

2010 Military Health System Conference

Variations in Healthcare: Preliminary Findings

Part 2 – Comparing MHS and Medicare Variation in Coronary Artery Disease

Sharing Knowledge: Achieving Breakthrough Performance

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Variation in Healthcare Delivery



- Variations in the use of medical treatments among communities is well known:
 - dartmouthatlas.org
- See Wennberg presentation Tuesday morning

Unwarranted Variation in Healthcare



- Dr. Wennberg suggests that there are three categories of unwarranted variation that cannot be explained by illness, medical evidence or patient preferences:
 - Effective Care: Evidence-based Care
 - Preference-Sensitive Care
 - Supply-Sensitive Care

Preference-Sensitive Care



- Involves tradeoffs -- more than one treatment exists and the expected outcomes may differ
- Decisions should be based on the patient's own preferences
- Provider opinion often determines which treatment is used

Source: Wennberg, 2009.

Preference Sensitive Conditions



Conditions

Chronic stable angina
Hip and knee arthritis
Carotid artery stenosis
Herniated disc
Enlarged prostate

Treatment Options

PCI vs. surgery vs. other
Joint replacement vs. pain meds
Surgery vs. aspirin
Back surgery vs. other
Surgery vs. other strategies

Episodes of Care



- Health care is typically provided in a series of separate but related services. All of these services must be included to produce a comprehensive economic analysis of the healthcare delivery system
- Using an episode approach enables a more appropriate assessment of costs of care and lends itself to the analysis of the processes as well as the outcomes of care

Episodes of Care



- Medical Episode Grouping (MEG):
Disease-based episodes of care
- Episode severity based on the progression to disease-specific medical complications,
e.g., Coronary Artery Disease:
 - Stage 1: Stable angina
 - Stage 2: Progressive Angina
 - Stage 3: AMI

Stable Angina Defined



Severity Stage, Description, Diagnostic Findings and ICD-9-CM Codes

1.01 Coronary atherosclerosis or asymptomatic chronic ischemic heart disease or old myocardial infarction

Coronary atherosclerosis	(Dx 41181, 412, 41400-41401, 4142-
OR	4143,4292) + NOT (Dx V4581, 41402-
asymptomatic chronic ischemic heart dis	41407, 99603)
OR	
old myocardial infarction	
OR	
history of myocardial infarction ≥ 30 days old <u>AND</u>	
ejection fraction $\geq 50\%$ [echocardiogram report or	
nuclear ejection fraction report]	

1.02 Chronic stable exertional angina or chronic ischemic heart disease

Chronic stable exertional angina	
...OR	
chronic ischemic heart disease	DX 4139, 4148 – 4149) + (DX V4581, 41402 – 41407, 99603);

Stable Angina Variation Study



- Preliminary analysis to examine treatment variations for stable angina; specifically Percutaneous Coronary Intervention (PCI) and Coronary Artery Bypass Graft surgery (CABG)
- Background
 - Episodes of care created using MEG
 - Direct care encounters and purchased care visits during 2007
 - Continuously enrolled during 2007

Stable Angina Variation Study



- Background continued
 - Excludes: Overseas regions, Eligibles 65 years and older and Guard/Reserve.
 - Qualified episodes
 - Requires one hospitalization or two visits, separated by at least seven days, to qualify as Coronary Artery Disease episode

Stable Angina Variation Study



- Background continued
 - 46 regions with MHS eligible populations over 30,000 profiled using these criteria representing 2.3 million MHS eligibles

Hospital Referral Regions



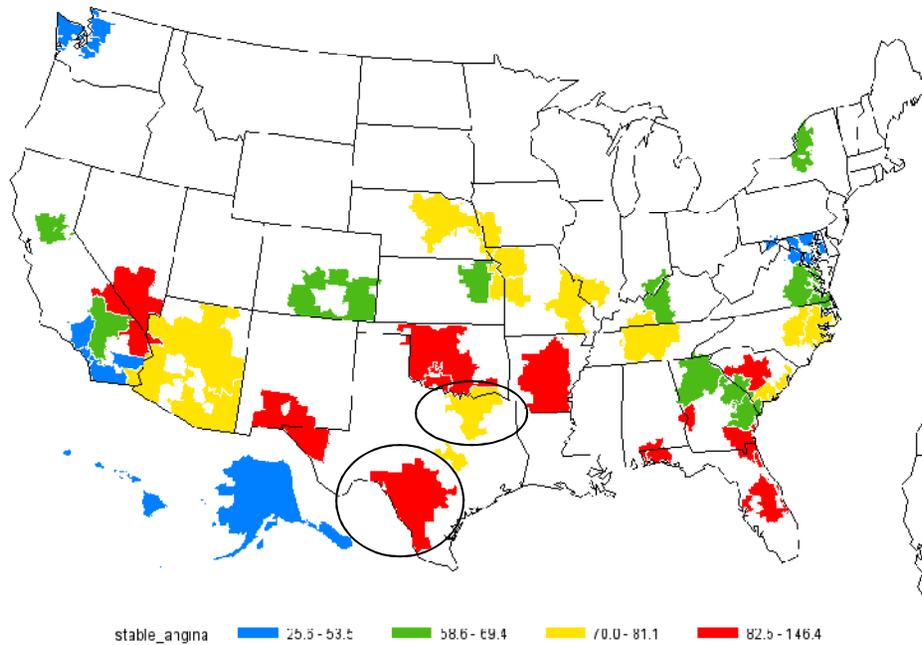
- The Dartmouth Atlas defines 306 Hospital Referral Regions (HRRs) on the basis of the patterns of community hospital referrals for major cardiovascular surgical procedures and neurosurgery

Hospital Referral Regions



- The geographic boundaries (zip codes) of the HRRs are used to define the populations of MHS eligibles included in the analysis
 - The number of eligibles is the denominator in the disease and procedure rate calculations used in the MHS variation studies
- The numerator of these calculations is based on the MEG episodes for MHS eligibles residing within an HRR, regardless of where care is received

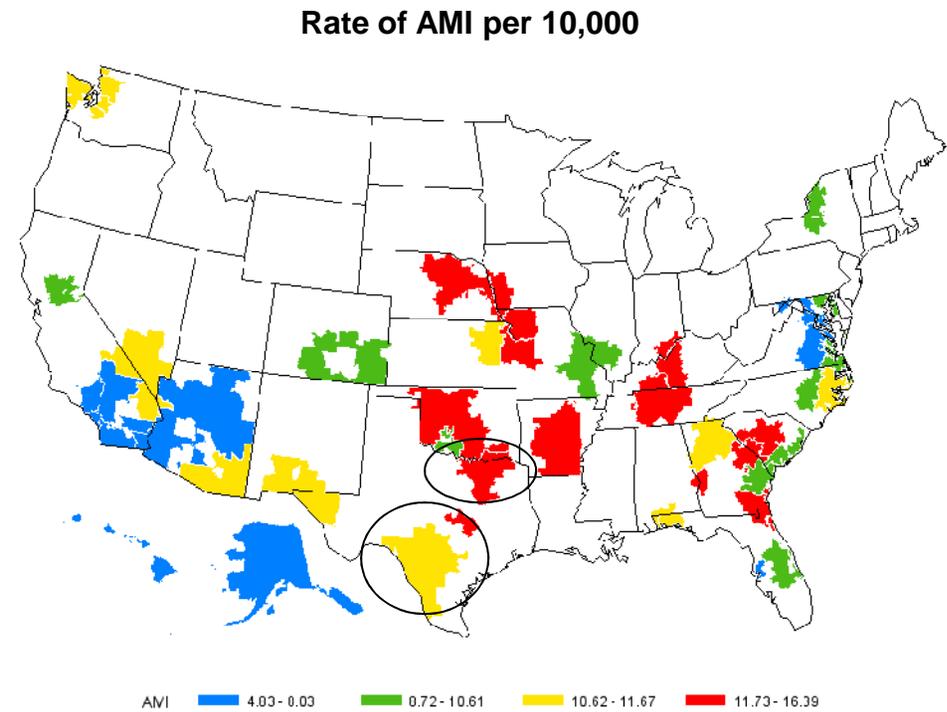
Prevalence of Stable Angina and AMI Among MHS Eligibles by HRR



stable_angina ■ 25.5 - 53.5 ■ 58.6 - 69.4 ■ 70.0 - 81.1 ■ 82.5 - 146.4

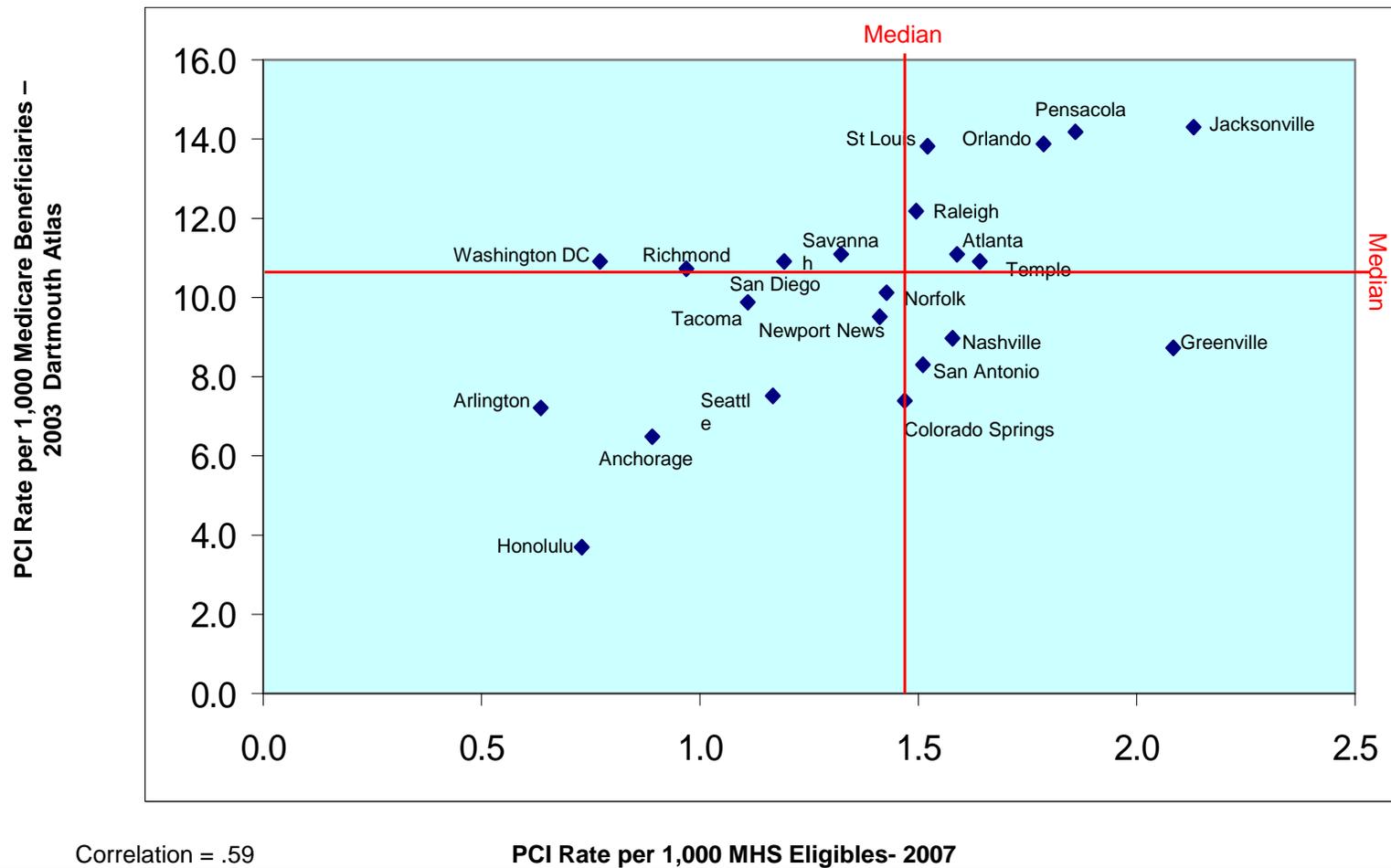
Rate of Stable Angina per 10,000

This type of data could help in the development of testable hypotheses

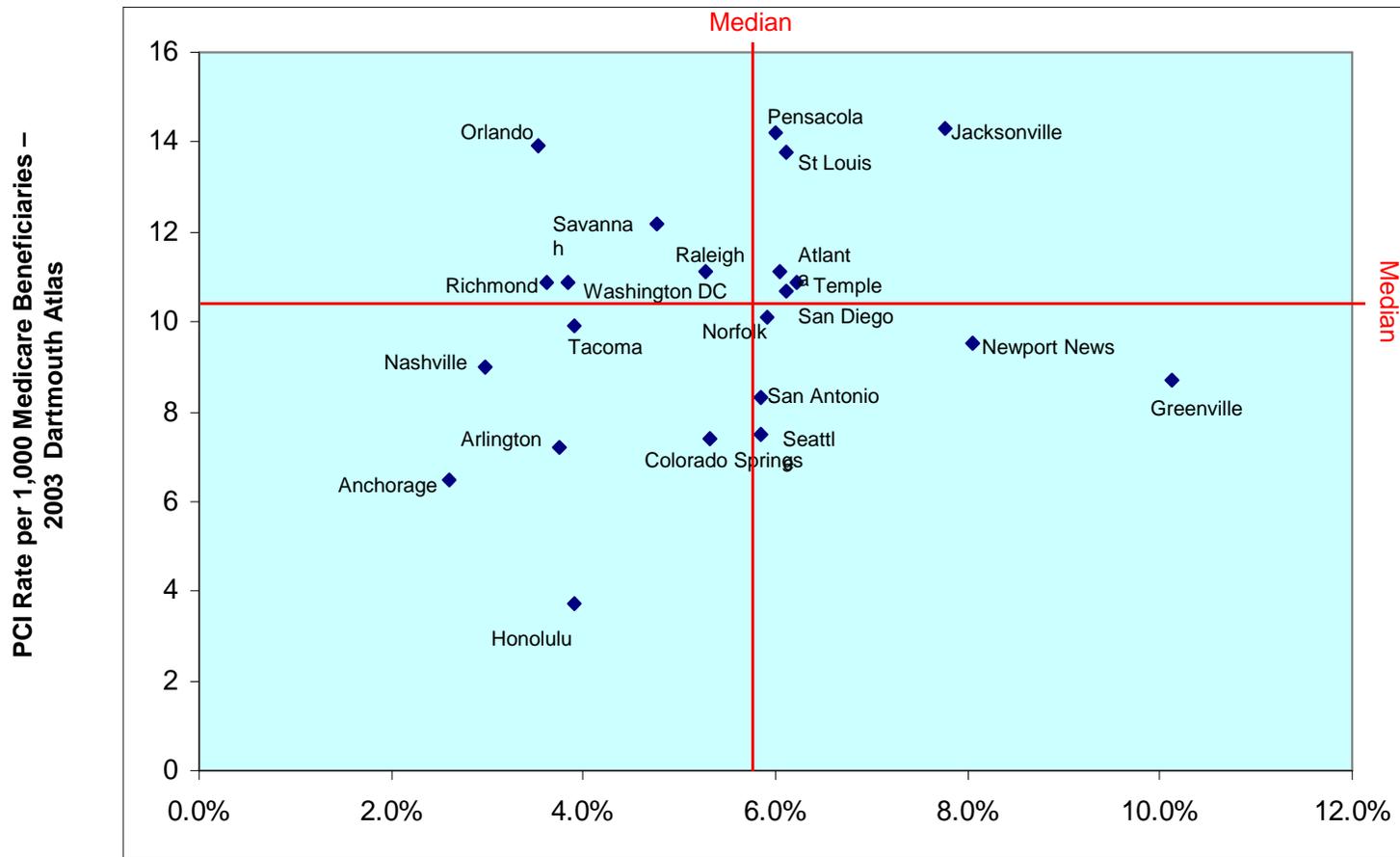


AMI ■ 4.03 - 0.03 ■ 0.72 - 10.61 ■ 10.62 - 11.67 ■ 11.73 - 16.39

PCI per 1,000 Eligibles by HRR: Dartmouth Atlas vs. MHS

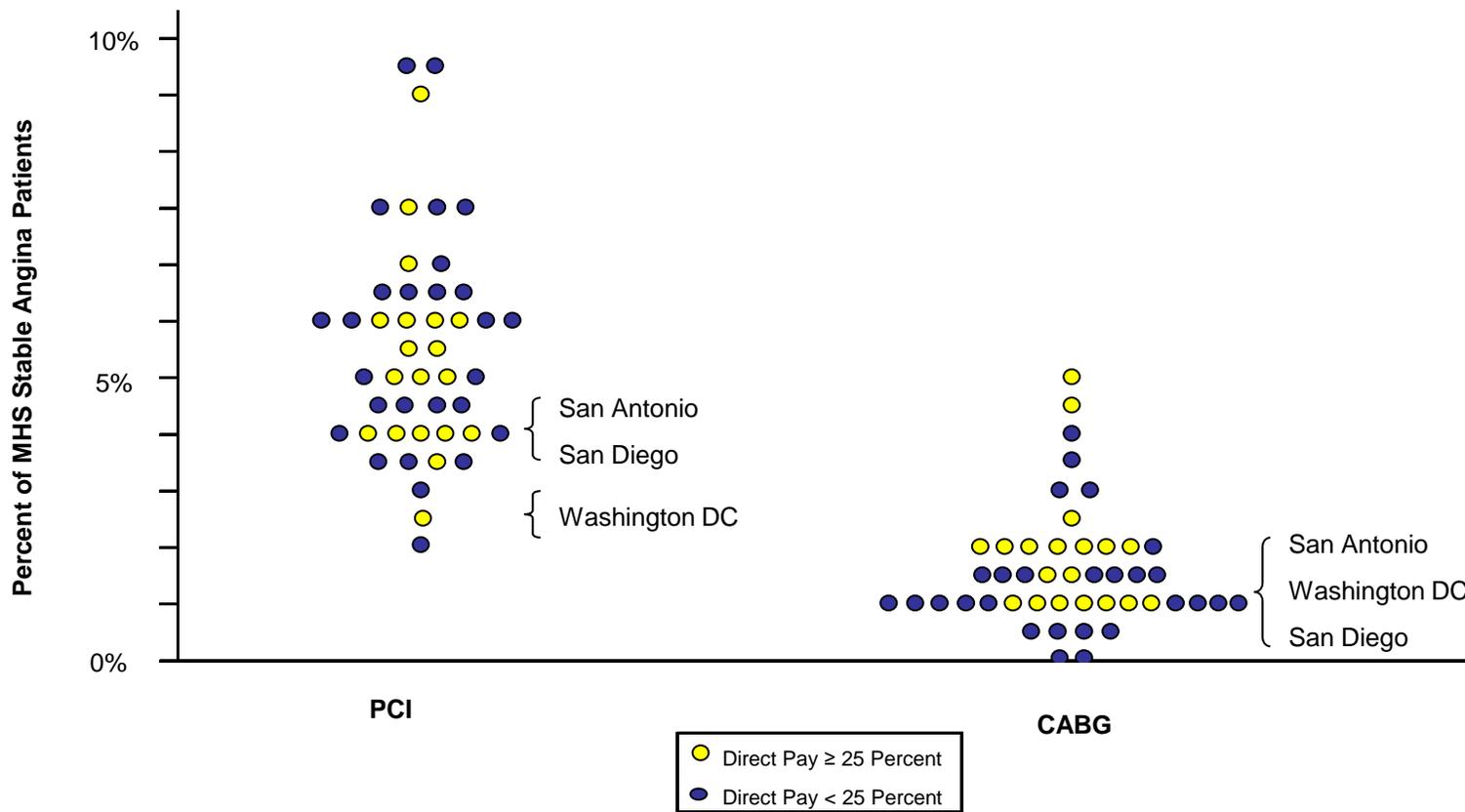


Medicare PCI Rate vs. MHS Percent PCI For Stable Angina

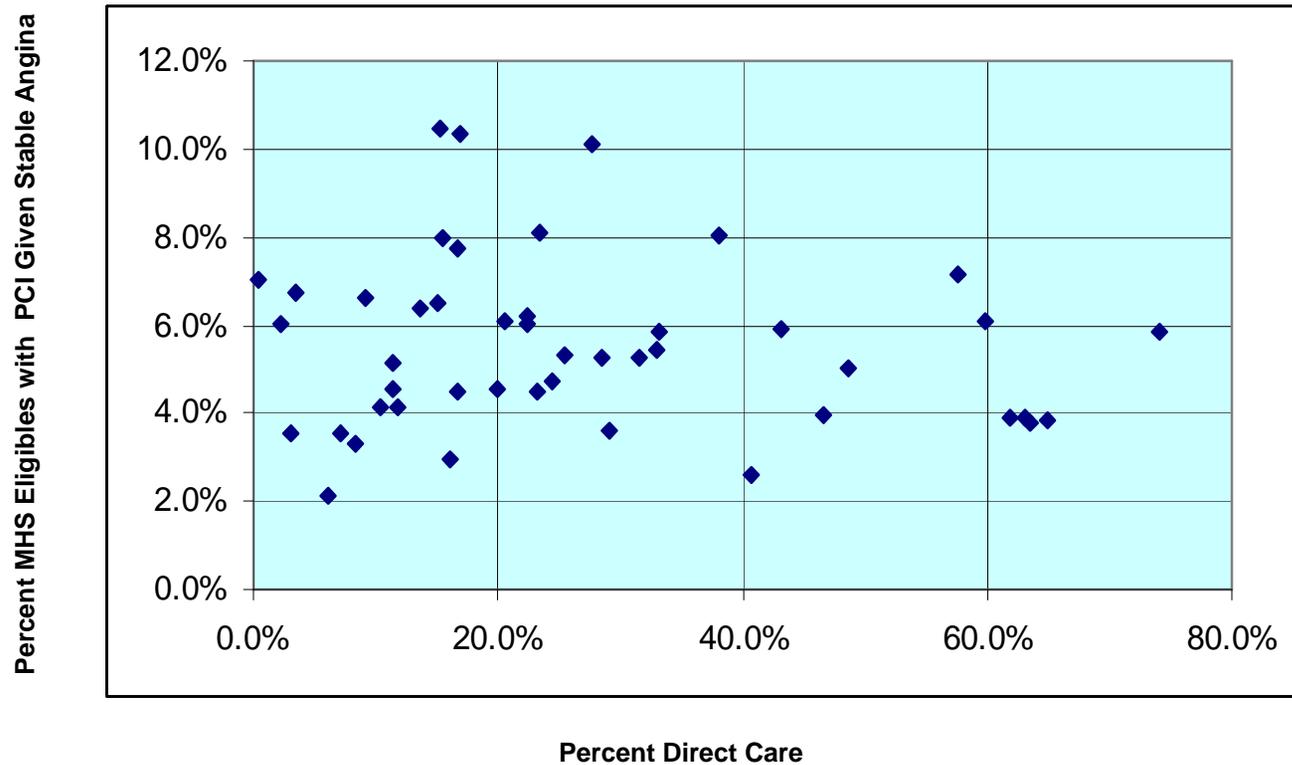


Percent PCI for Stable Angina-MHS Eligibles - 2007

Percent PCI and CABG by HRR: Impact of Direct Care



Percent PCI and Direct Care by HRR



Correlation = -.11

Observations



- Regional variation exists in the prevalence and treatment of stable angina, among MHS eligibles
- The variation in MHS rates of PCI among HRRs is consistent with those reported in the Dartmouth Atlas for Medicare beneficiaries

Observations



- Consideration of treated prevalence in measuring utilization changes findings for some regions
- Did not observe variation across regions to be correlated with the level of direct care
- Variation across regions may offer opportunities for quality improvement and cost saving in the treatment of stable angina