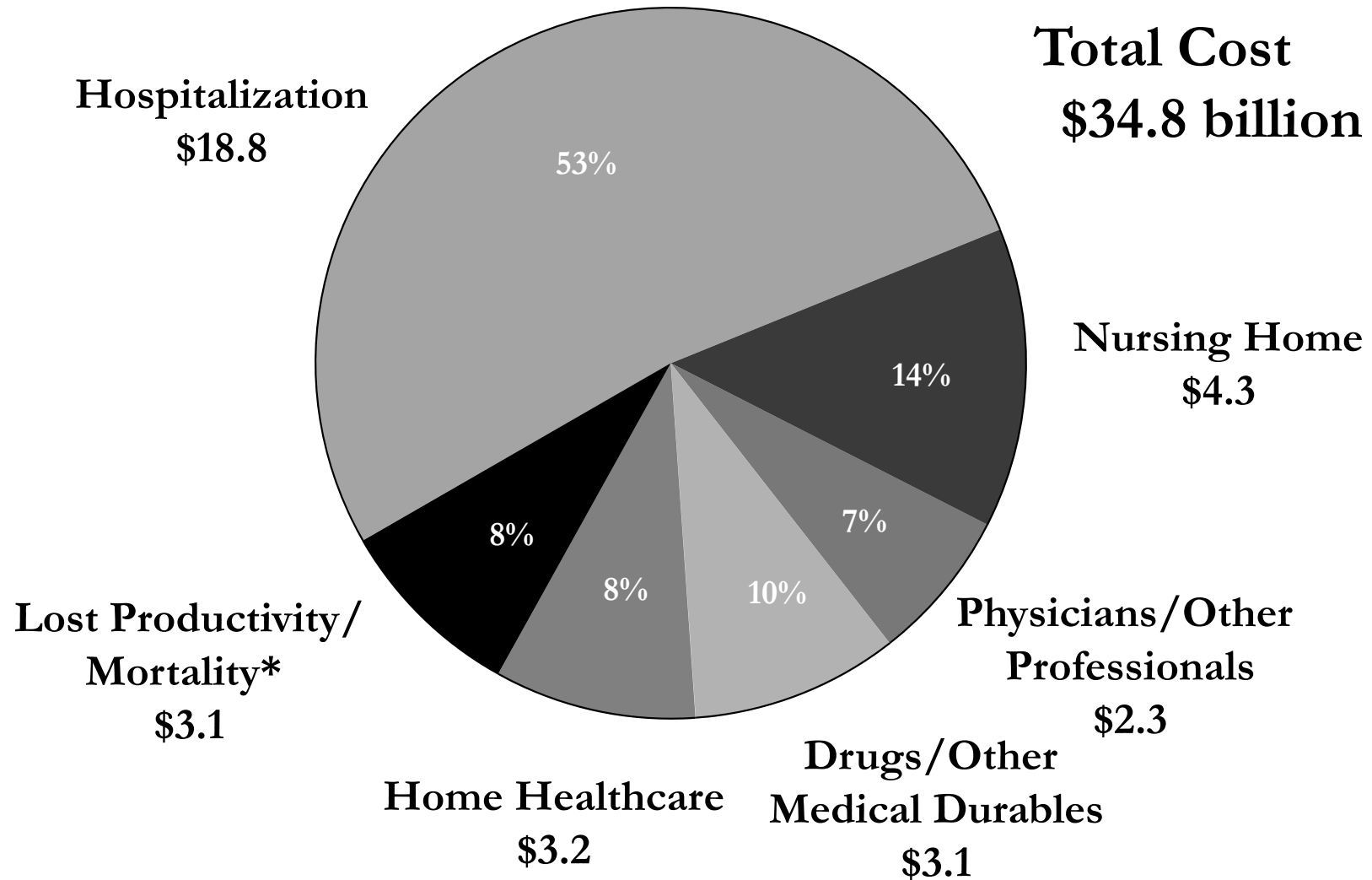
<sup>1</sup>American Heart Association. *2008 Heart and Stroke Statistical Update*. Dallas, TX: American Heart Association; 2008.

<sup>2</sup>Hunt SA et al. ACC/AHA guidelines for the evaluation and management of chronic heart failure in the adult. 2001.

# Projected Costs of Heart Failure

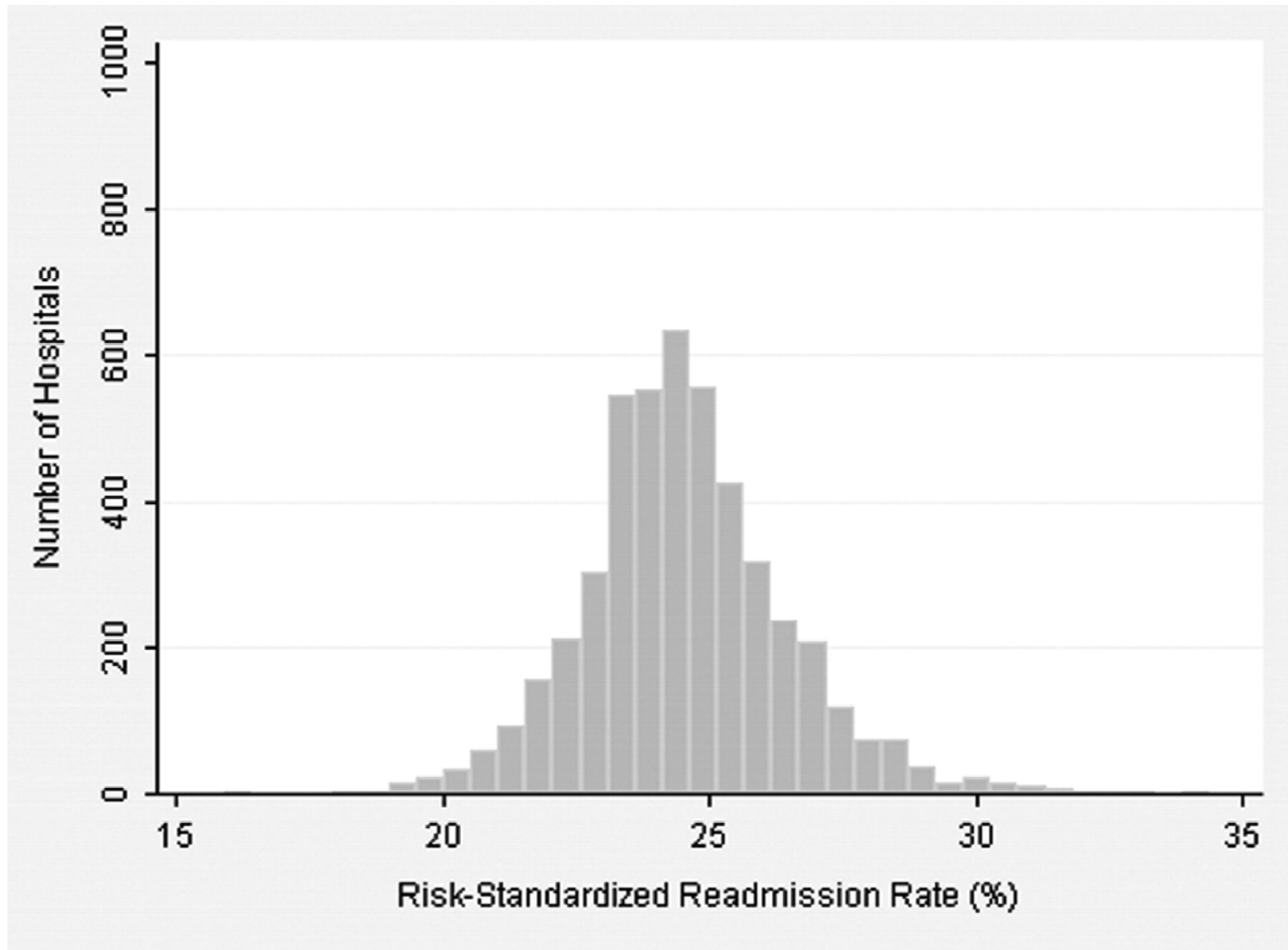


# Estimated Direct and Indirect Costs of HF in US

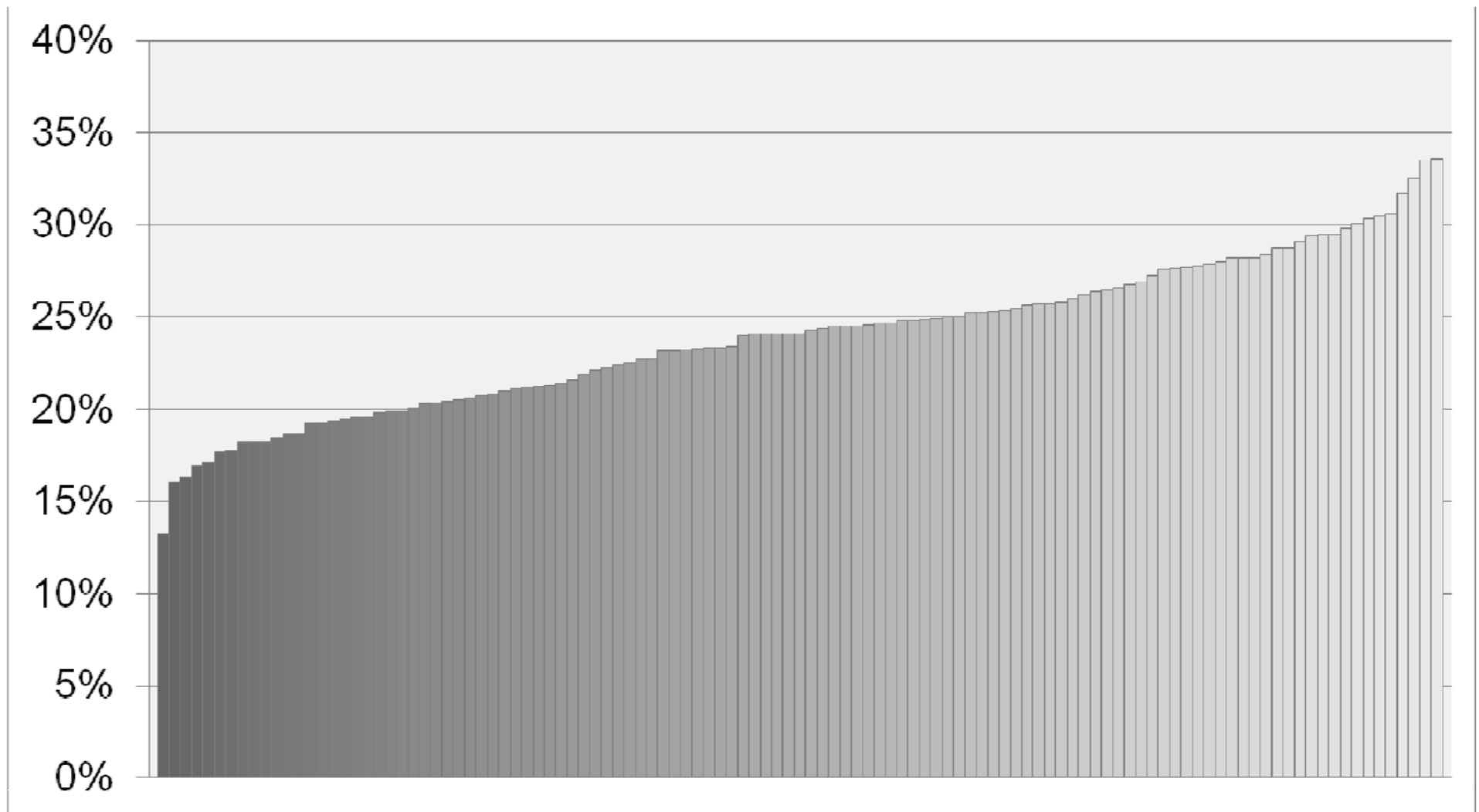


\*Lost future earnings of persons who will die in 2008, discounted by 3% AHA. *Heart Disease and Stroke Statistics—2008 Update*

# Heart failure 30-day Risk-Standardized Readmission Rate Distribution



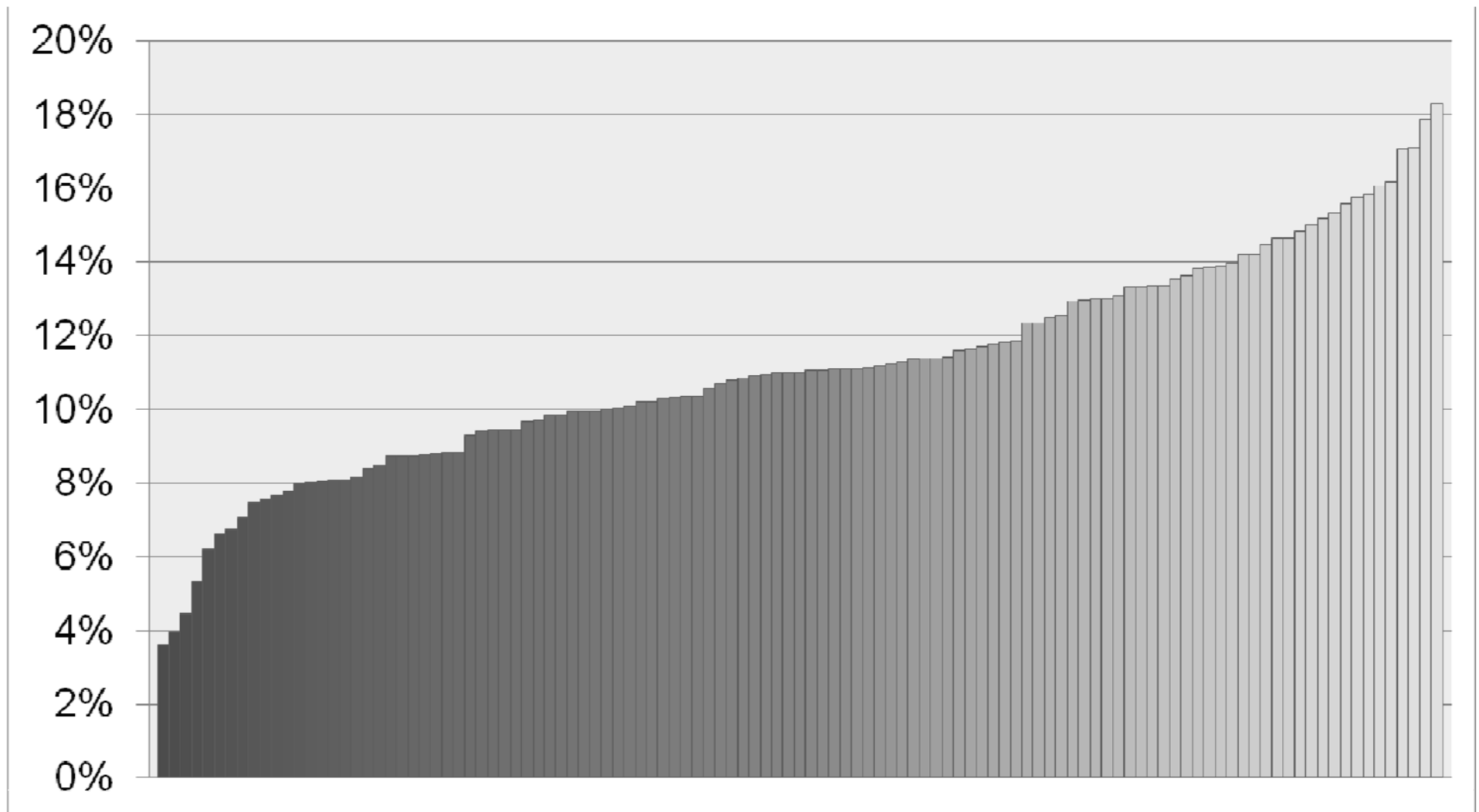
# 30 Readmissions (All Cause) Distribution for VA Facilities



Excludes Facilities with < 100 HF discharges over 2 years.



# 30 Readmissions (HF Principal Dx) Distribution for VA Facilities



Excludes Facilities with < 100 HF discharges over 2 years.



*Hospital to Home*



Excellence in Transitions

# **Hospital to Home (H2H): Excellence in Transitions**

# H2H

*Hospital to Home*

**H** INSTITUTE FOR  
HEALTHCARE  
IMPROVEMENT



Excellence in Transitions





*Hospital to Home*



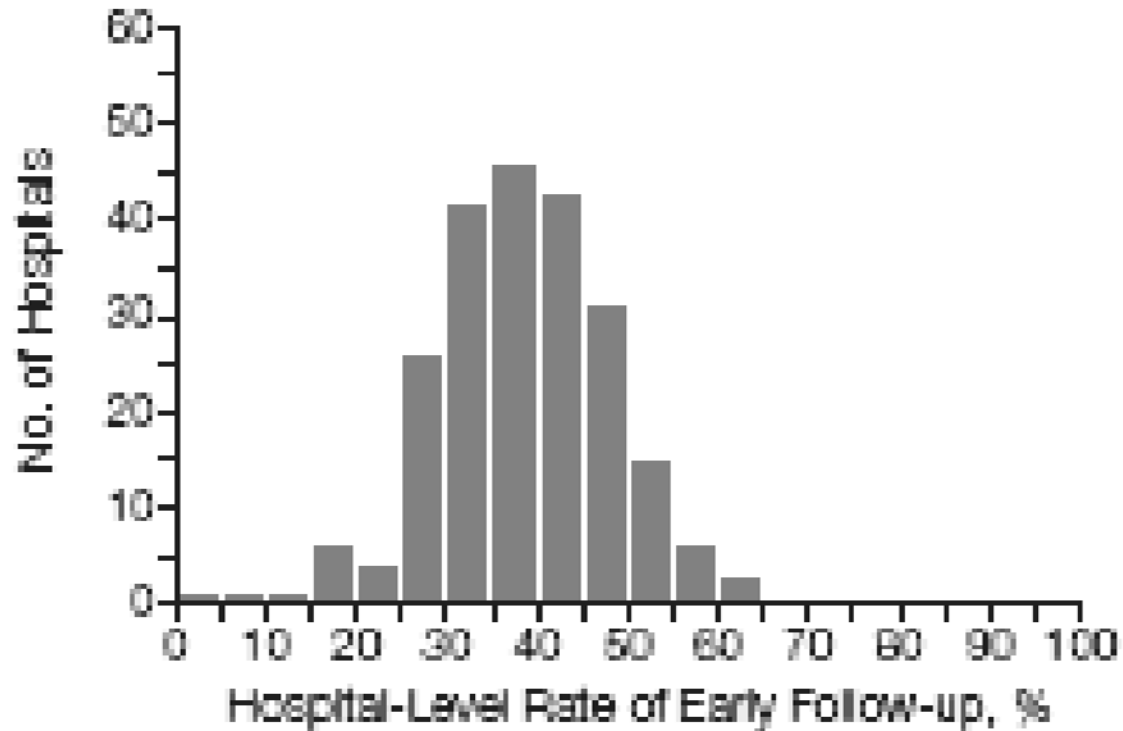
Excellence in Transitions

## H2H Core Concepts

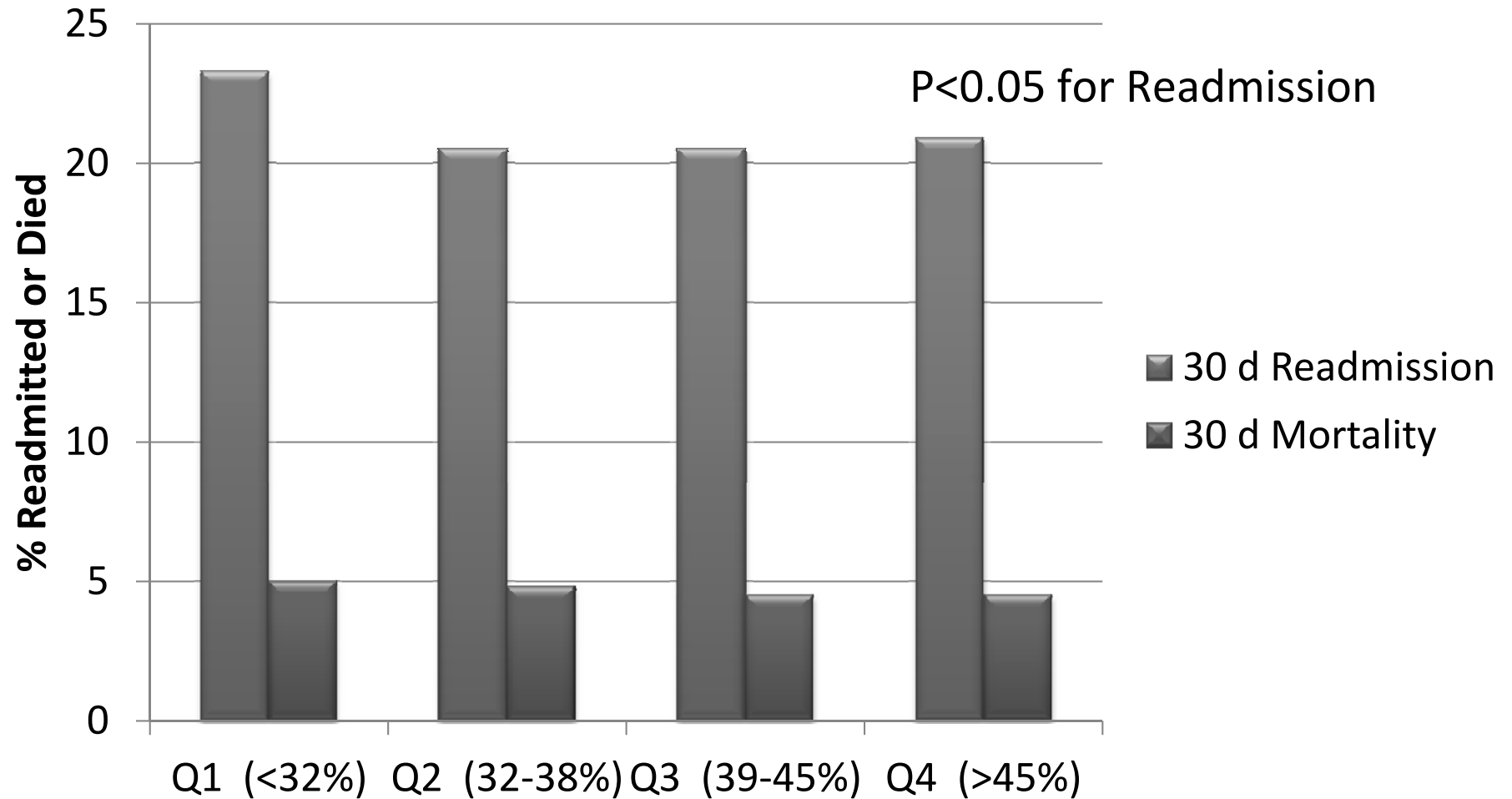
- ***Post-discharge medication management.*** Patients must not only have access to the proper medications, they need to be properly educated on how to use them.
- ***Early follow-up.*** Discharged patients should have a follow-up visit scheduled within a week of discharge, as well as the means of getting to that appointment.
- ***Symptom management.*** Patients must recognize the signs and symptoms that require medical attention, as well as the appropriate person to contact if those signs/symptoms appear.

# Early Follow Up and Readmissions

**Figure.** Variation in Physician Follow-up Within 7 Days After Discharge



# Follow-Up Within 7 Days and Outcome



Quartiles of Hospitals based on % of Patients Seen in 7 days



*Hospital to Home*



Excellence in Transitions

# Goal

**Reduce 30 day, all-cause, risk standardized readmission rates (RSRR) for patients discharged with cardiac conditions by 20% by December 2012.**

# VA and H2H

- VA signed on as a strategic partner
- H2H mentioned on calls to VISN and facility leadership
- CHF QUERI recognized the opportunity to implement H2H through the VA Heart Failure Network.



# CHF QUERI: VA Heart Failure Network

- Identify a group of providers/administrators with an interest in heart failure
  - >800 individuals
  - 150 facilities
  - 1-12 members at each facility
- Web based teleconferences, periodic email new and surveys

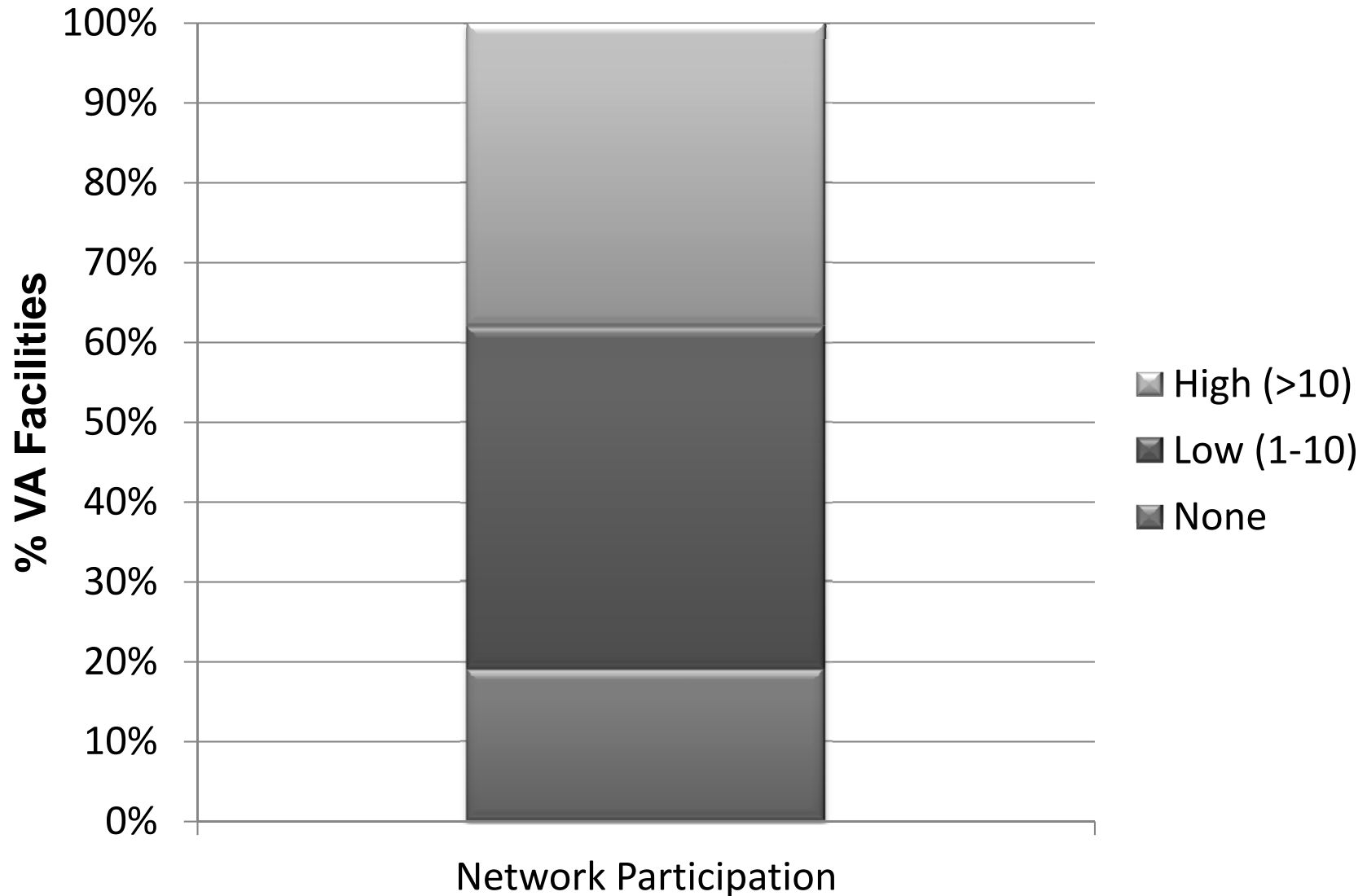
# VA HF Network as a Community of Practice

- Defined by E. Wenger:
  - A group of people who share a craft and/or a profession
- Exists due to interest of members
- Domain: Heart Failure Care and Quality
- Interaction: members learn from each other
- Practice: Members are actively involved in HF practice or quality improvement.

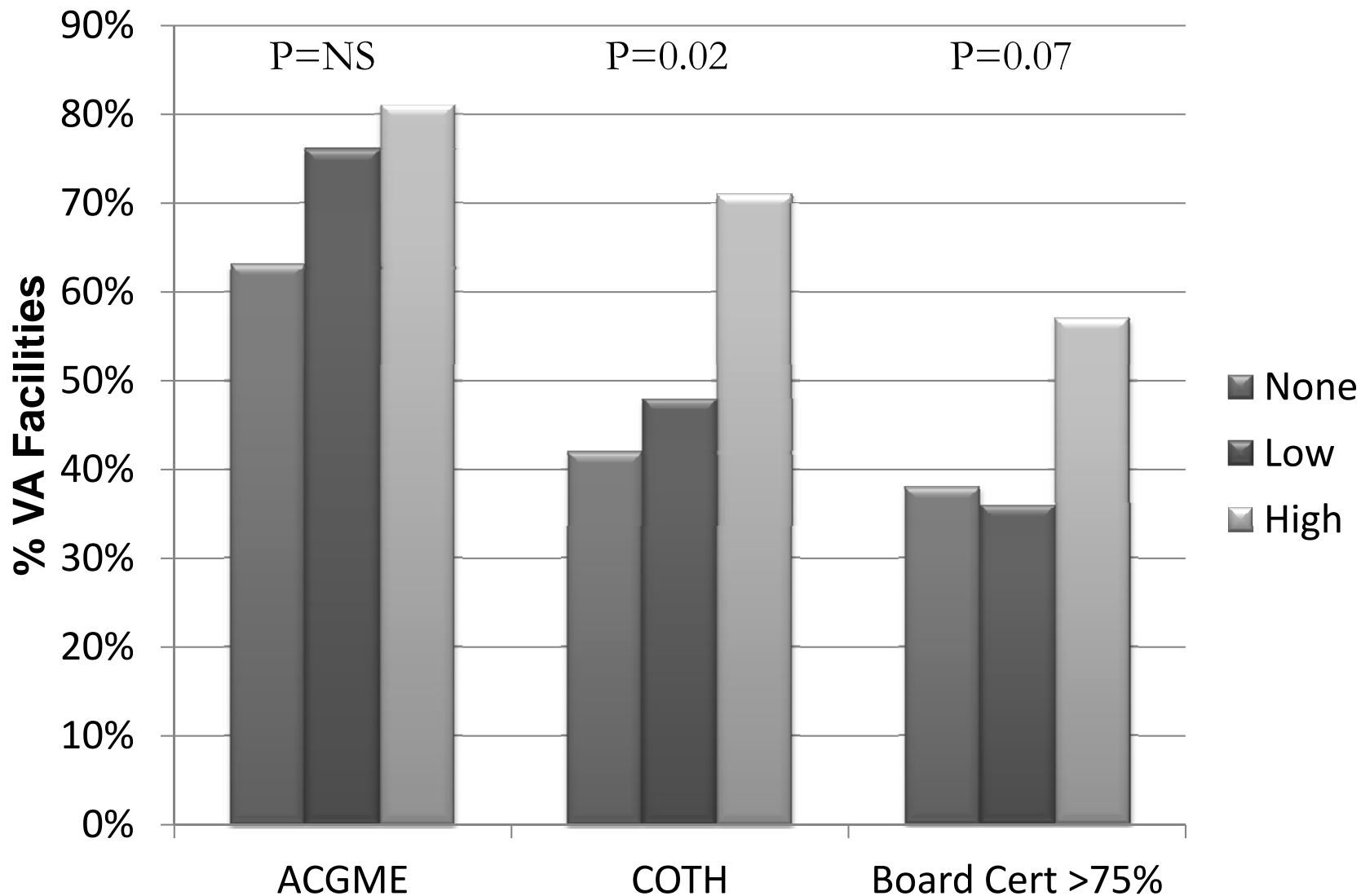
# HF Network Members

<b>PROVIDERS</b>	<b>PERCENT</b>
Physician (Staff) - HF specialists and non-specialists	34
Nurse / Nurse Practitioner	28
Chief of Cardiology	15
VISN Contact (Chief Medical Officer, VISN Quality Mgt Officer, VISN Patient Safety Officer, VISN Care Coordinator, etc.)	8
Chief of Medicine	5
Others (Cardiology Tech, Case Manager, Clinical Care Coordinator, Telehealth Coordinator, Primary Care Manager, etc.)	5
Pharmacist	2
Facility leadership (Associate Chief of Staff, Associate Quality Management Officer, Patient Safety Officer, etc.)	2
Psychologist	1

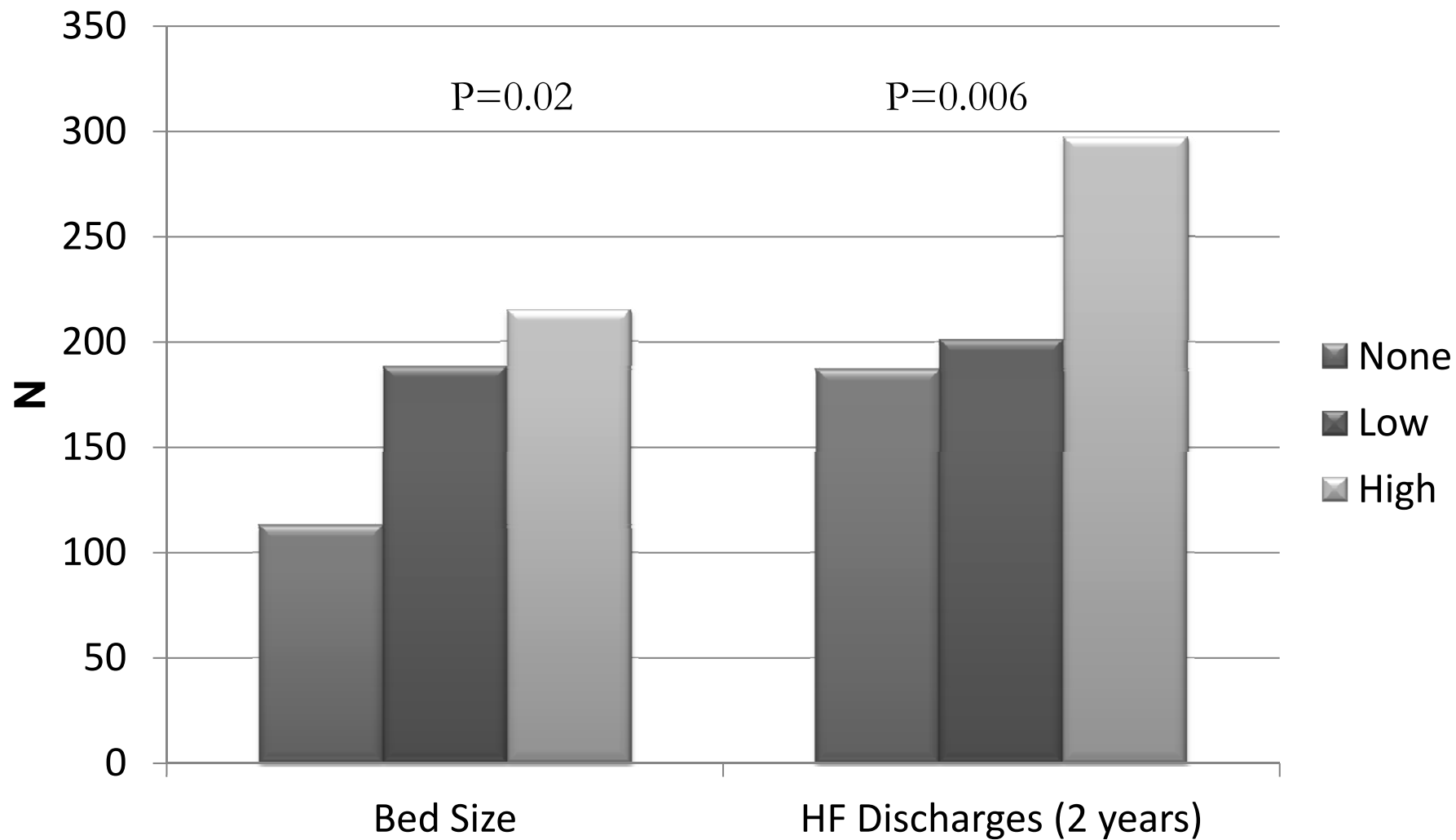
# HF Network Participation By Facility



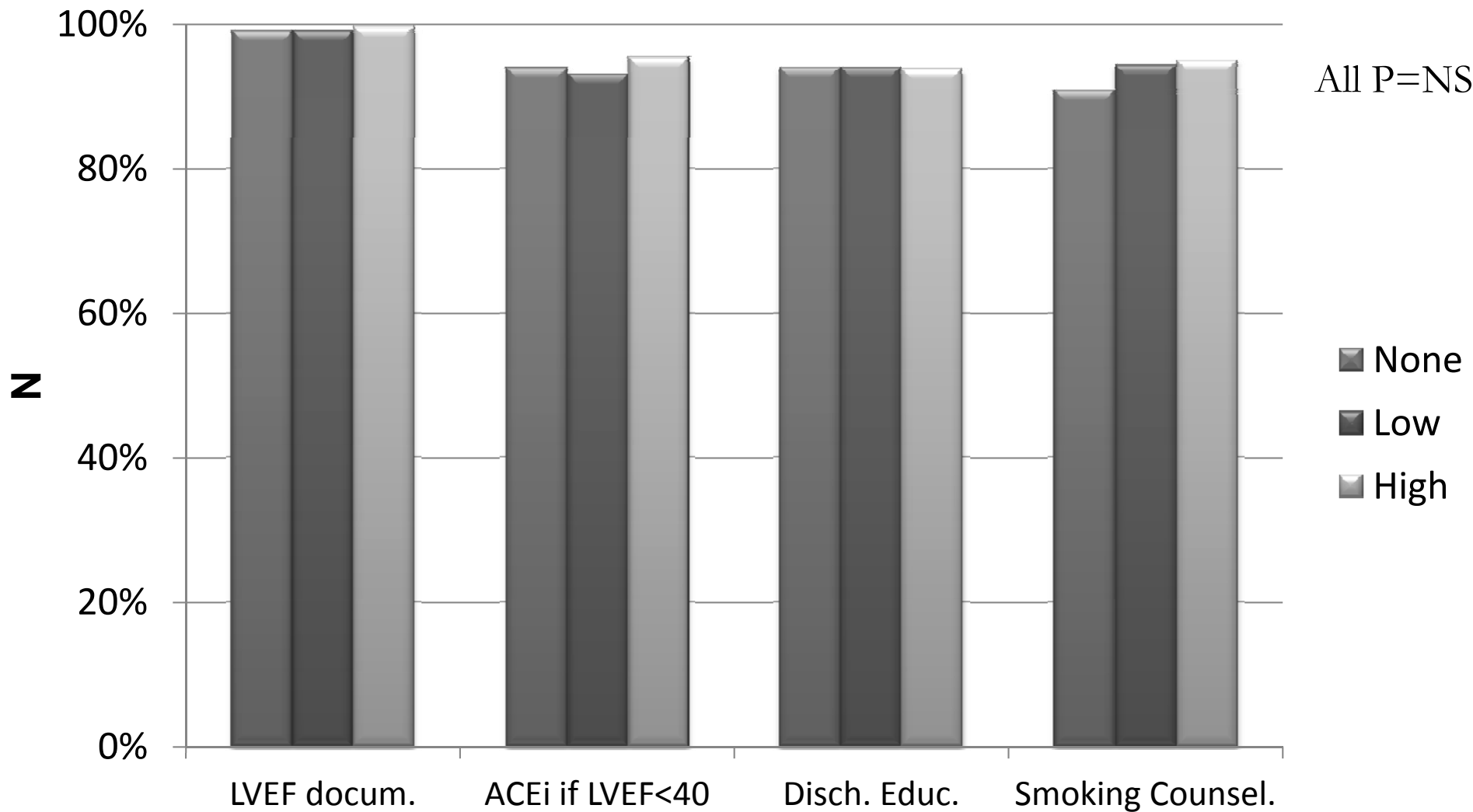
# HF Network Participation and Academic Characteristics



# HF Network Participation and Volume



# HF Network Participation and Quality of Care



# Purpose

- Use the Heart Failure Network to help implement the Hospital to Home Initiative
- Implementation Science Questions:
  - Can CHF QUERI use the VA HF Network to increase enrollment in H2H?
  - What types of programs are implemented?
  - How much did it cost?



# Methods

- Identified 124 facilities with 100+ heart failure discharges over 2 years
- Randomized 1:1 to usual care of heart failure network activation
  - Hospitals first paired by number of beds to balance size

# Usual Care

- H2H presented (5 minutes) on two national VA conference calls
  - Chief of Staff, Director (100+ attendees)
  - Regional (VISN) Chief Medical Officers (one for each of 21 regions in the US)

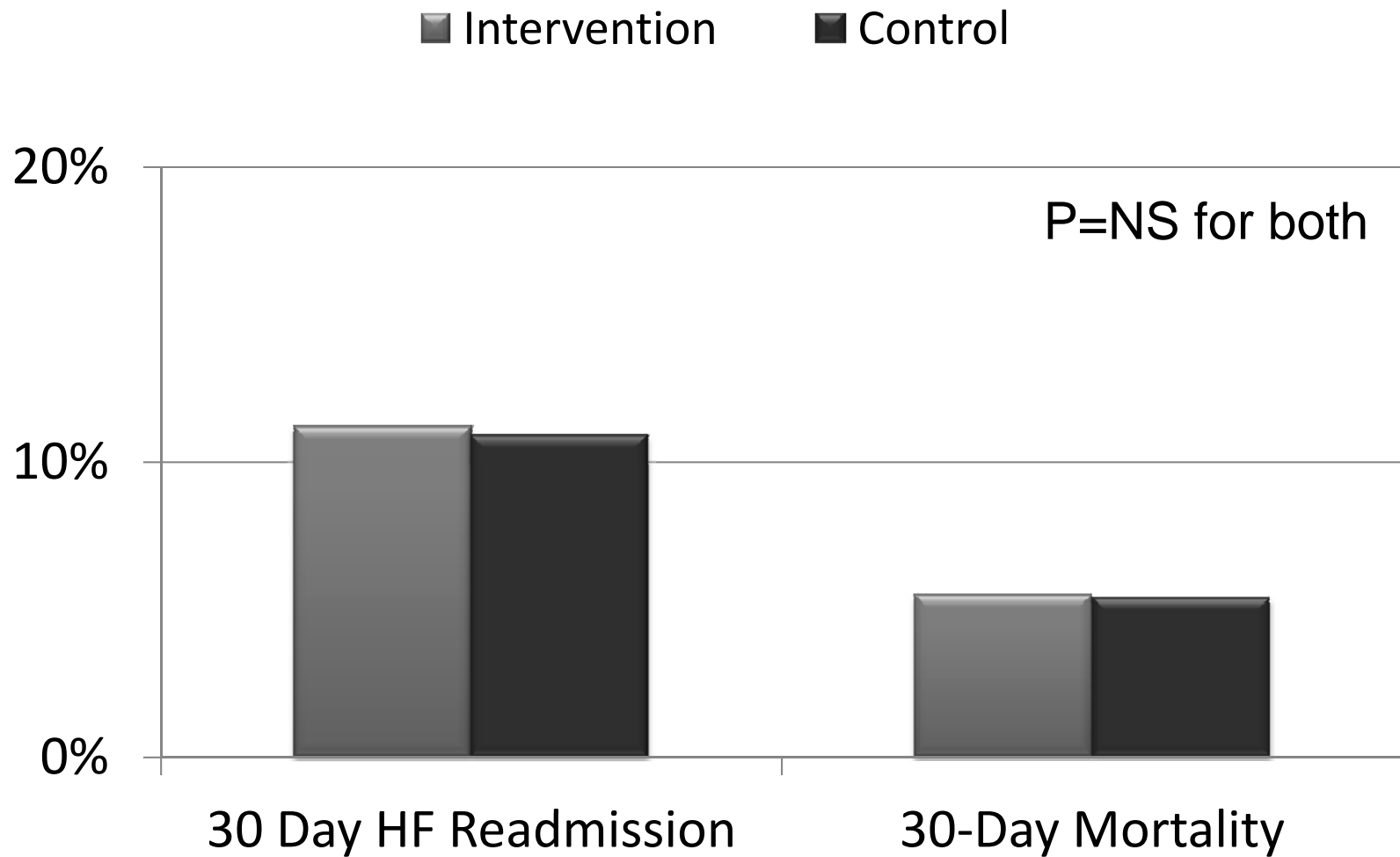
# Intervention (HF Network Activation)

- Emails to HF Network members
- Web based teleconferences announcing H2H (1/2010)
- Follow up survey asking what is planned
- Individual facilities presented progress on the web based teleconferences
- Second survey asking status of projects (both intervention and control)

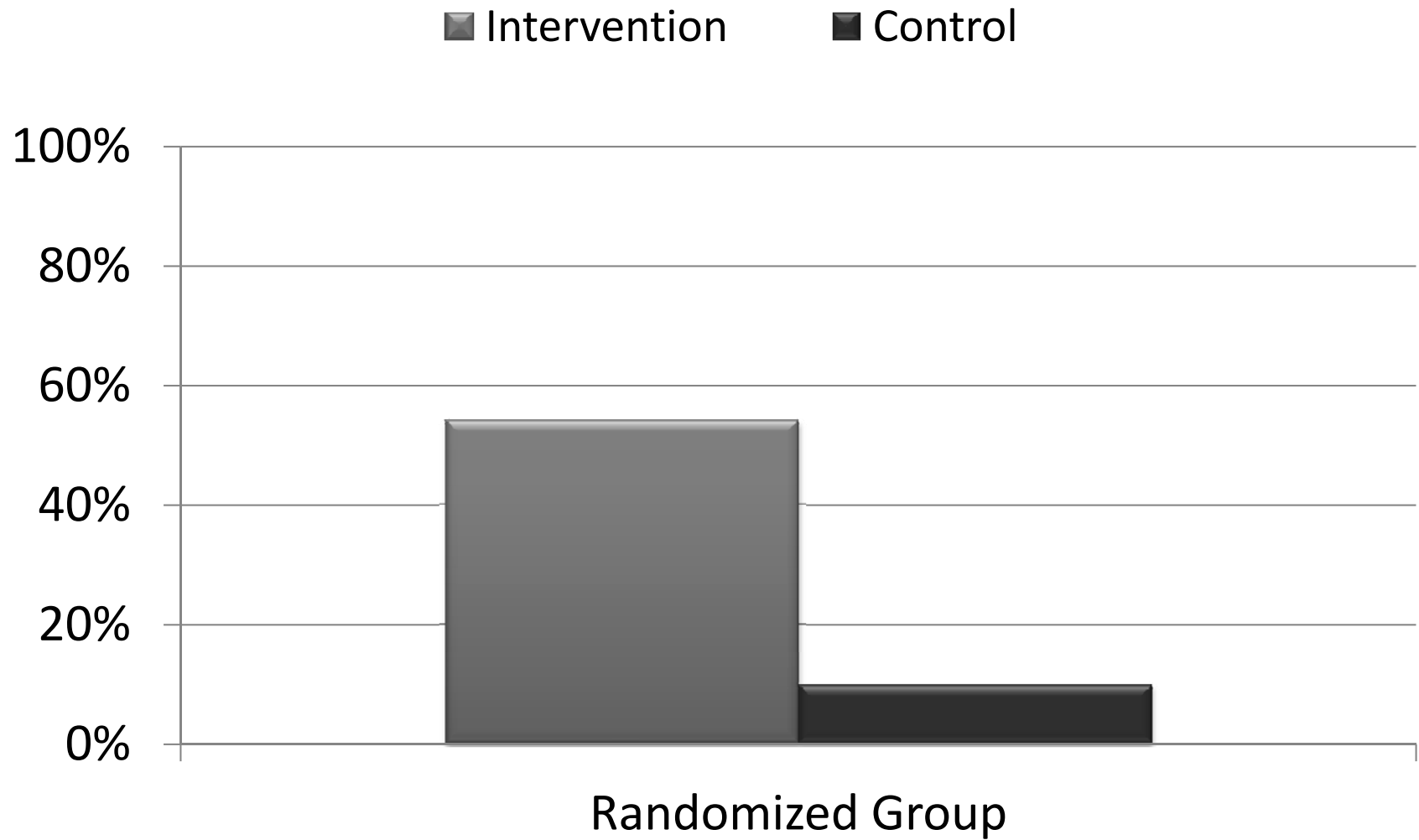
# Outcome

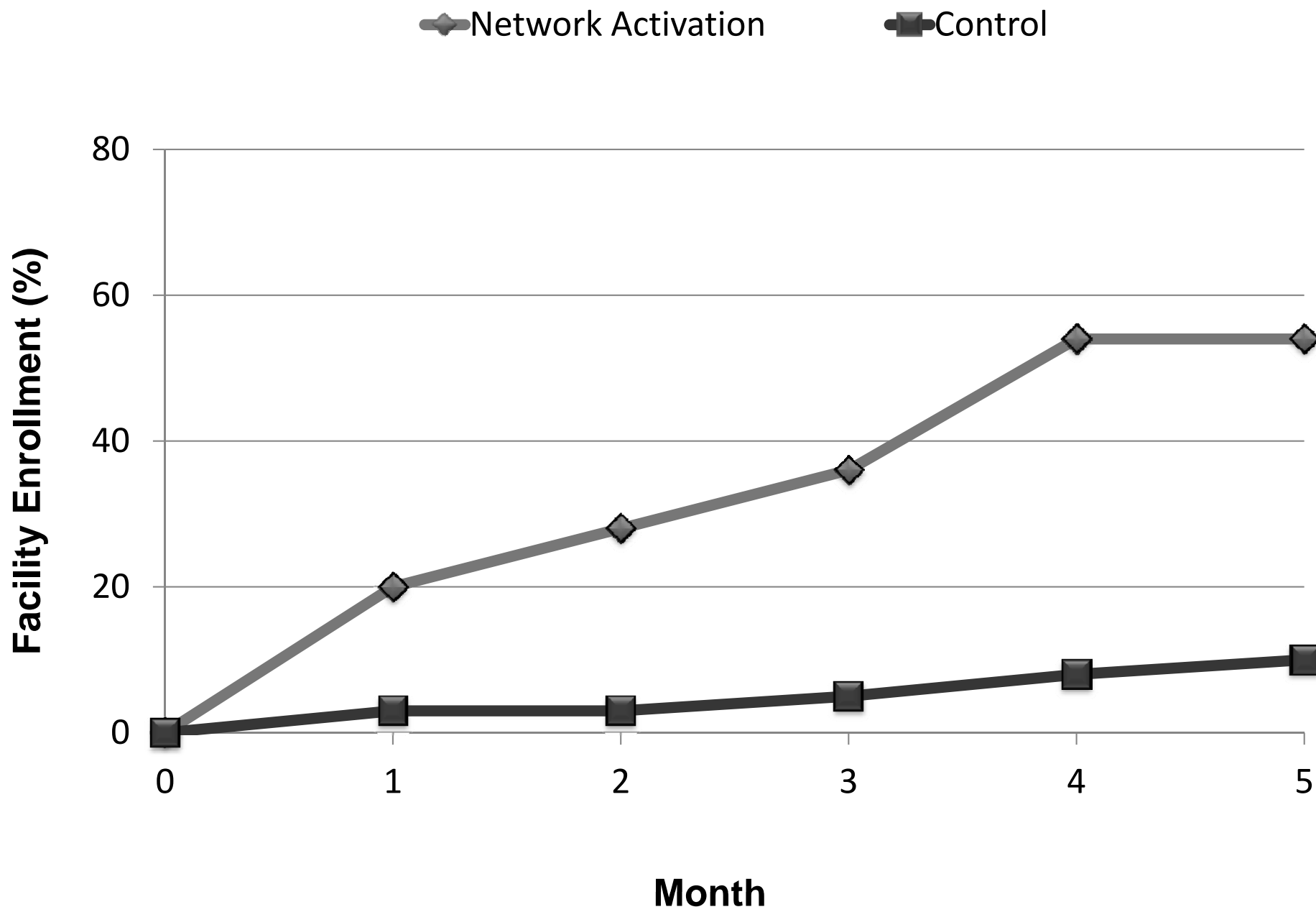
- Primary: Hospital enrollment on ACC/IHI H2H website
- Initiated project in response to H2H
- Any planned or initiated project that addresses H2H goals

# Baseline Outcomes (2008)

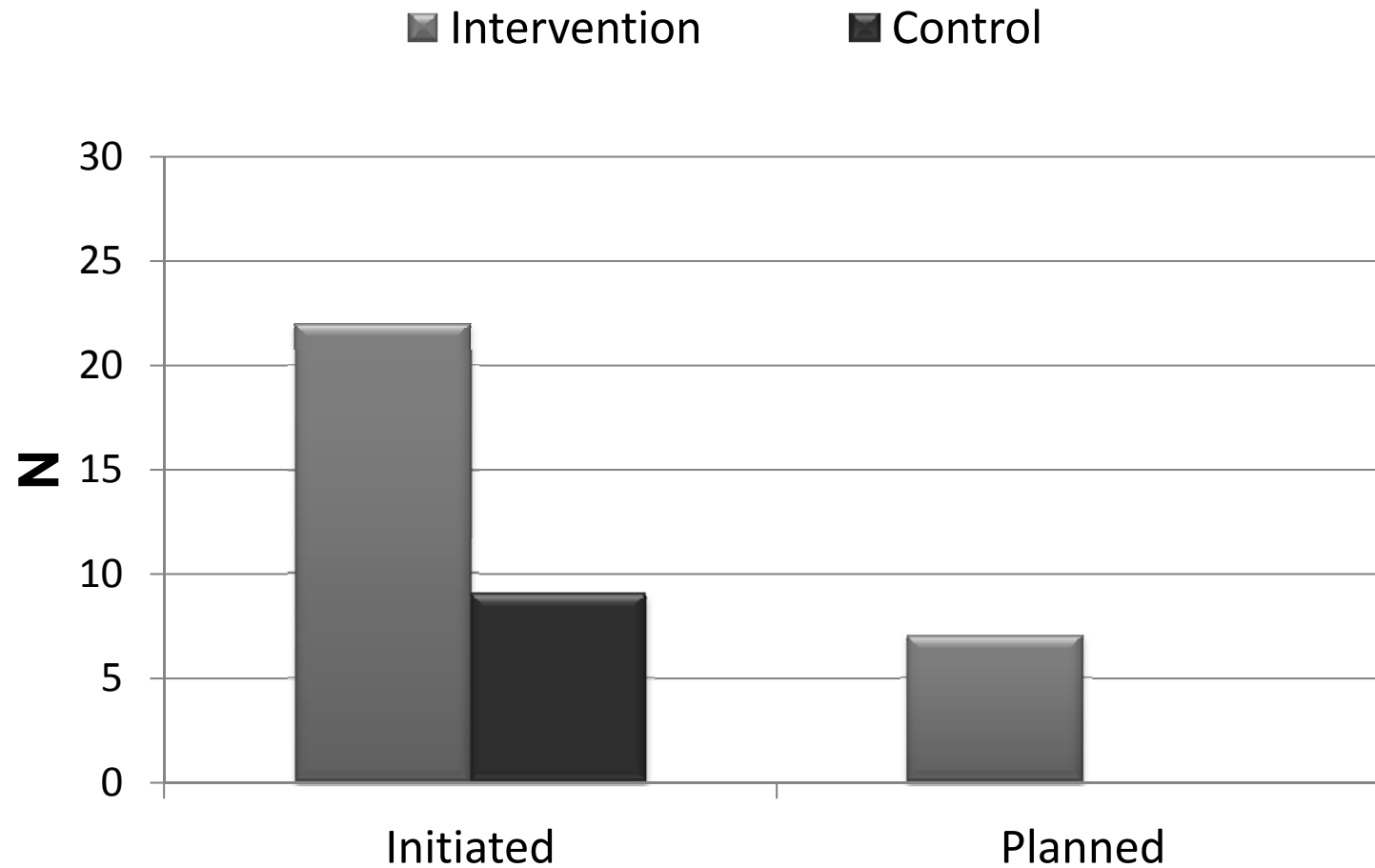


# H2H Enrollment at Six Months



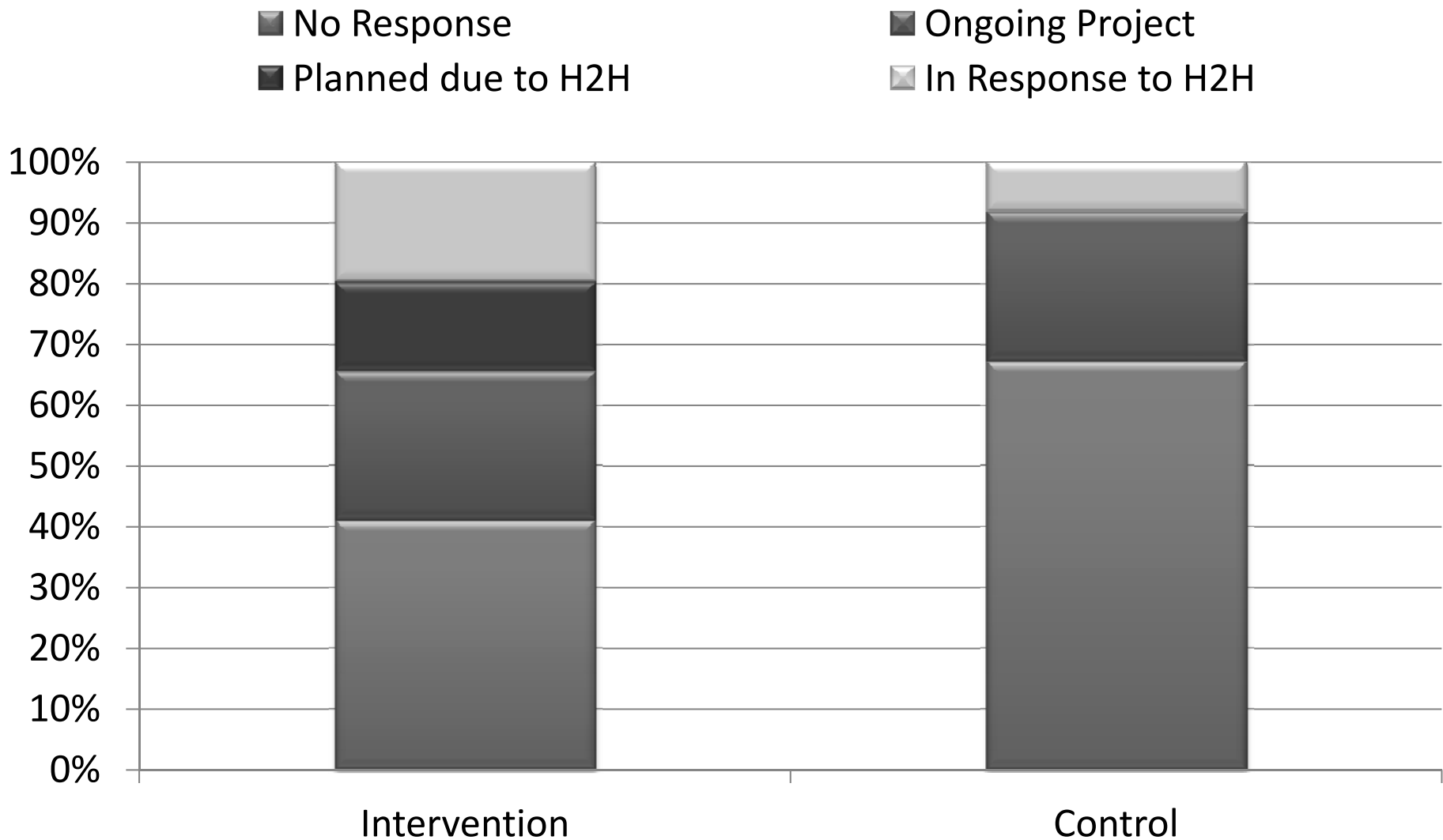


# New Projects Due to H2H

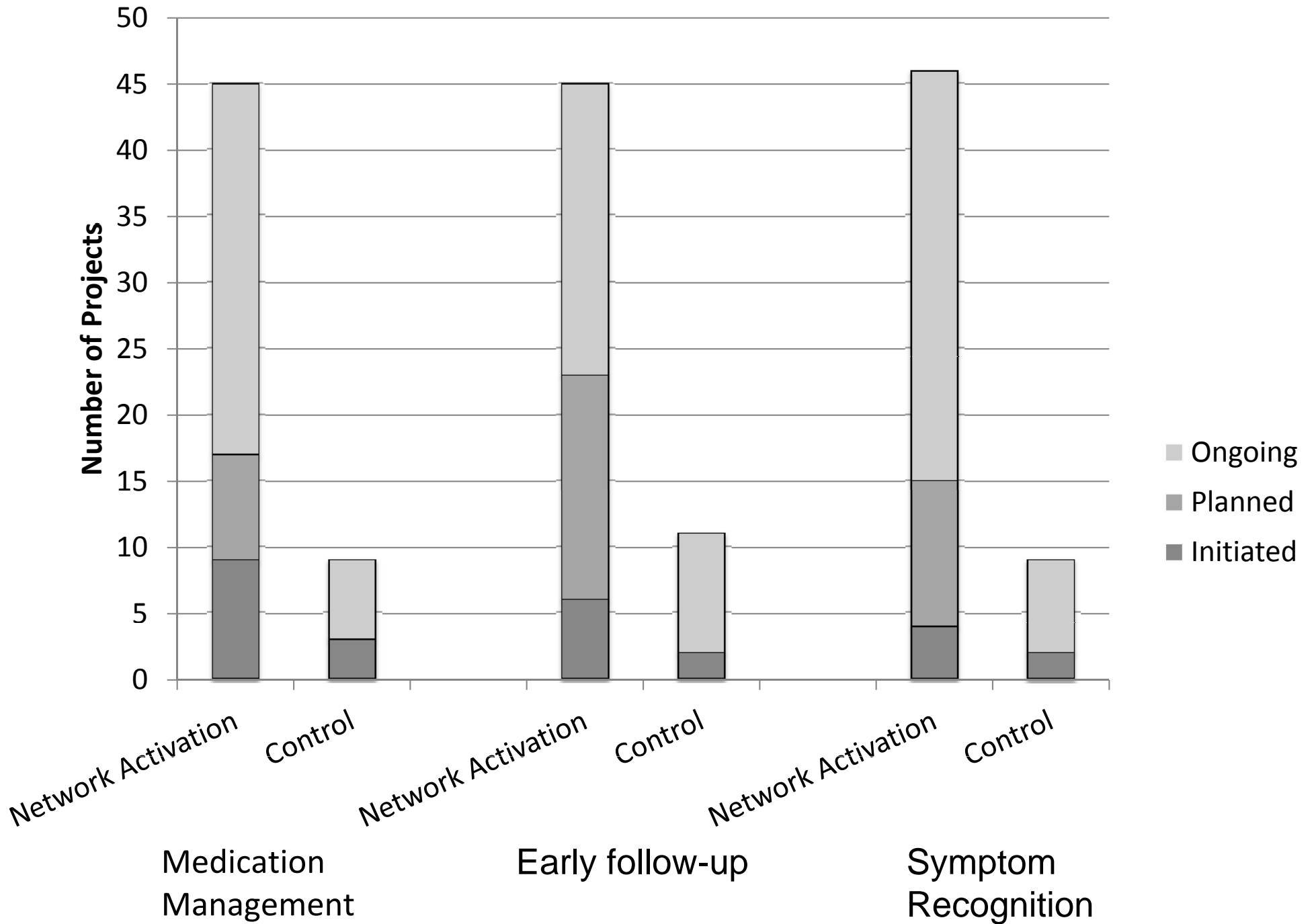




# VA Facilities Plans for H2H



		<b>H2H Enrollment</b>	
<b>Subgroup</b>	<b>N</b>	<b>Network Activation</b>	<b>Control</b>
Tertiary Care Facility	50	73%	13%
Secondary Care Facility	72	40%	8%
COTH Member	60	61%	9%
Non COTH Member	62	48%	10%
Bed Size >=250	56	54%	3%
Bed Size <250	66	54%	16%
U.S. Region # (%)			
Northeast	21	44%	8%
Midwest	32	55%	0%
South	44	54%	9%
West	25	58%	23%



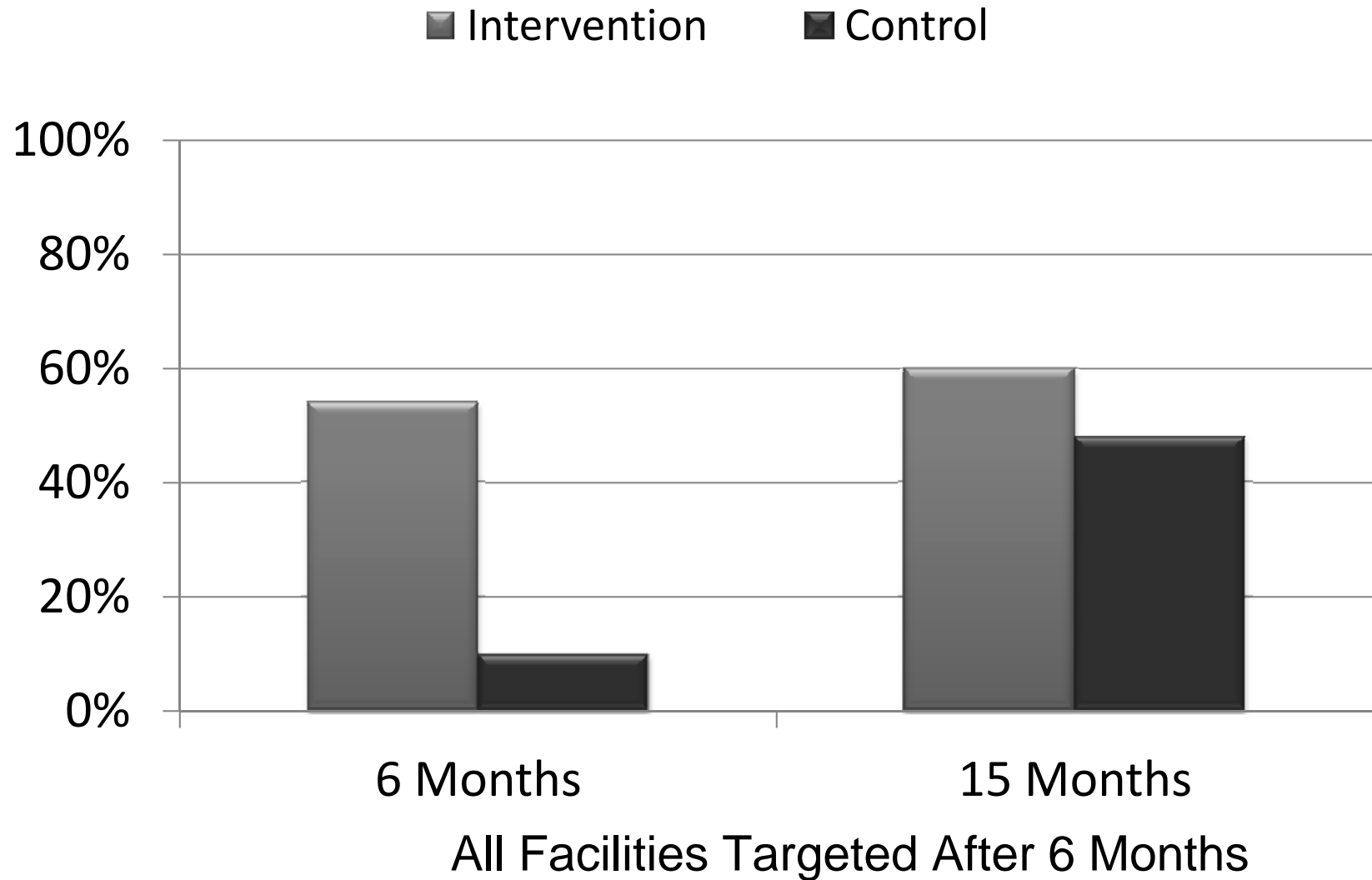
# Cost of H2H

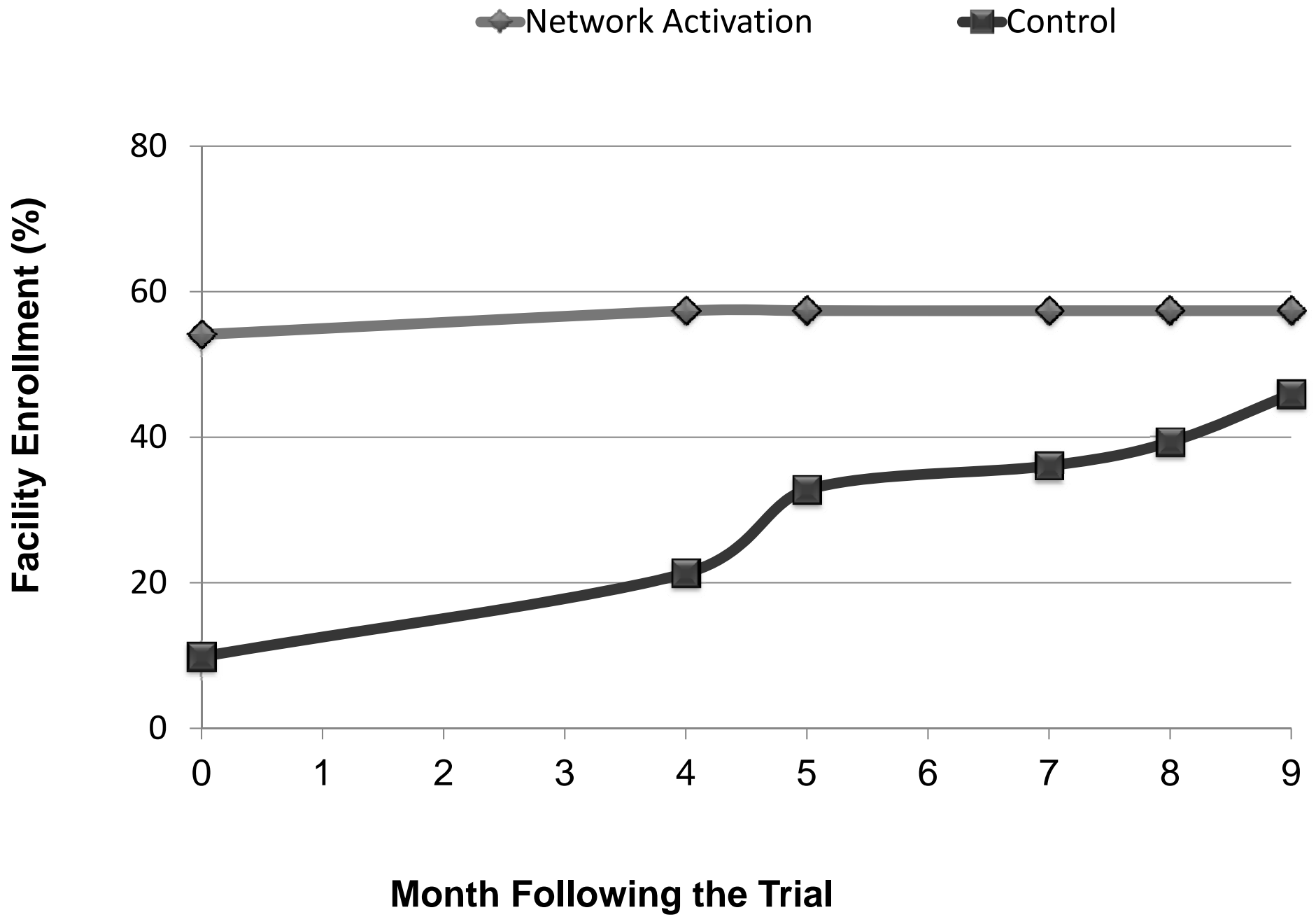
- Cost to CHF QUERI of encouraging enrollment: \$10,200
- Project Costs at Facility
  - Responses at 1 year for 20 of 30 new projects
  - Mean  $19 \pm 18$  hours per week of all staff combined
  - Nursing, Care Coordination were most frequent staff used
  - 85% of facilities provided no staff resources
  - 57% of facilities provided space

# Phase 2

- Control facilities now receive “HF Network Activation
- Similar schedule of web based calls announcing the project, surveys and facility presentations demonstrating success.

# VA H2H Enrollment





# Who Enrolled in H2H?

<b>Subgroup</b>	<b>N</b>	<b>Enrolled in H2H</b>
Tertiary Care Facility	52	75%
Secondary Care Facility	74	58%
COTH Member	62	73%
Non COTH Member	64	58%
Bed Size $\geq 250$	59	68%
Bed Size $< 250$	67	63%
U.S. Region # (%)		
Northeast	22	71%
Midwest	35	63%
South	44	61%
West	25	64%

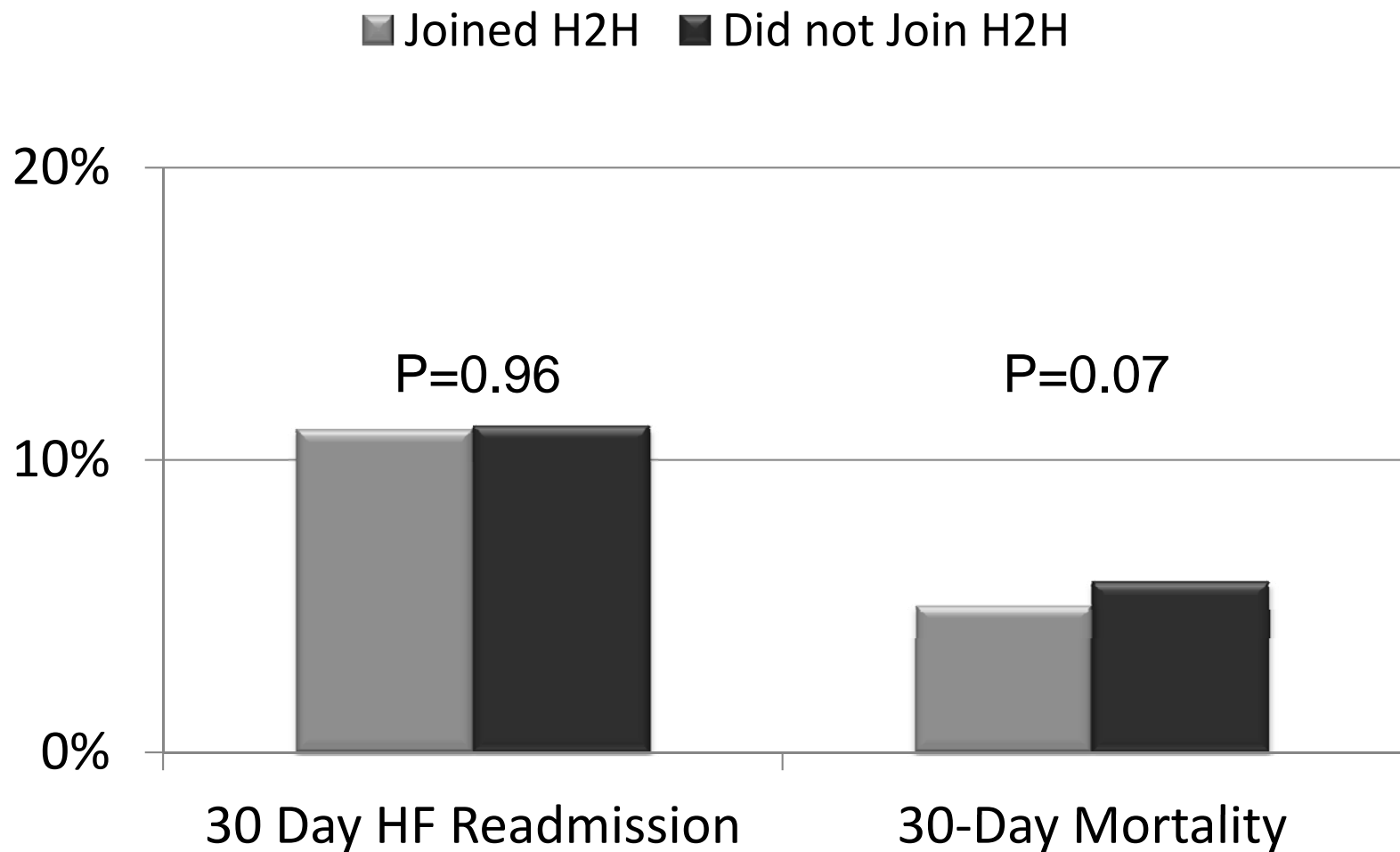


# Who Enrolled in H2H?

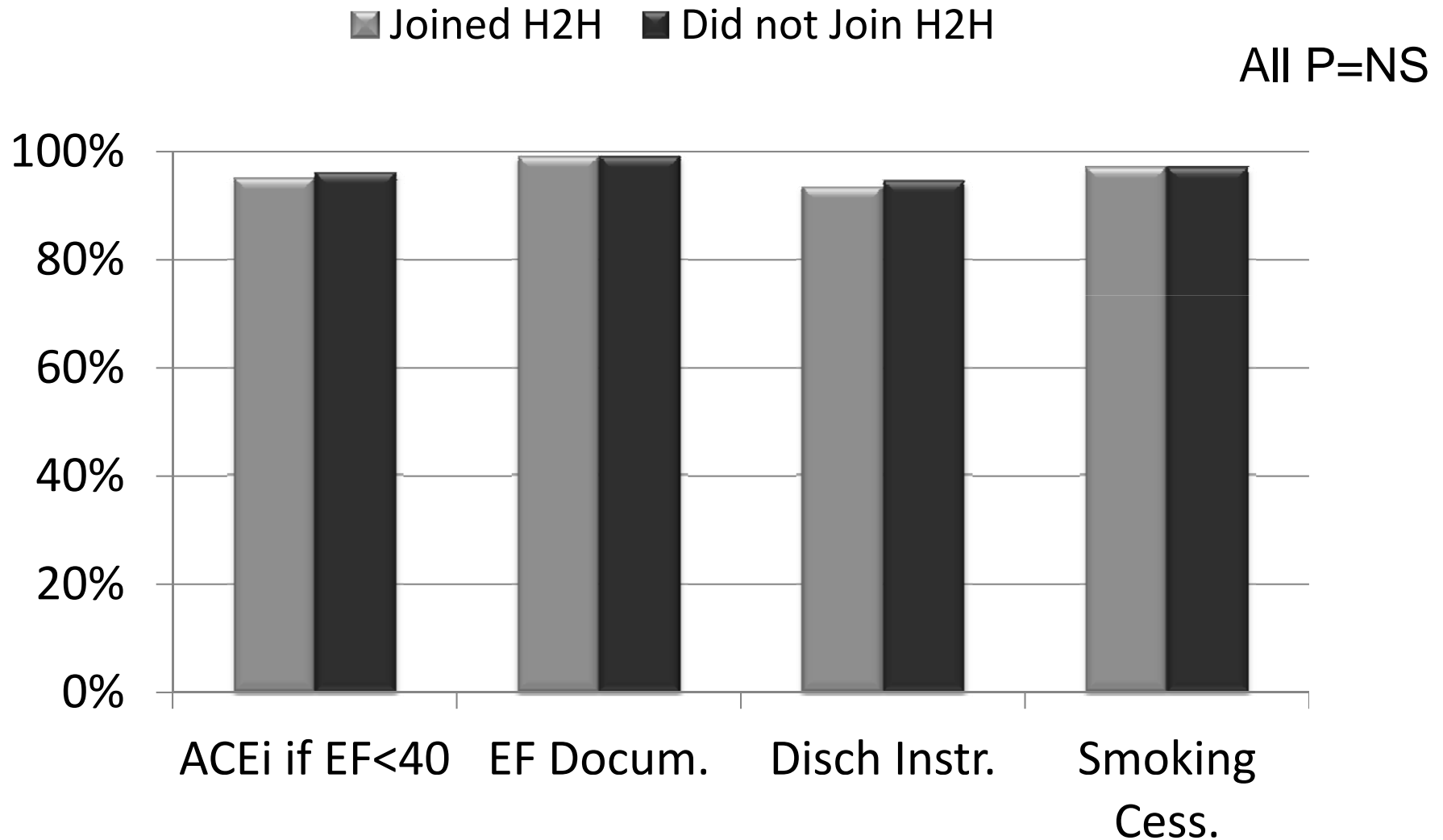
## Cardiology Section Survey

Subgroup	N	Enrolled in H2H
HF Clinic	67	73%
No HF Clinic	48	56%
Discharge Calls	81	72%
No Post DC Calls	34	53%
Invasive Cath	69	75%*
No Invasive Cath	41	54%
*p=0.03		

# Baseline Outcomes (2008) and Joining H2H



# Baseline Process of Care and Joining H2H



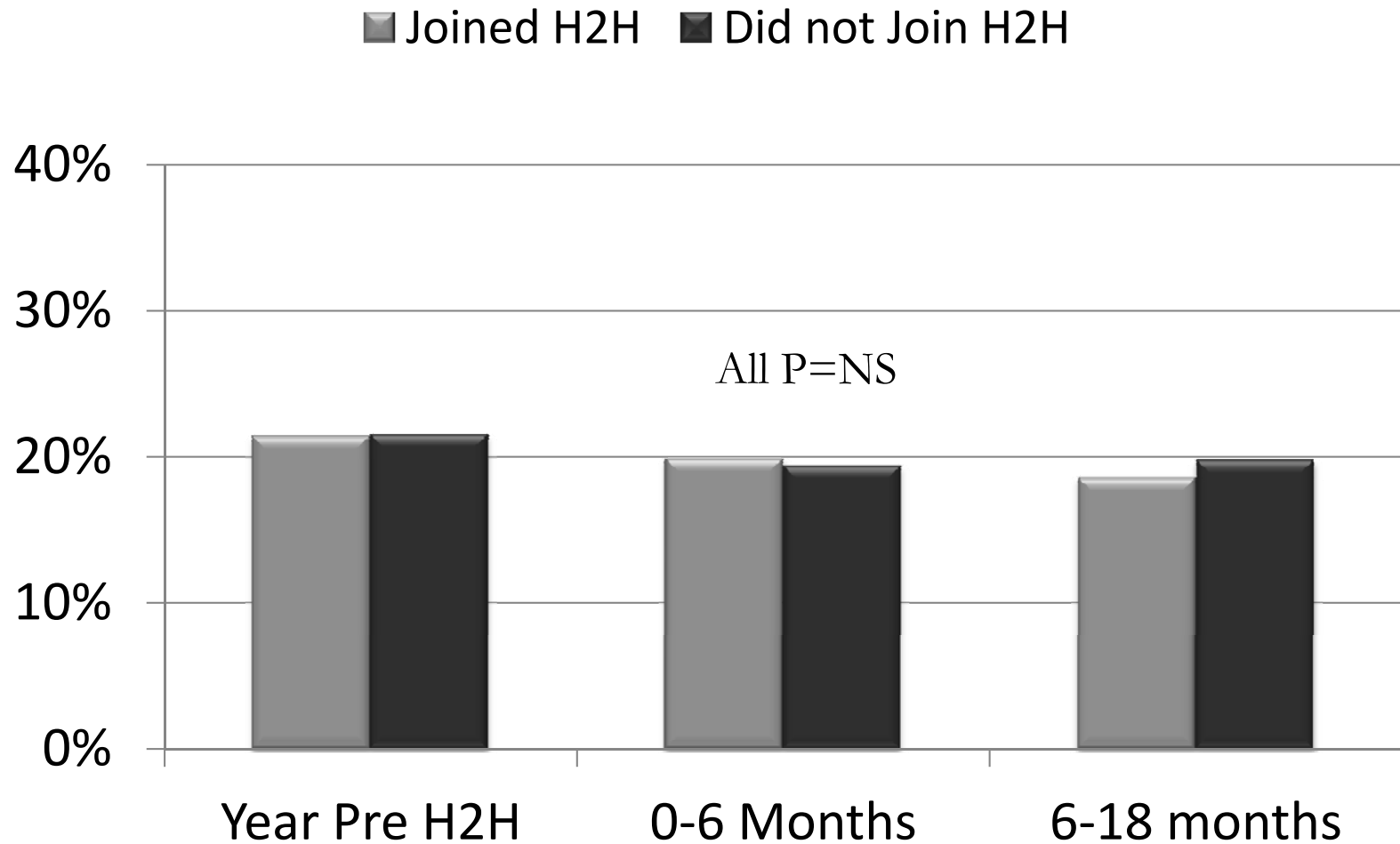
# Can We Detect an Effect of H2H?

- Primary outcome: 30 day readmission
- Secondary outcomes
  - 7 day follow-up
  - Hospital days (30 days and 1 year)
  - Mortality (30 days)

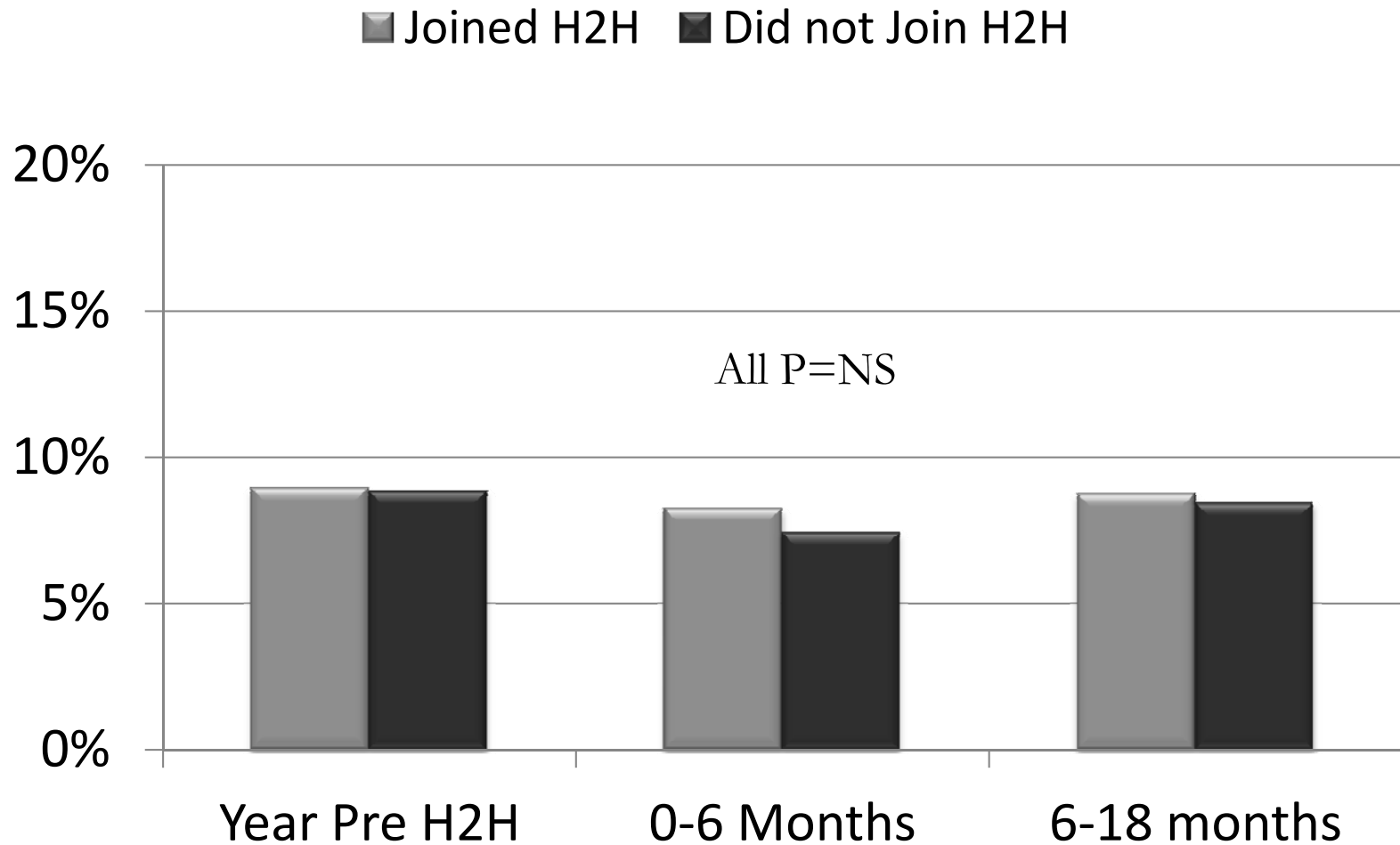
# Methods: H2H Impact

- Hospital level analysis
- Three time periods
  - 1 year before H2H
  - 0-6 months after initiating H2H
  - 6-18 months after initiating H2H
- Weighted for number of admissions
- Propensity score: to enroll in H2H

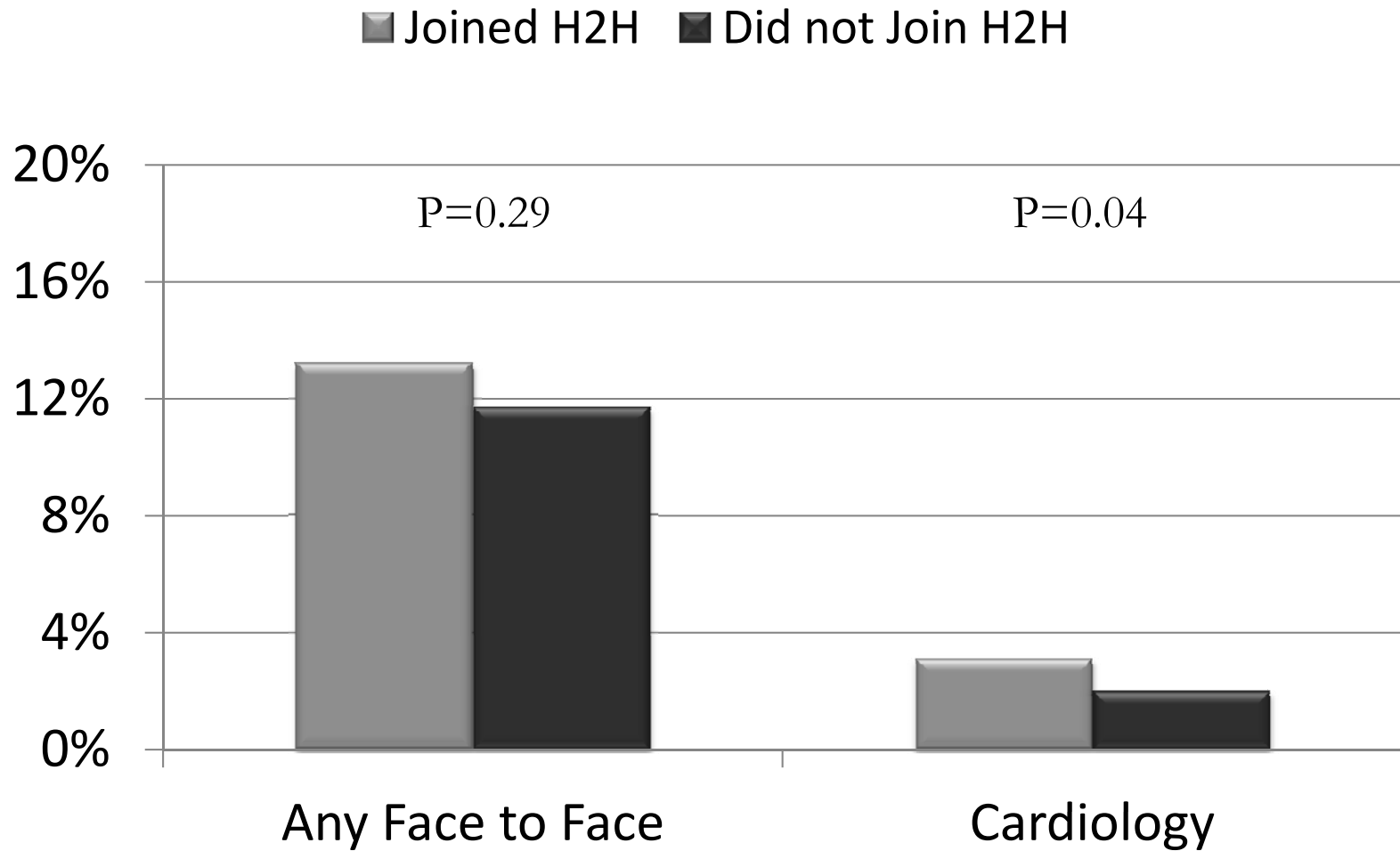
# VA 30-Day All Cause Readmission (Primary Outcome)



# VA 30-Day Heart Failure Readmission

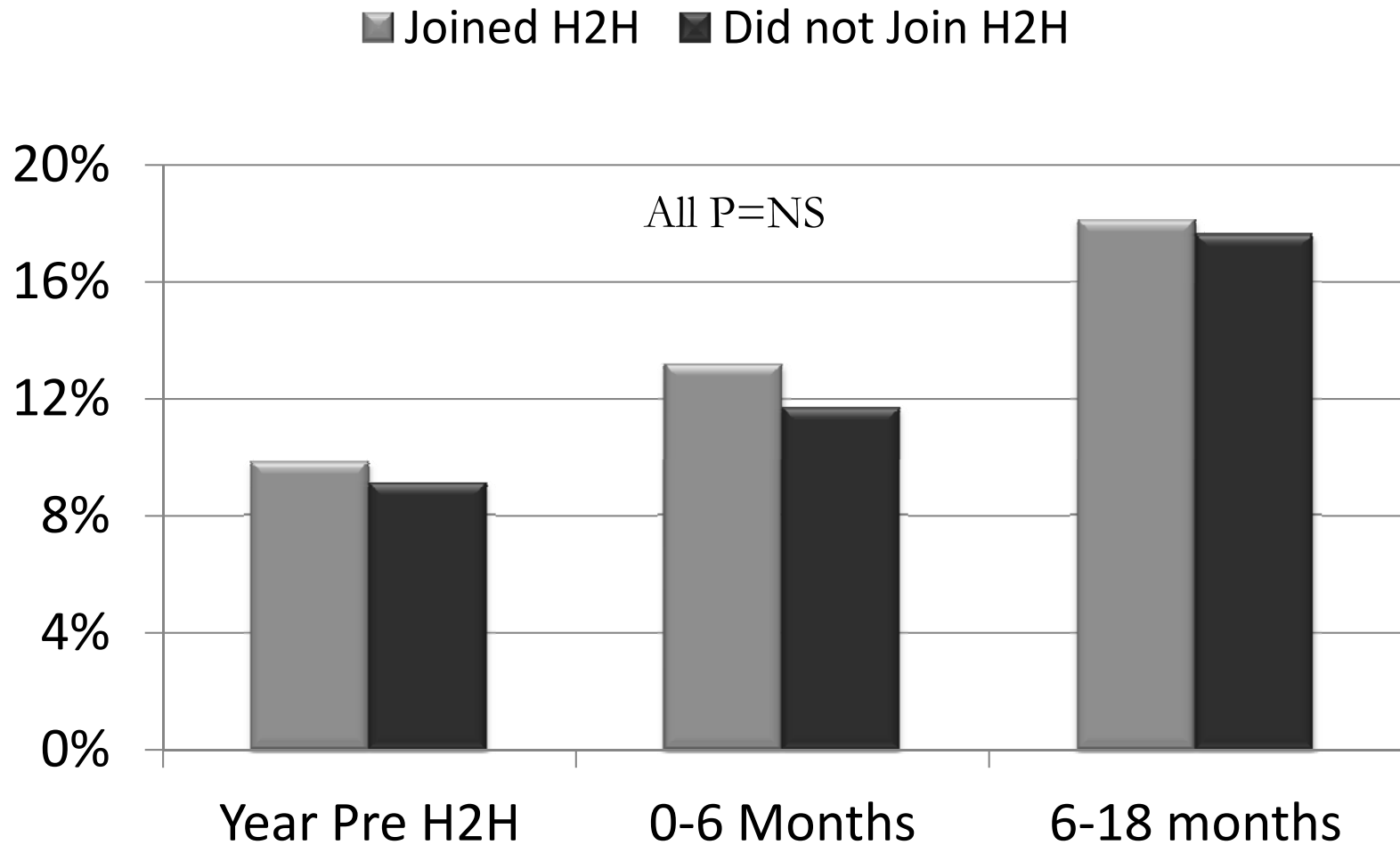


# VA 7-Day Face to Face Follow-Up

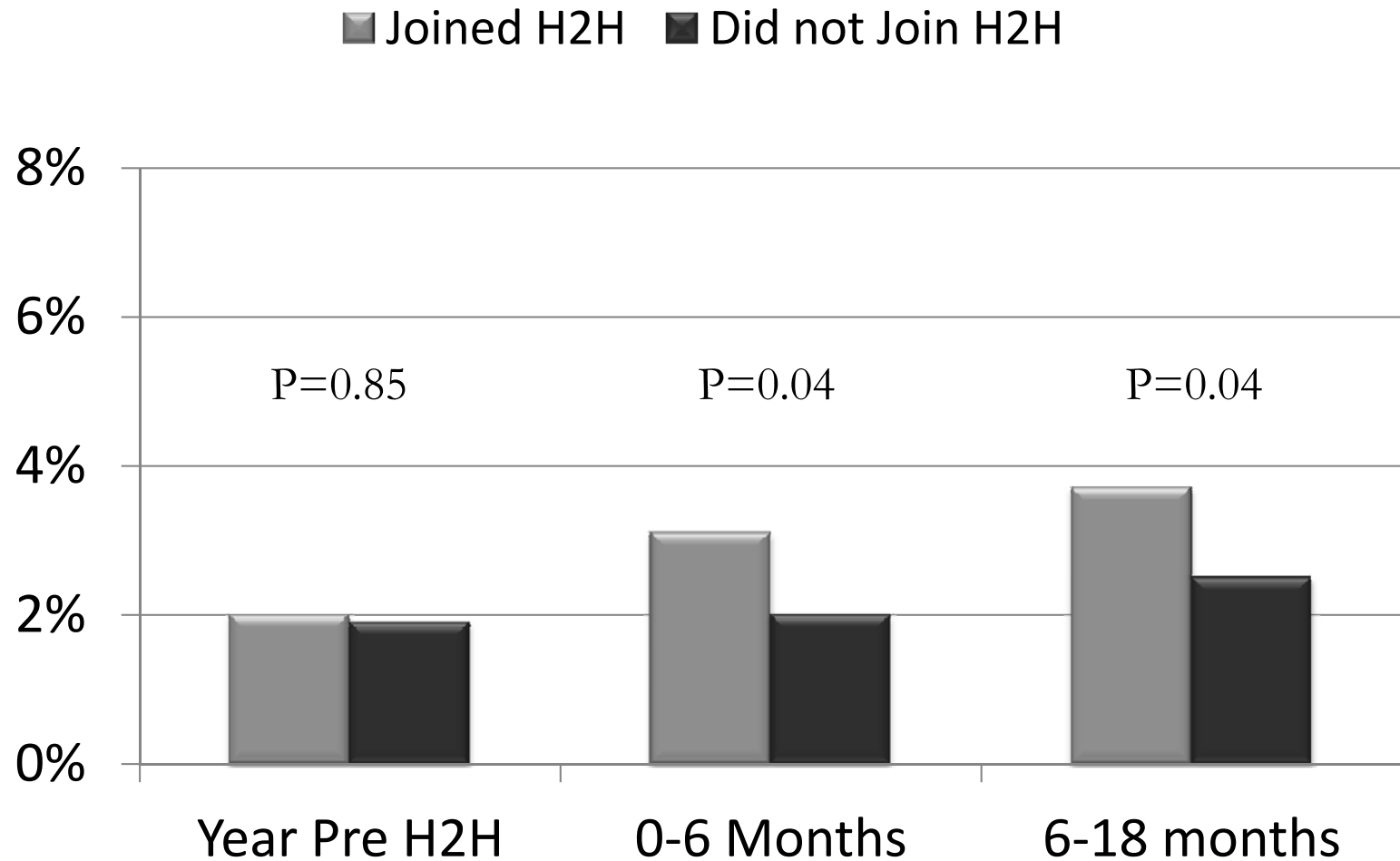




# VA 7-Day Face to Face Follow-Up: All Visits

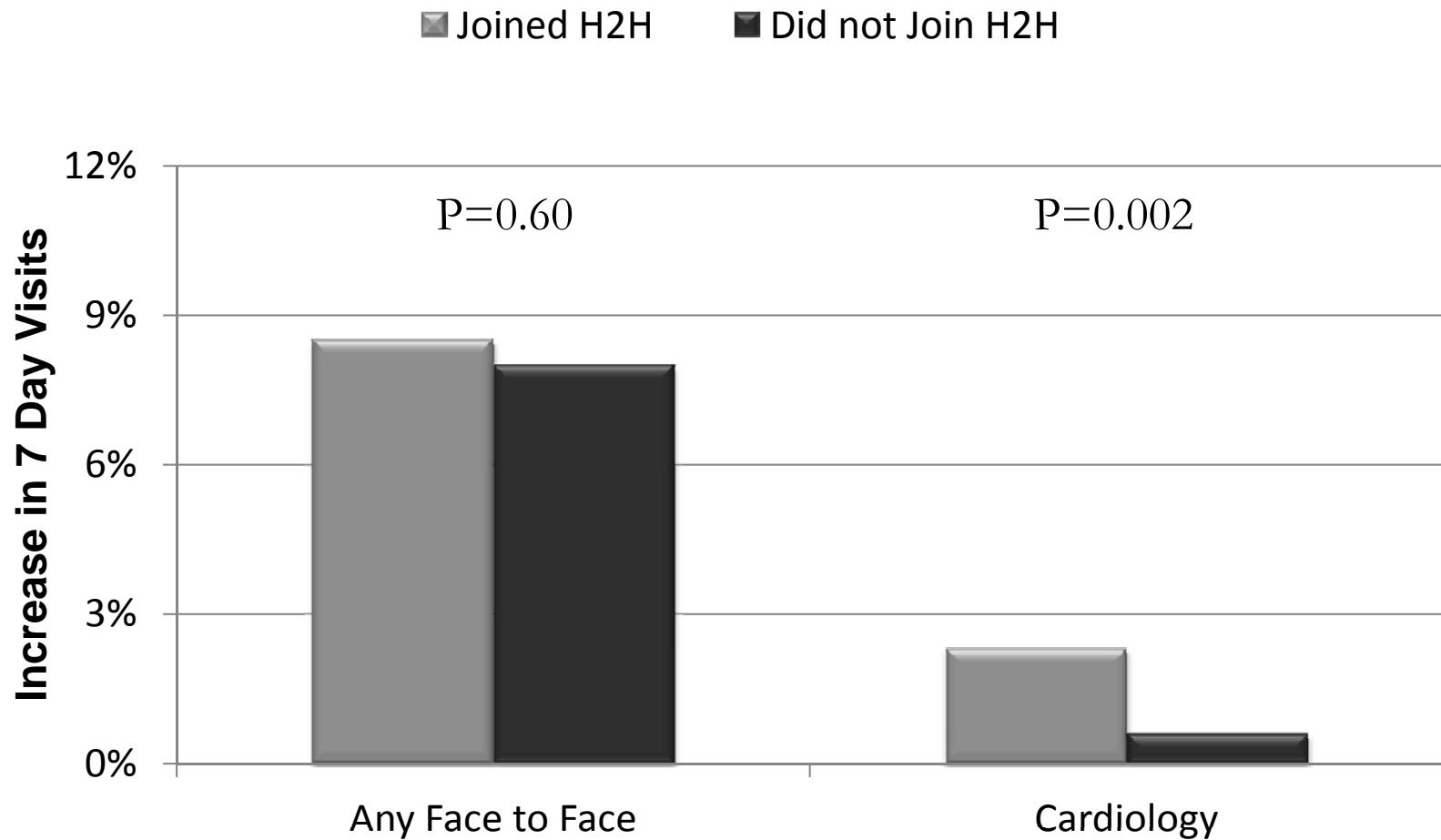


# VA 7-Day Face to Face Follow-Up: Cardiology

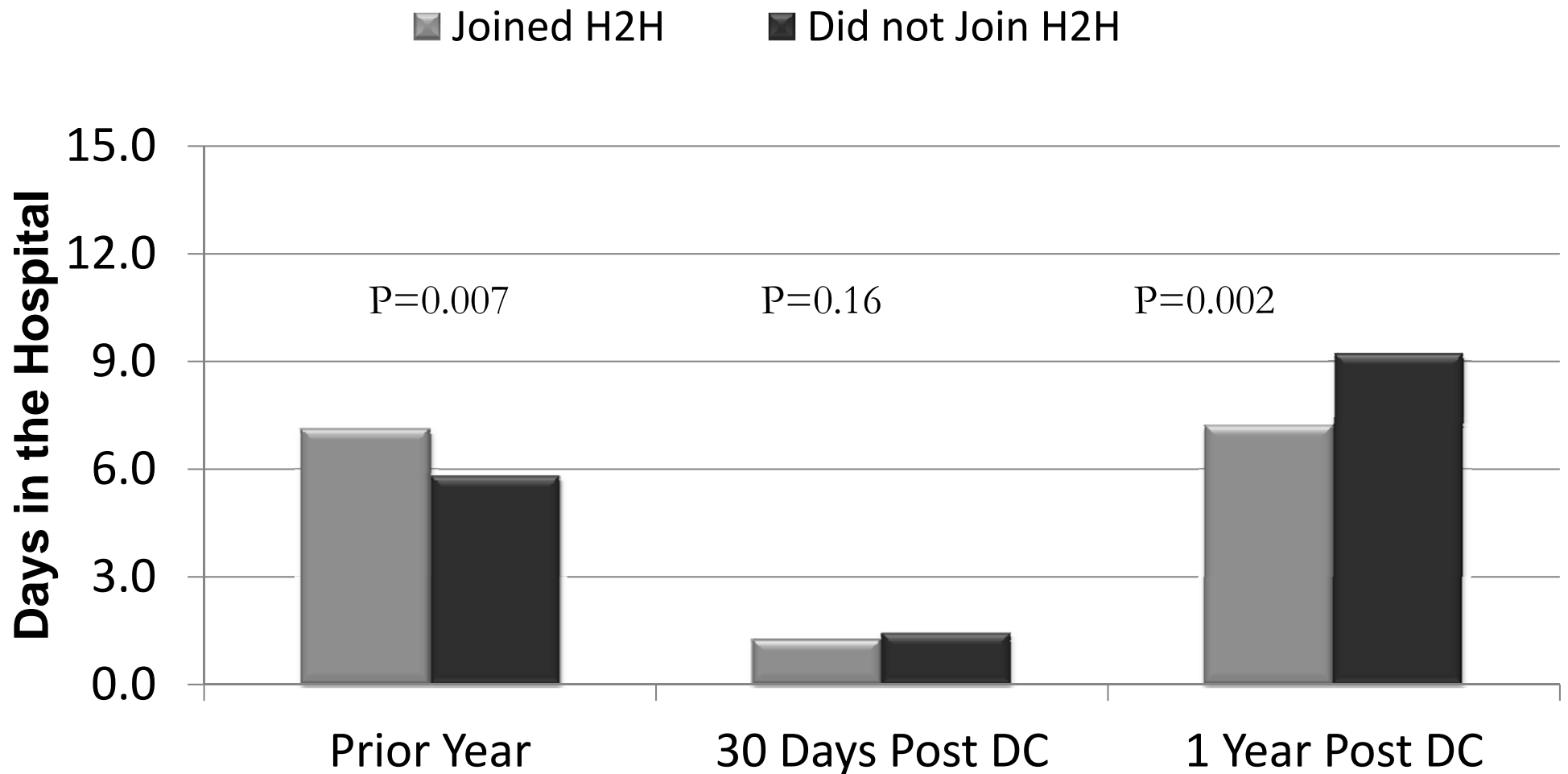


# Change in 7-Day Follow-Up

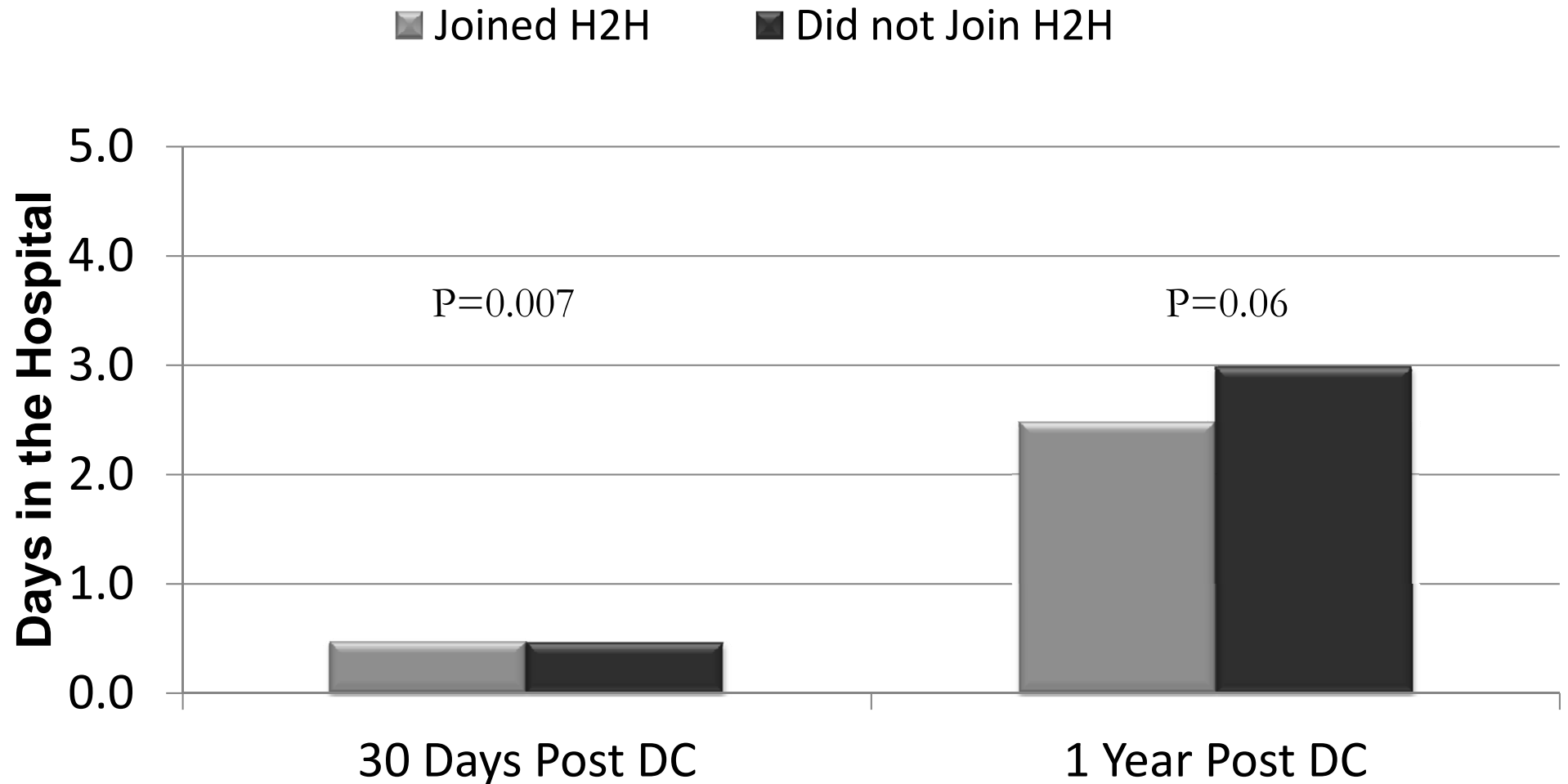
6-18 Months after H2H - Baseline



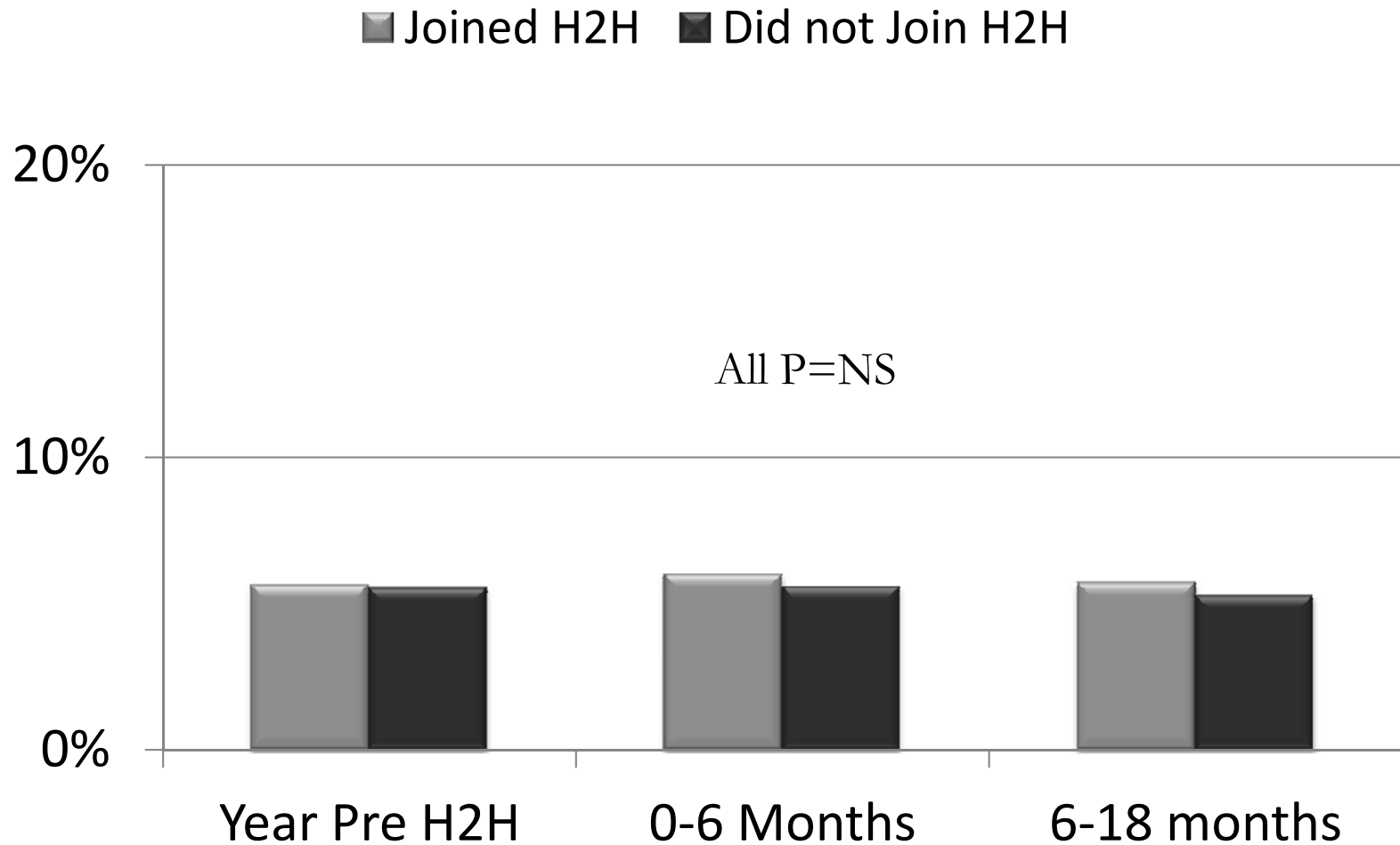
# Hospital Days (All Cause) Following Discharge



# Hospital Days (Heart Failure) Following Discharge



# VA 30-Day Mortality



# Propensity Scoring

- Similar results to univariate findings
- R squared for predicting enrollment 0.08

# Summary 1

- A majority of VA hospitals have enrolled in H2H
  - Larger, academic facilities more likely to enroll
- Enrollment and project development was enhanced through the use of an existing provider network
  - 30% of hospitals had ongoing projects
  - 20% have started a project due to H2H
  - 10% planned to start



# Summary 2

- Some evidence that H2H improved care
  - More visits with cardiology
  - No change in readmission
  - Less hospital days over 1 year
- Limitations
  - Non randomized comparison of H2H enrollment
  - Power limited by number of VA Hospitals
  - Non-VA care not included
  - Many of H2H processes already adopted