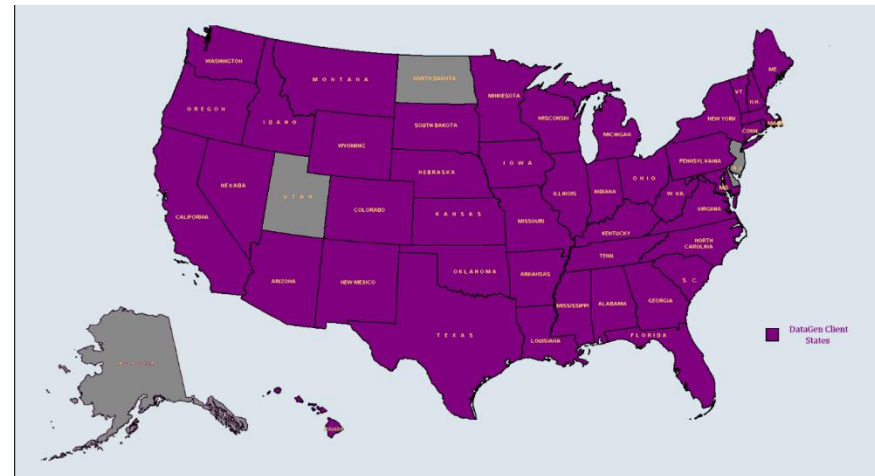


Patient-Centered Analytics

Presented to Becker's Hospital Review
October 30, 2014
Gloria Kupferman
Kelly Price

DataGen

- Medicare advocacy analytics for 46 State Hospital Associations, 6 multi-state systems
- Data partner for 30+ BPCI awardees including AAMC convened group
- Readmissions diagnostic reporting for 7 states
- AHRQ reporting
- NYS Partnership for Patients

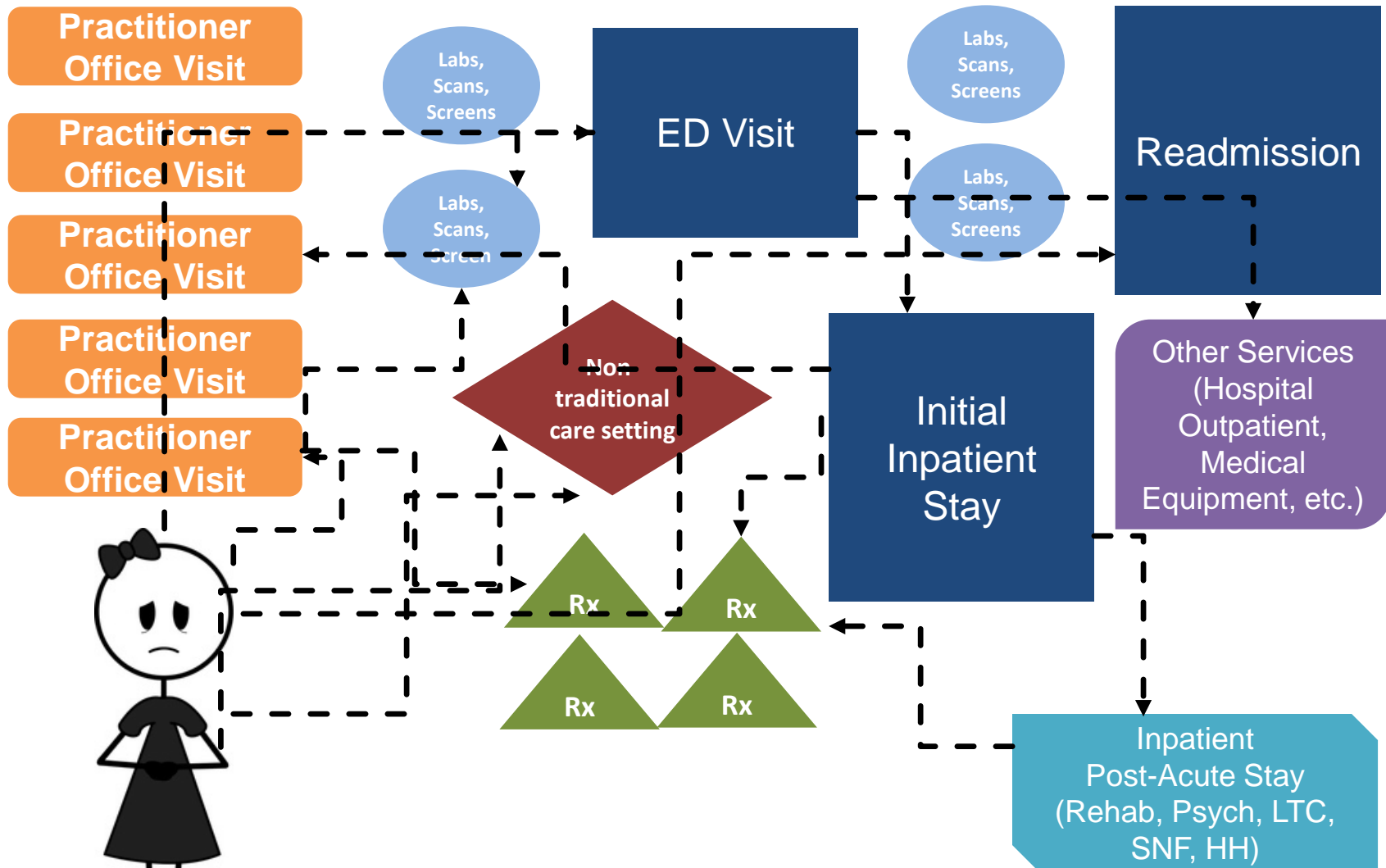


Today's Agenda

- Reasons to use patient-centered analytics
- Data types and sources
- Metrics
- Tools
- Case studies
- Questions

Reasons for Patient-Centered Analytics

The Current Health Care Delivery System



The Population



Population Health

- The health status and outcomes of individuals within a group
- Patients you see
- People who are not yet your patients
- The distribution of the status and outcomes within the group
- These groups can be defined by geographic boundaries, employer, ethnicity, health factors, or any other defined group.

Population Health Management

- Managing, addressing, and improving the health status and outcomes for individuals within a group
- Emphasis on the “triple aim”
 - Access to care and the patient experience
 - Quality of care
 - Efficiency of care

Why Do We Need to Look at Patient-Centered Data?

- To assess the current “state of play”
- Identify, measure and address opportunities for change
- Track progress
- Examples:
 - Hot-spotting
 - Gap spotting
 - Identify best practices, top performers
 - Identify opportunities

Delivery / Payment Systems

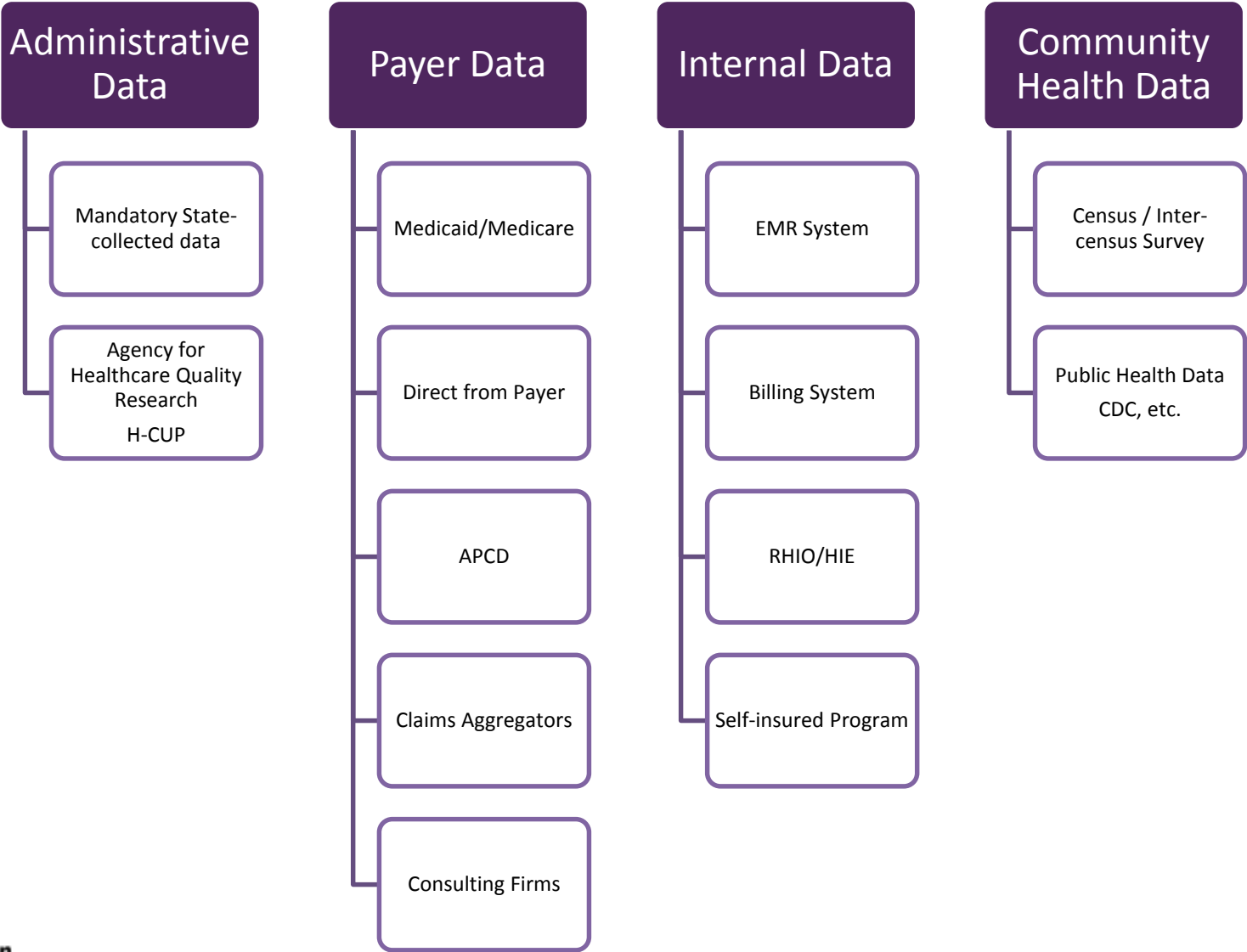
Support for successful population health management

There needs to be a sustainable financial model

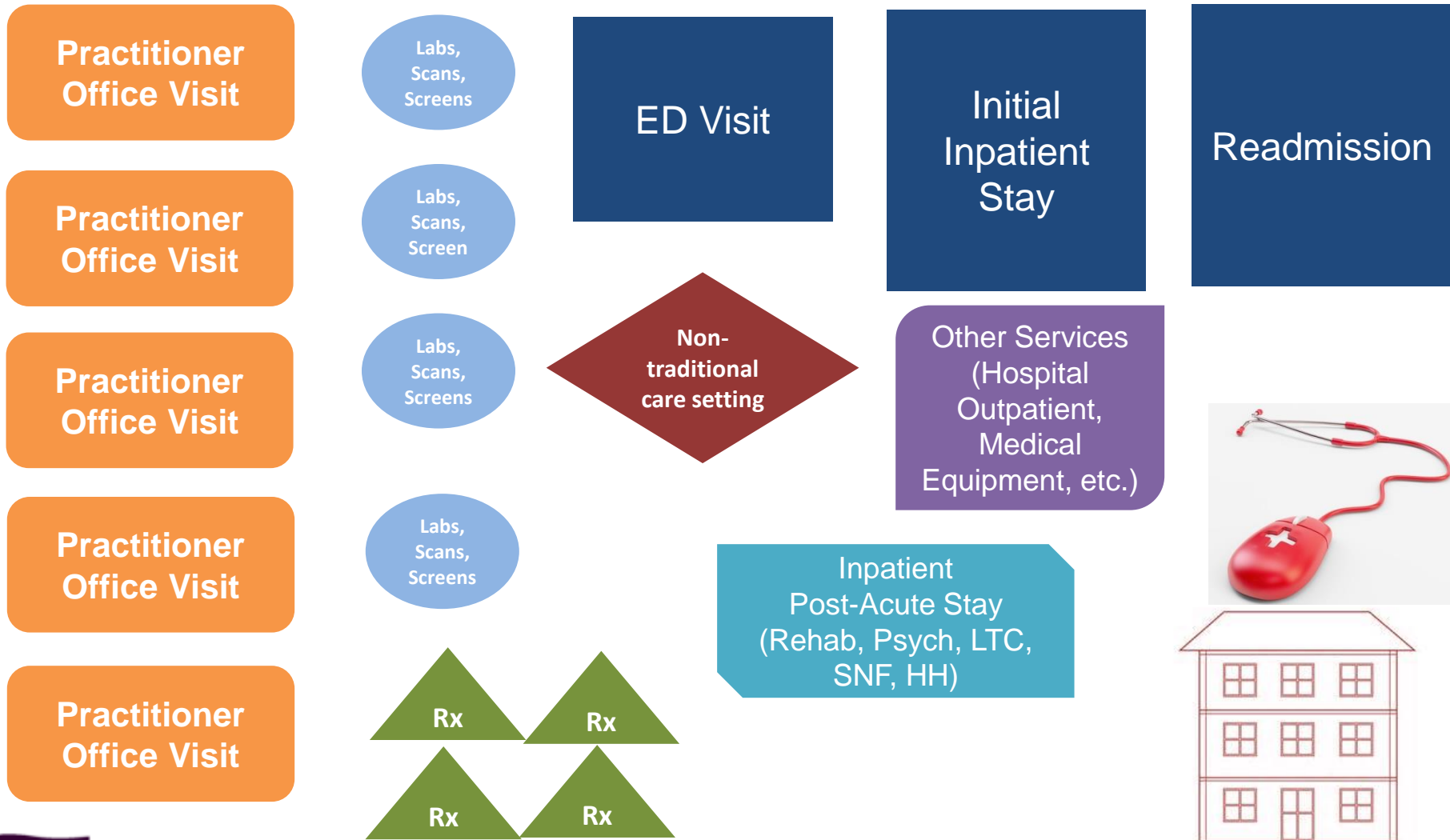
- Accountable Care Organizations
- Medical Homes
- Episodes of Care / Bundled Payments
- Capitation

Data and Sources

Data and Sources



Data Coverage



Administrative Data

Practitioner
Office Visit

Practitioner
Office Visit

Practitioner
Office Visit

Practitioner
Office Visit

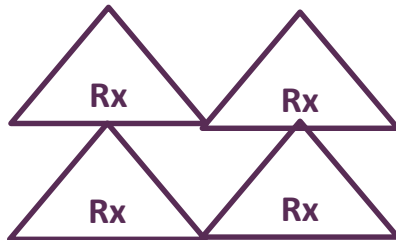
Practitioner
Office Visit

Labs,
Scans,
Screens

Labs,
Scans,
Screen

Labs,
Scans,
Screens

Labs,
Scans,
Screens



ED Visit

Non-
traditional
care setting

Initial
Inpatient
Stay

Readmission

Other Services
(Hospital
Outpatient,
Medical
Equipment, etc.)

Inpatient
Post-Acute Stay
(Rehab, Psych, LTC,
SNF, HH)



Payer Data

Practitioner
Office Visit

Practitioner
Office Visit

Practitioner
Office Visit

Practitioner
Office Visit

Practitioner
Office Visit

Labs,
Scans,
Screens

Labs,
Scans,
Screen

Labs,
Scans,
Screens

Labs,
Scans,
Screens

Rx Rx
Rx Rx

ED Visit

Non-
traditional
care setting

Initial
Inpatient
Stay

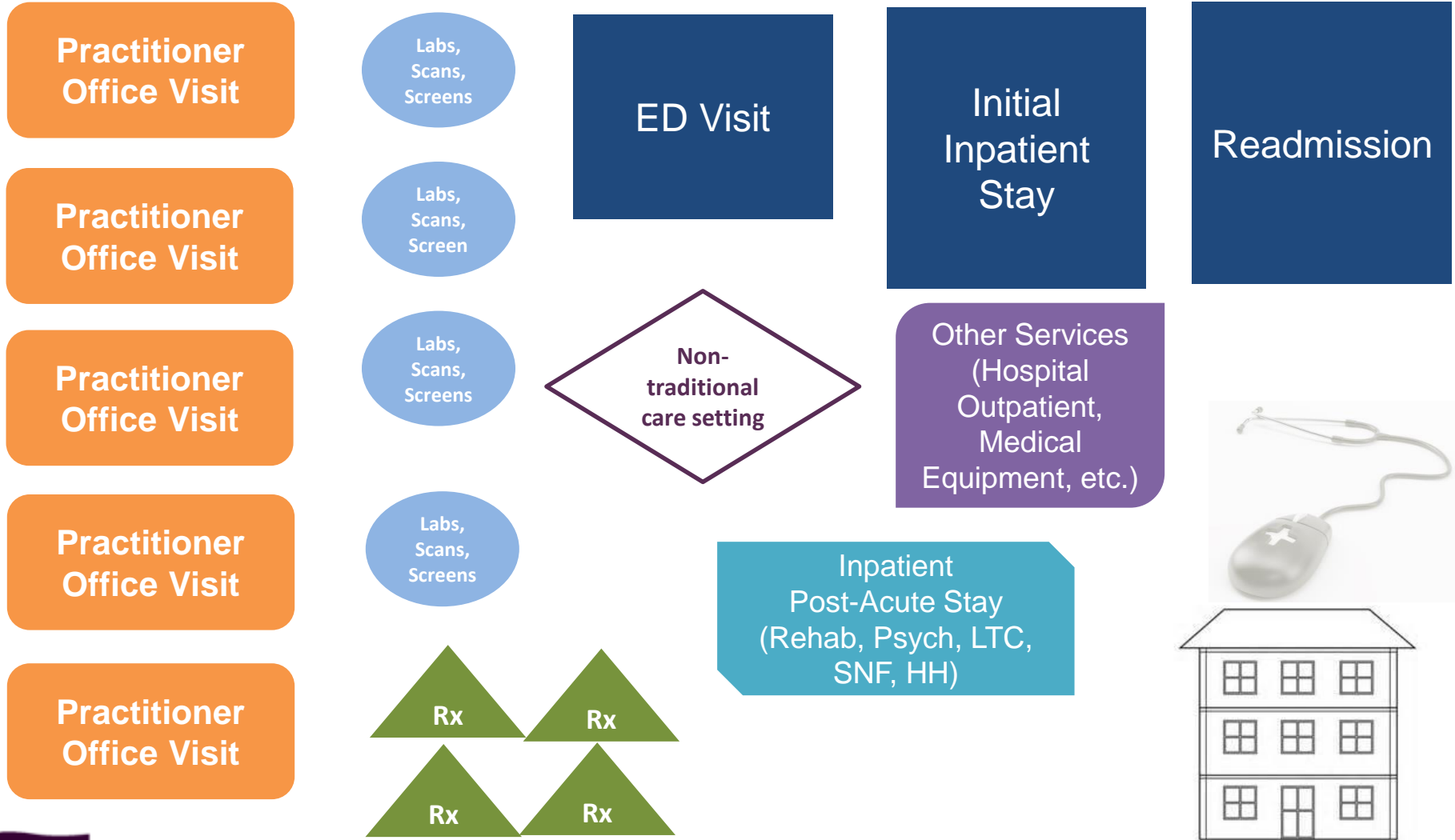
Readmission

Other Services
(Hospital
Outpatient,
Medical
Equipment, etc.)

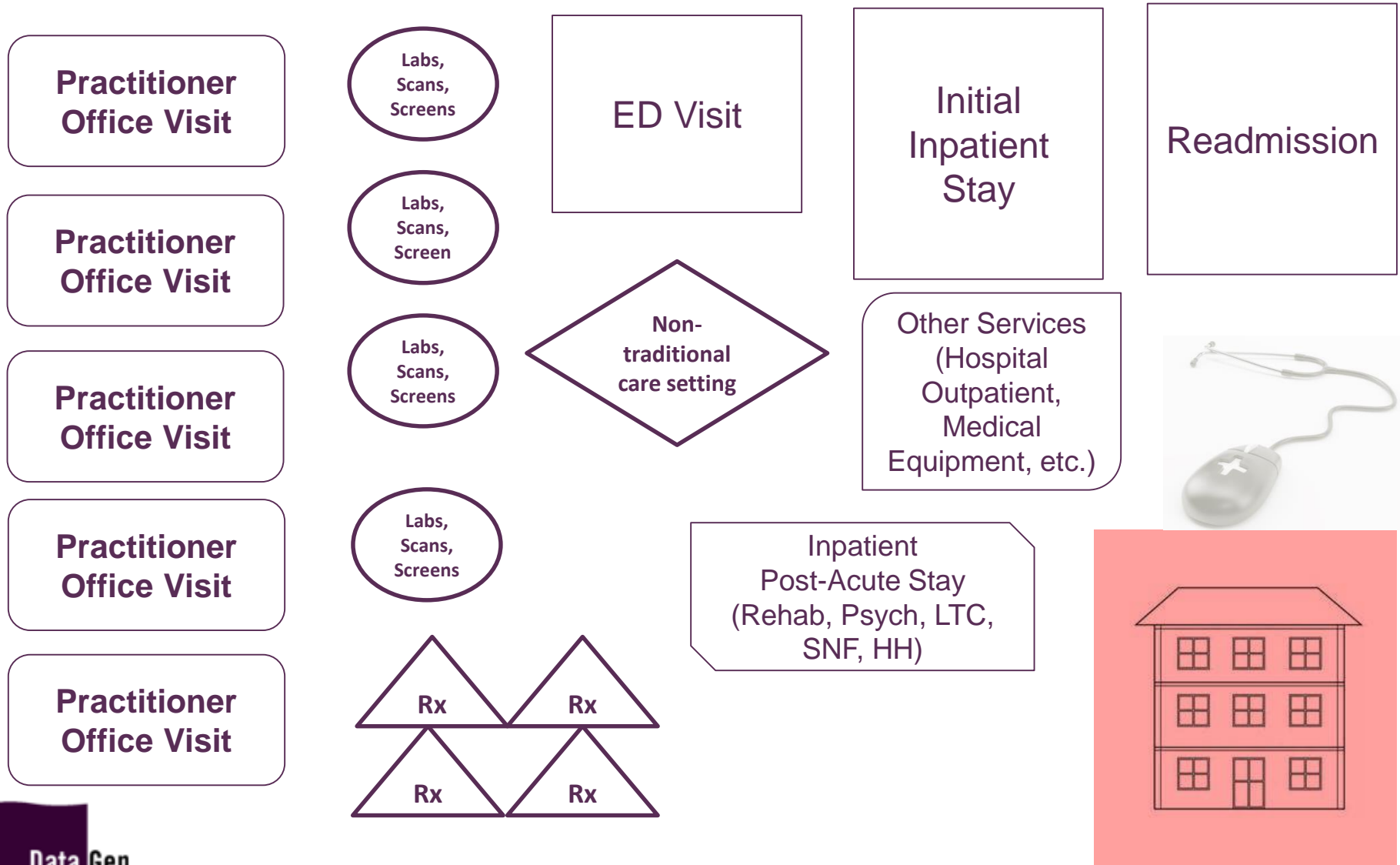
Inpatient
Post-Acute Stay
(Rehab, Psych, LTC,
SNF, HH)



Internal Data



Community Health Data



Data Pros and Cons

- There is increasing interest in transparency and data sharing, but availability is still spotty
- There is no one-stop shopping
- Most under-represented in the data sets are uninsured and people who have not needed or sought out care
- Bureaucratic and HIPAA constraints

Patient-Centered Data Metrics

Some Patient-Centered Data Metrics

- Chronic conditions
 - Stratification of population into disease cohorts
- Risk scores
 - Stratification of population into risk cohorts
- Episodes of care
 - Stratification of population into care cohorts
- PMPM
 - Total healthcare spend per member (i.e. person) per month
- Quality metrics
 - Avoidable events per person

Chronic Conditions

Hot Spotting

Market
Planning

Primary Care
Shortages

Chronic Conditions - Sources

Survey

- Example - Behavioral Risk Factor Surveillance Survey (BRFSS)

CDC annual phone survey

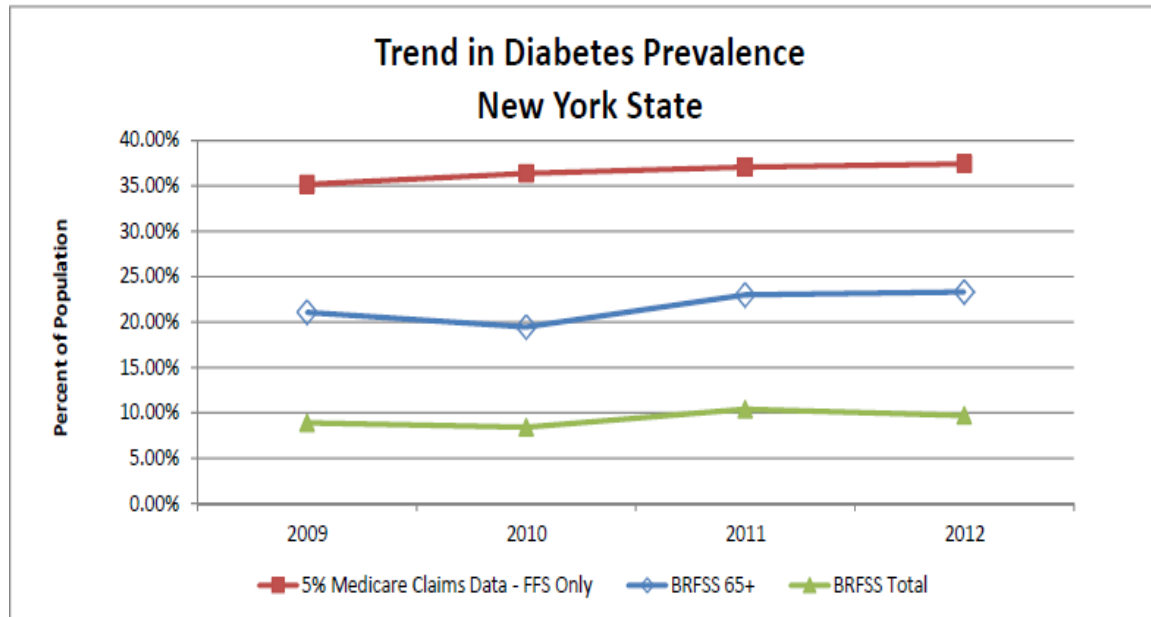
“Have you ever been told you have diabetes?”

Claims data

- *Must have physician encounters*

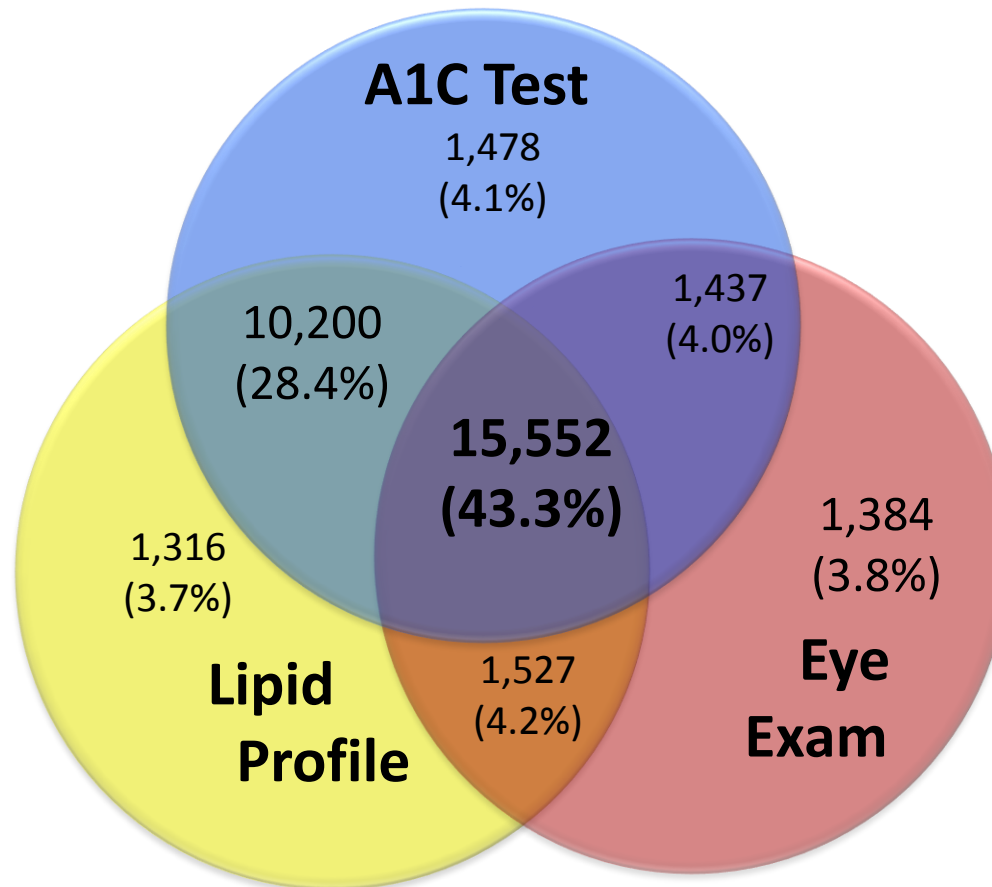
Chronic Conditions - Sources

Survey vs. Claims



Chronic Conditions – Best Practices

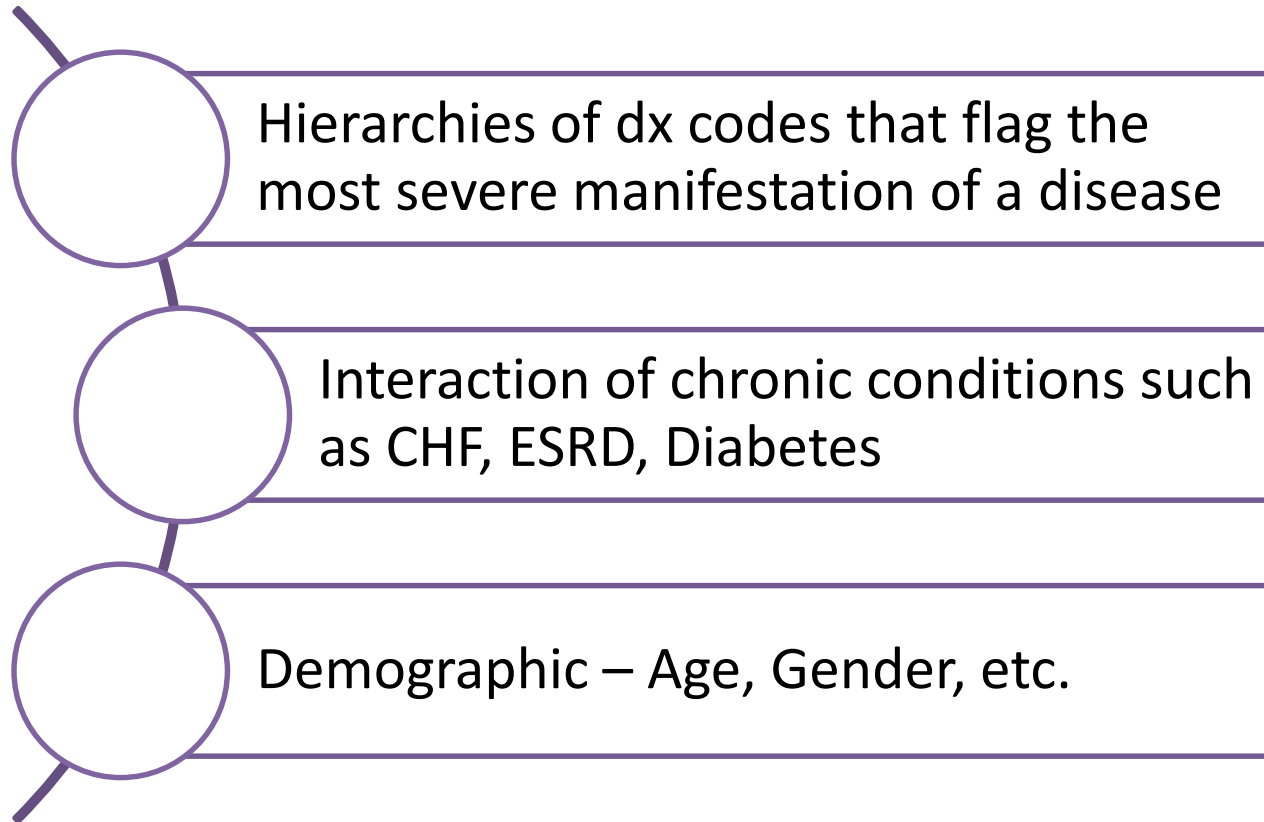
Routine Diabetes Care in NYS - Physician Office & Outpatient Setting, 2011



Risk Scores

- Quantify the increase in future health care costs based on demographic factors, chronic conditions, and interactions of chronic conditions
- Example: Hierarchical Conditions Categories
 - CMS method for adjusting payments to Managed Care plans based on score for each beneficiary

Risk Scores - Factors



Factors must be predictive of variation in cost of health care

Risk Scores

- Factors can gain or lose predictive power and so must regularly adjust
- Ex. Chronic kidney disease - lower level manifestations were removed from 2014 HCCs because they no longer contribute to prediction of costs

Episodes of Care

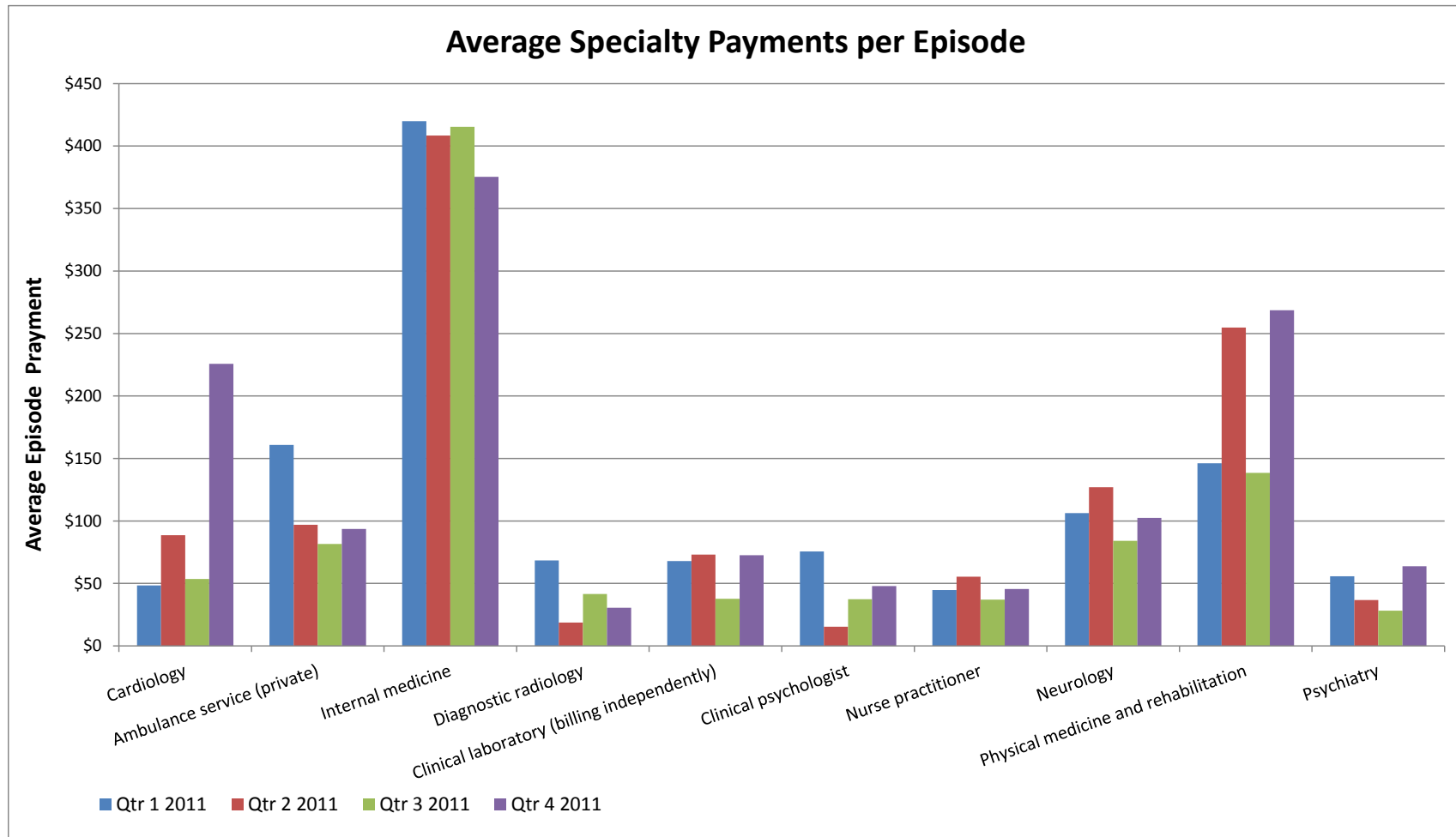
- “Bundle” all services related to a particular condition, diagnosis or procedure
- Payment is an all-in price for the bundle
- DRGs on steroids
- Create financial incentives for providers to work together
 - CMMI Bundled Payments for Care Improvement
 - Arkansas Medicaid Program

Episodes of Care

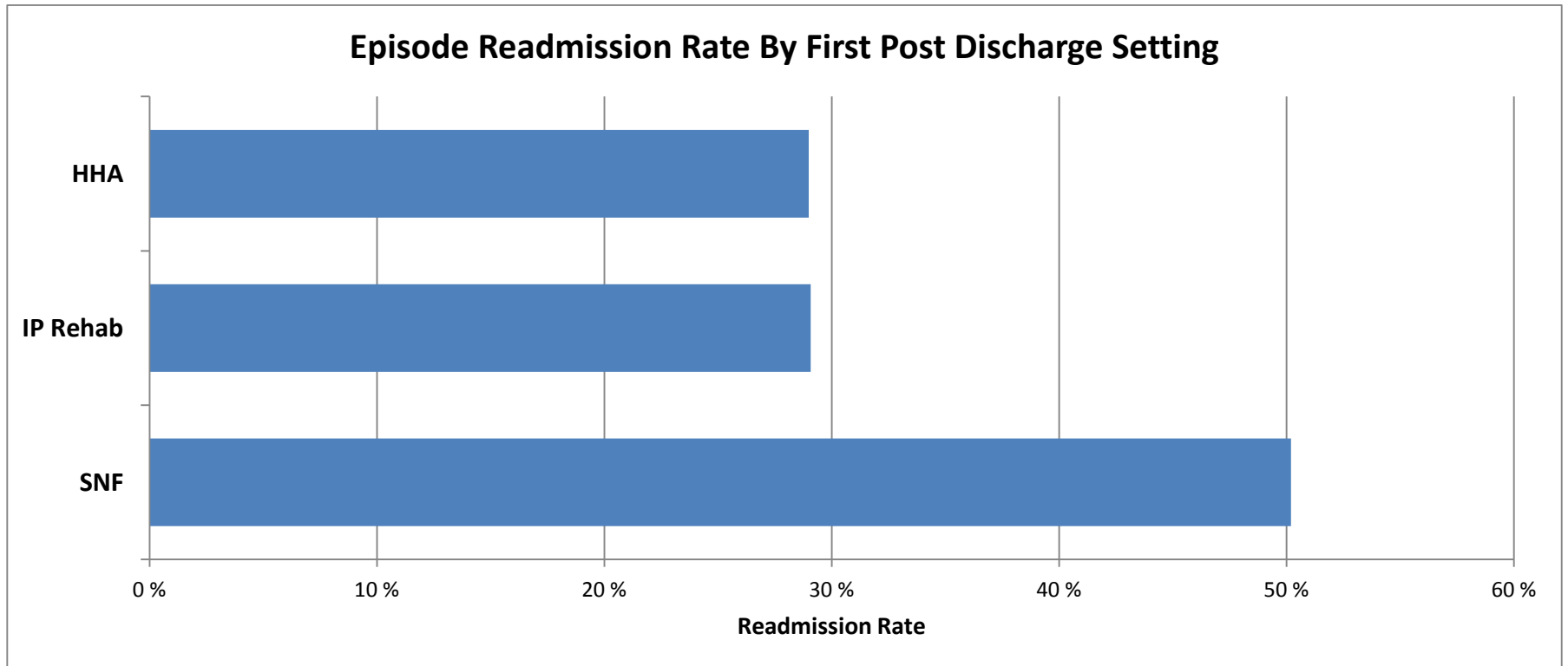
- Common episodes
 - Surgical
 - Total hip/knee replacements
 - Spinal fusion
 - Cardiac valve replacements
 - PCIs
 - Medical
 - Stroke
 - Heart failure

Episodes of Care

What physician specialties are involved in caring for stroke patients?



Episodes of Care



PMPM

- Per member per month
- A measure of insurance spend
- Looks at all healthcare encounters by insured person
- Not limited by diagnosis or procedure
- Based on at least one year of data
- Can be combined with stratifications of the population to compare

Quality Measures

- Public Report Cards
- Incentives/Penalties
- Continuous Improvement programs
 - CMS Partnership for Patients

Quality Measures

Outcomes

Avoidable Admissions

Healthcare Acquired Infections

Mortality

Readmission

Process

Aspirin Given on Arrival for AMI

Antibiotic Selection for Surgical Patients

Smoking Cessation Counseling

Patient Satisfaction

CMS

Commercial Insurers

Quality Measures – Risk Adjustment

Example - Direct Standardization

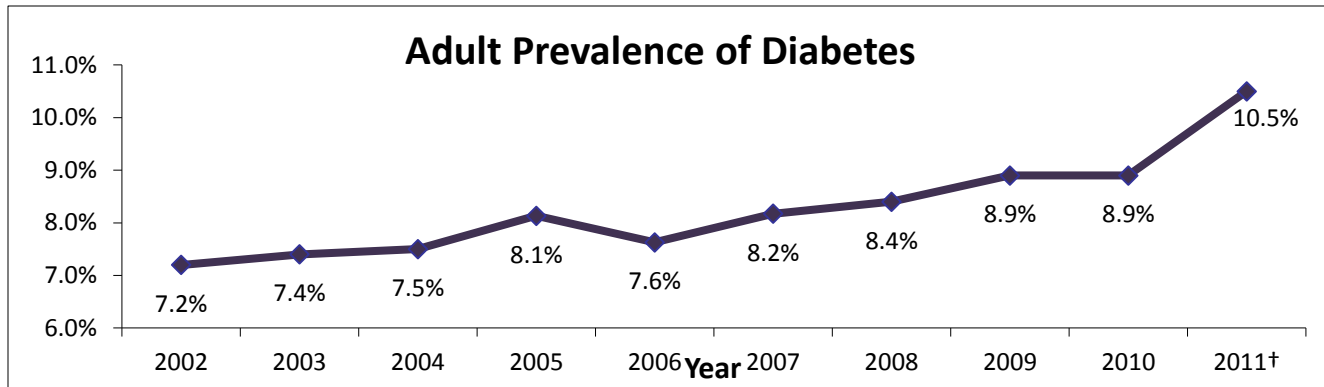
population rate = expected rate at varying levels



Quality Measures – How many ways can you define Readmission?

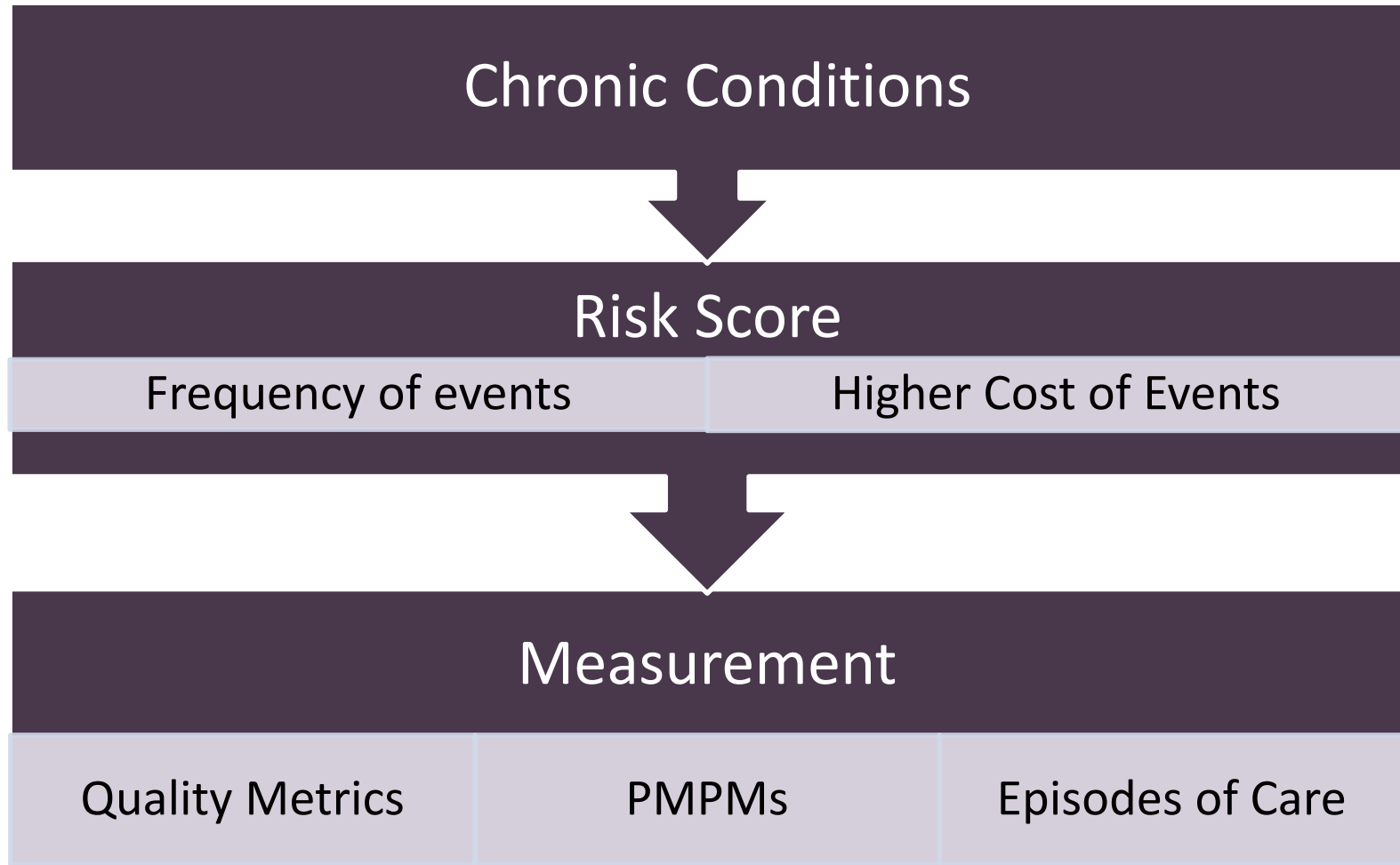
- Potentially Preventable vs. All-cause
- Condition Specific vs. Hospital-wide
- Chain vs. not-chained
- 7 Day vs. 30 Day

Quality Measures – Case Study



NYS Population	19,650,000	19,650,000
Diabetes Prevalence	8.9%	10.5%
Number of Diabetics	1,750,000	2,060,000
Rate of Admissions for Diabetes	41,500	41,500
Rate of Admissions per 1,000 Diabetics	23.7	20.1
		-15%

How Do they all fit together?



Tools for Evaluating Patient-Centered Analytics

Analytic Tools

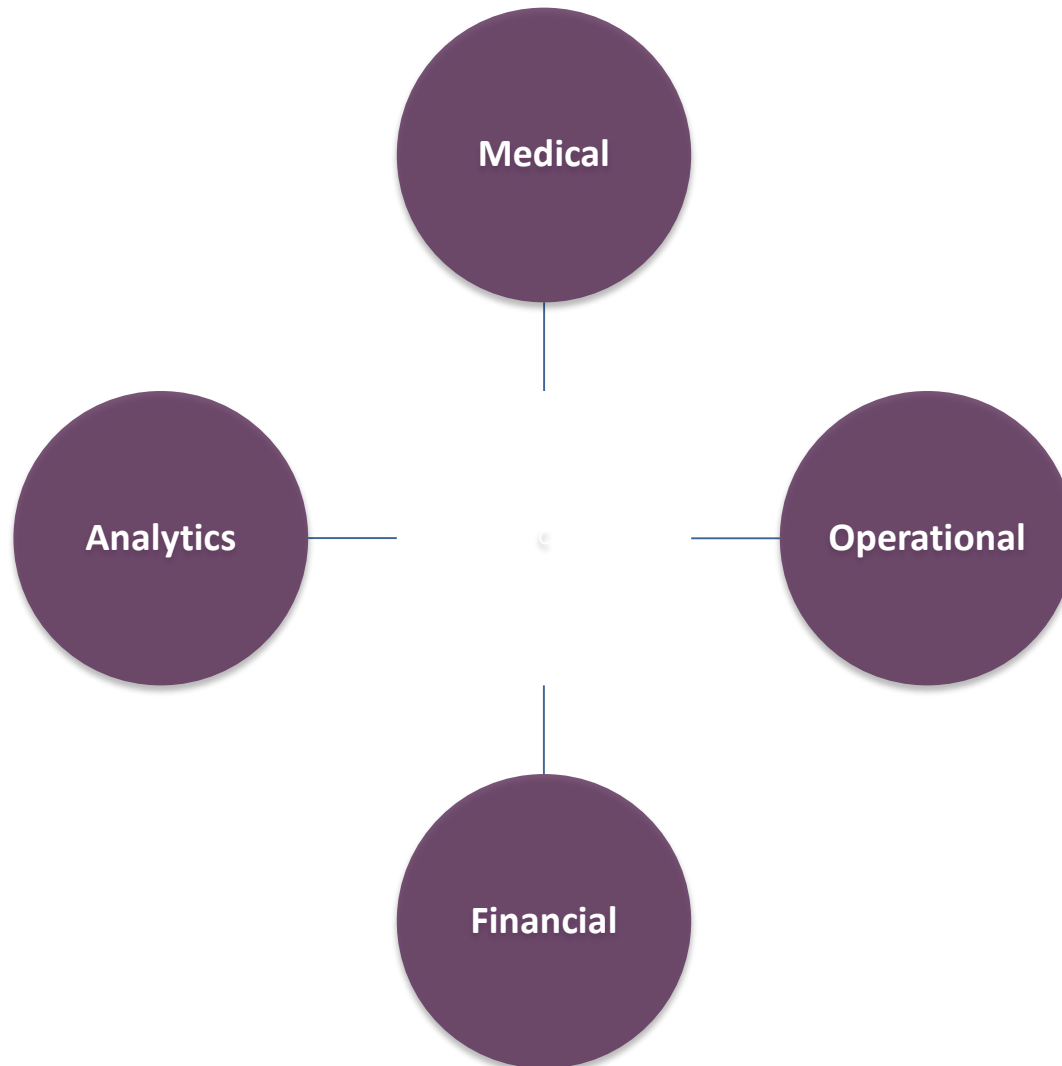
Web-
Based

BI
Platforms

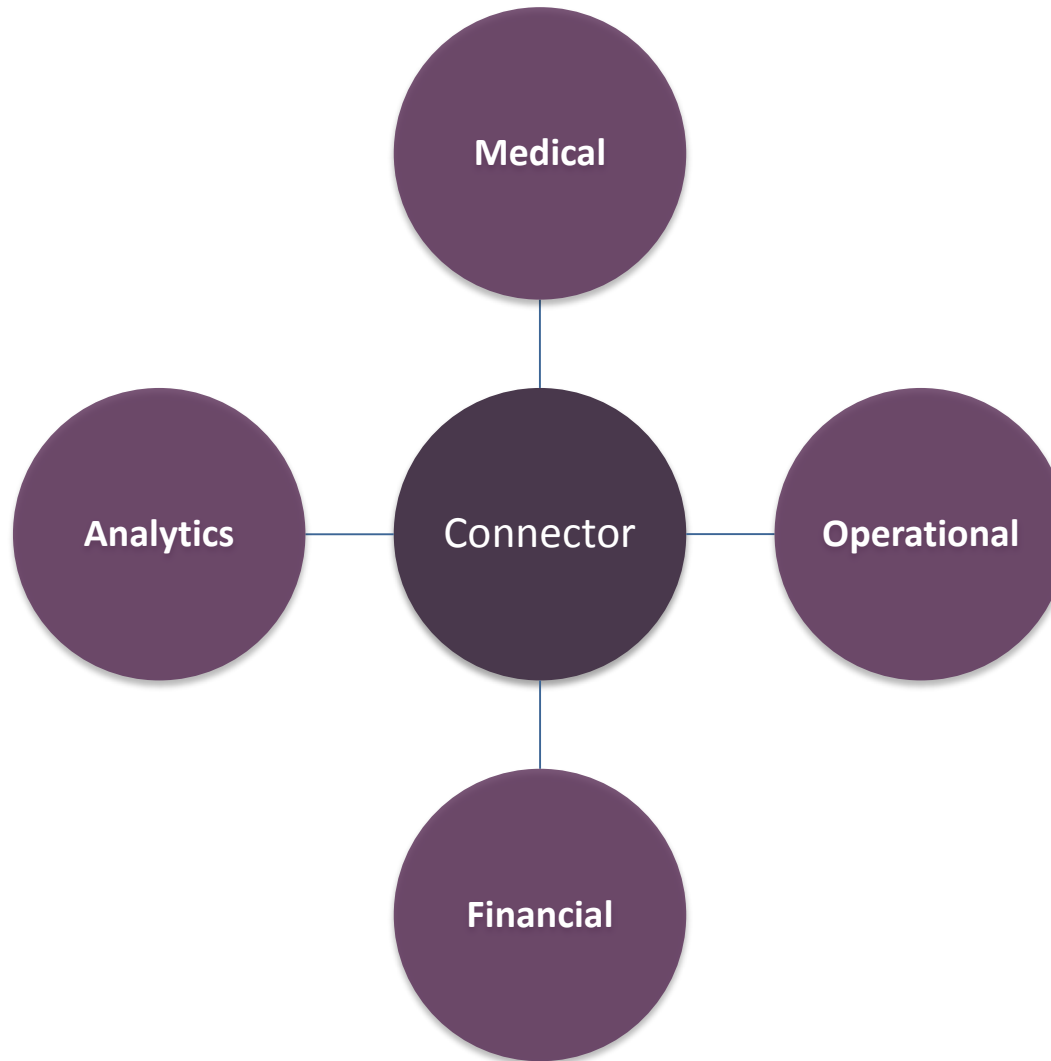
“BI-lite”

Internal
Resources

The Analytics Team



The Analytics Team



The Analytics Guy*

NOT the guy who maintains your PCs

NOT a spreadsheet guy

NOT a guy who only uses desktop-type tools (Excel, Access)

Knows how to use serious database tools (SQL, Oracle, SAS)

Understands healthcare data terminology (with help)

Can think like your users

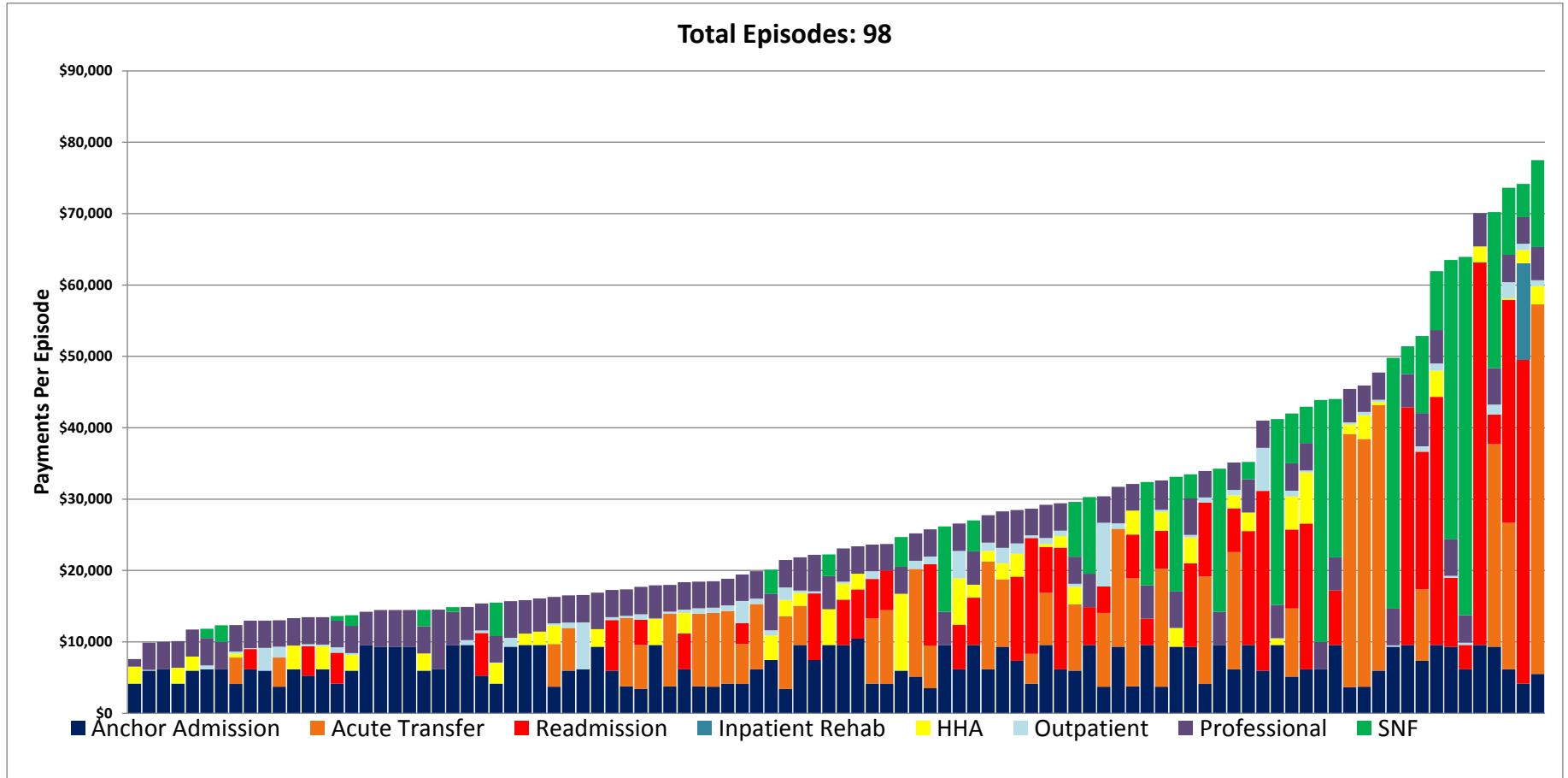
* In the generic, non-gender specific sense

Case Study 1

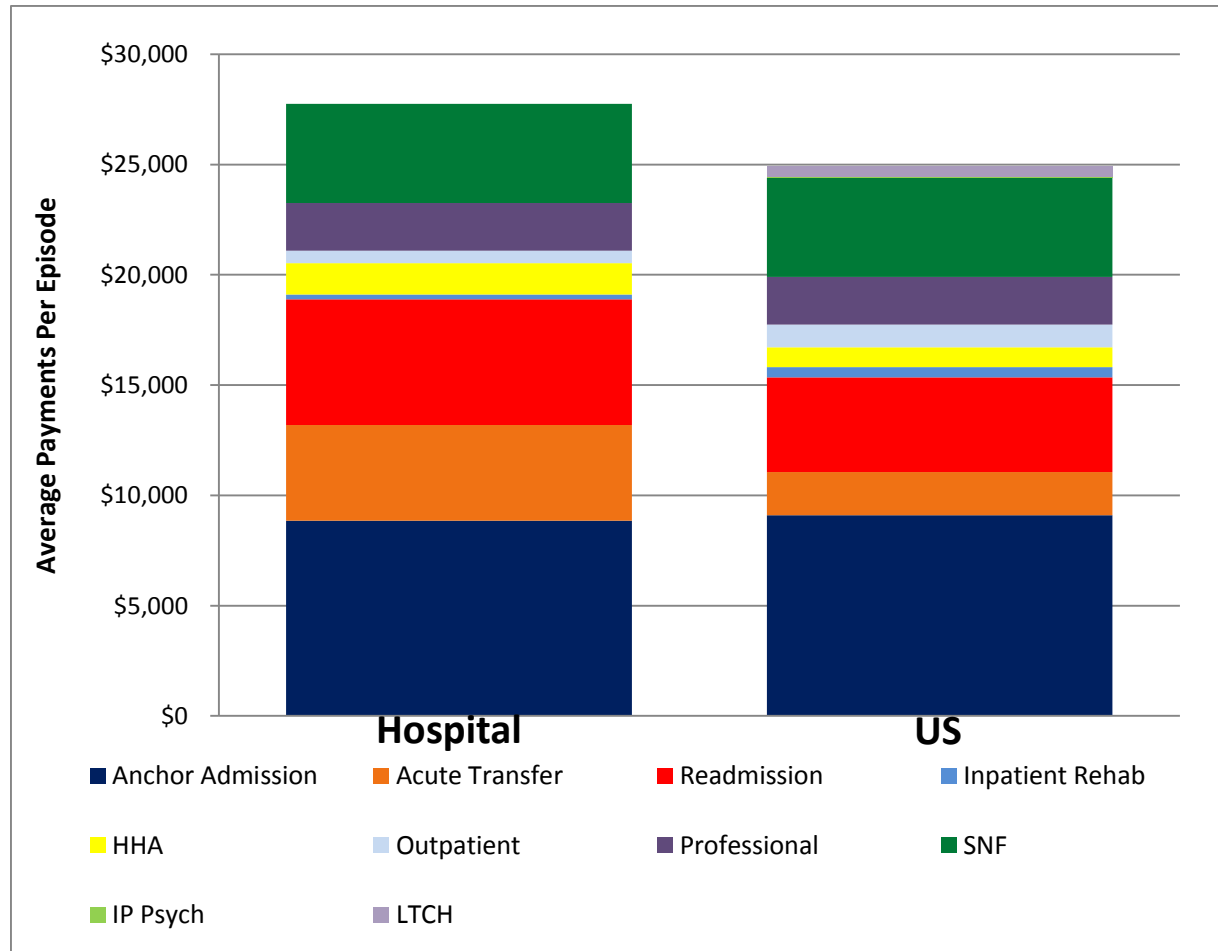
A Look at Heart Attack Care

- One market, two hospitals
- Community hospital
- Tertiary care facility
- Heart attack patients arrive at both hospitals
- Cost to the system varies

Heart Attack (AMI) – Community Hospital

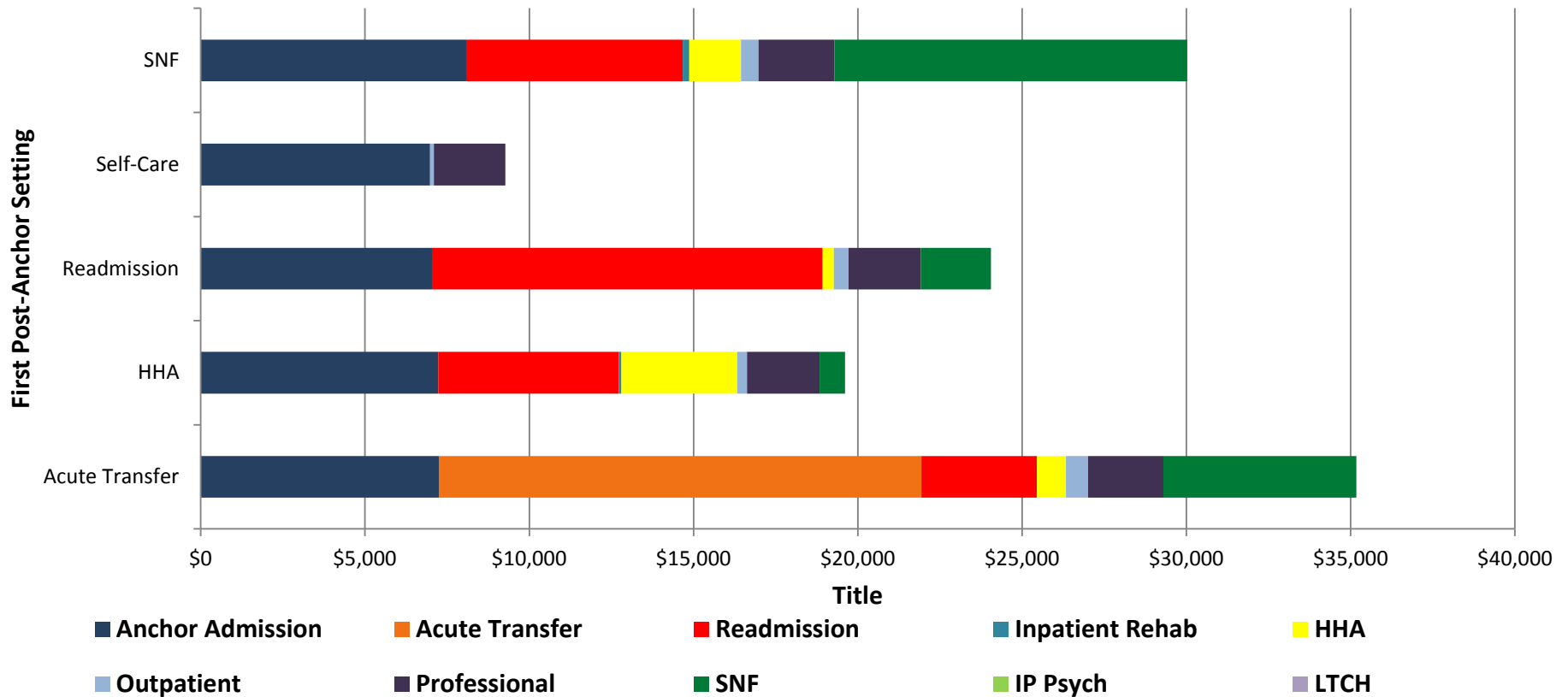


Heart Attack (AMI) – Community Hospital

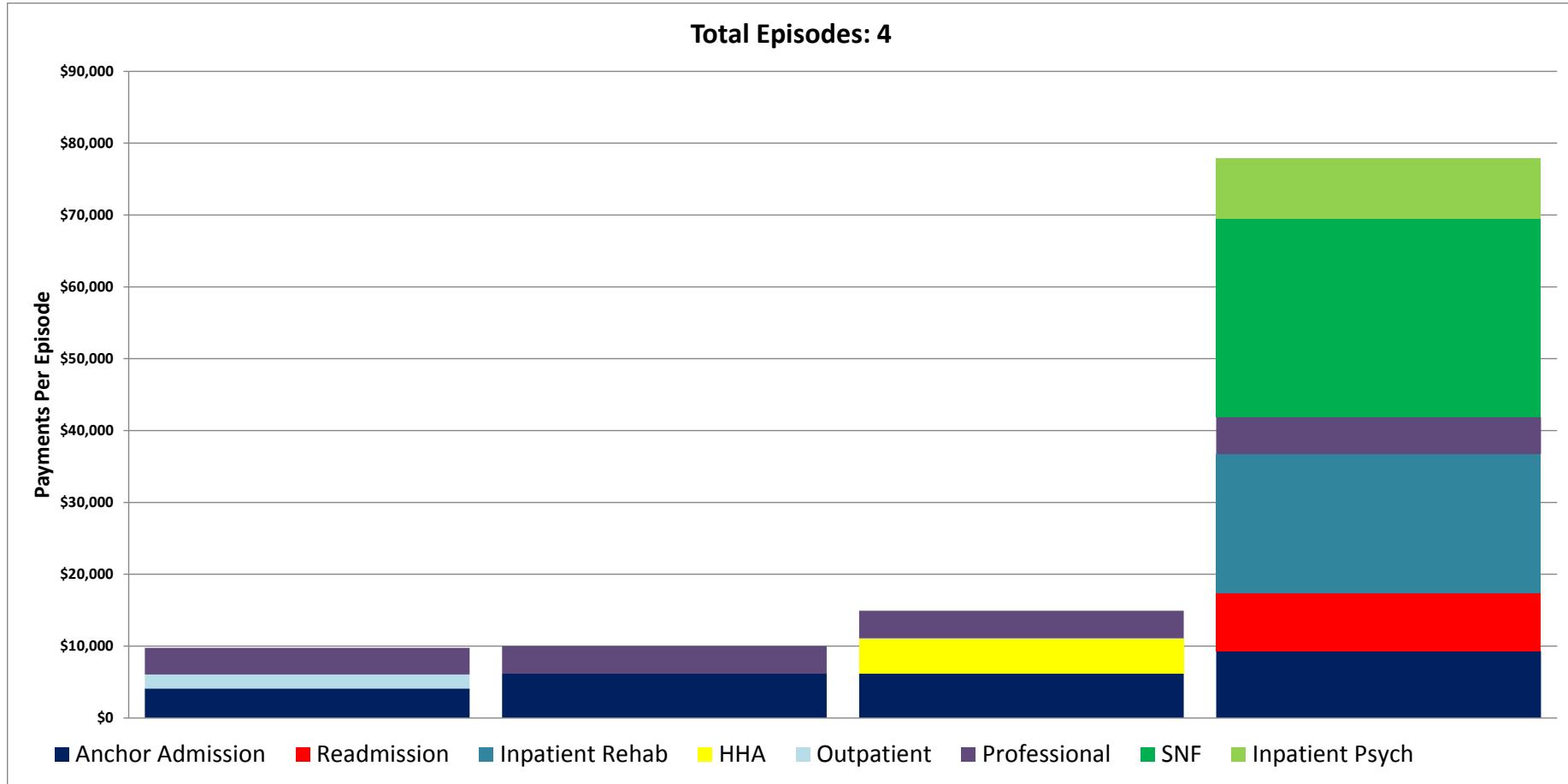


Heart Attack (AMI) – Community Hospital

Average Episode Spend by First Post-Anchor Setting

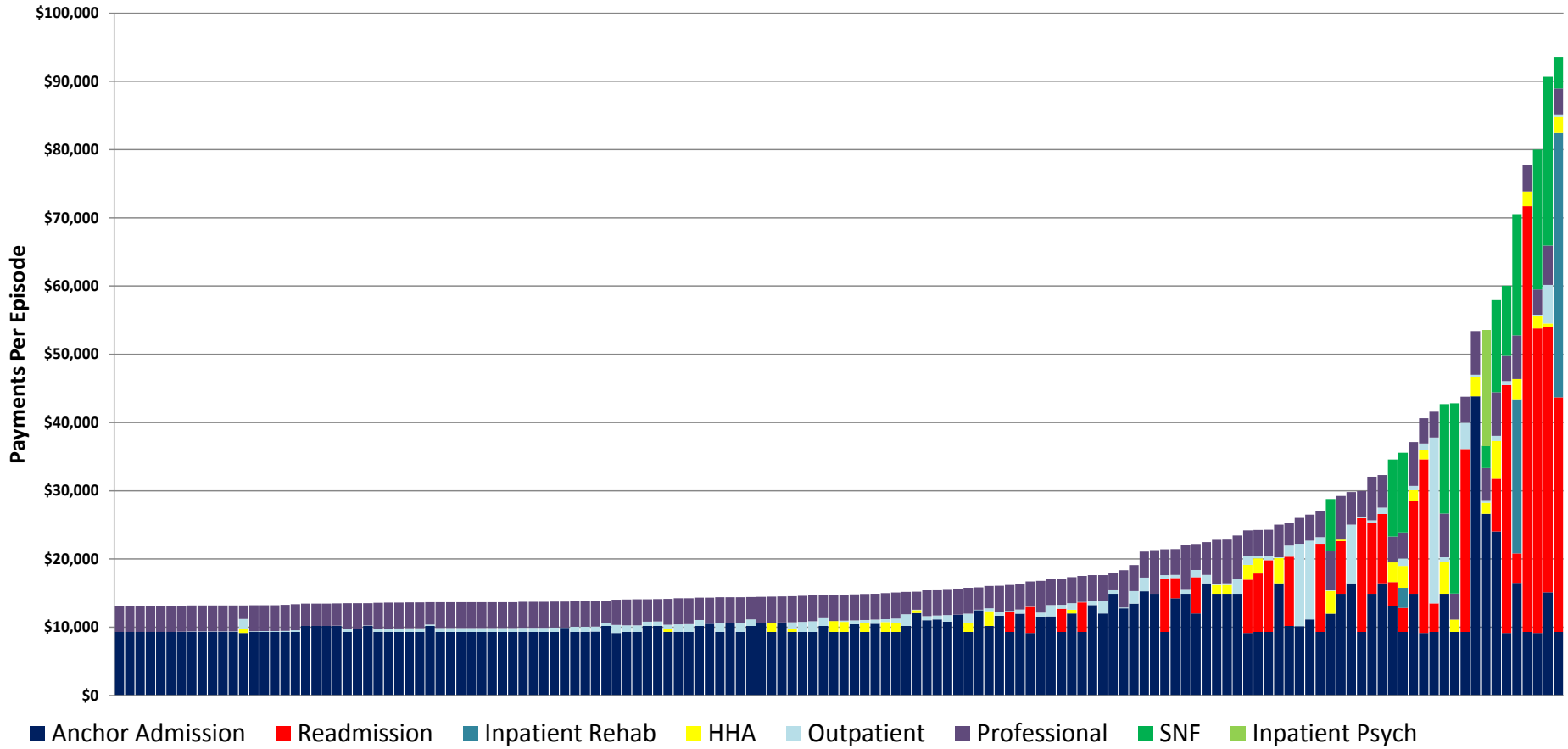


Heart Attack (AMI) – Tertiary Care Hospital

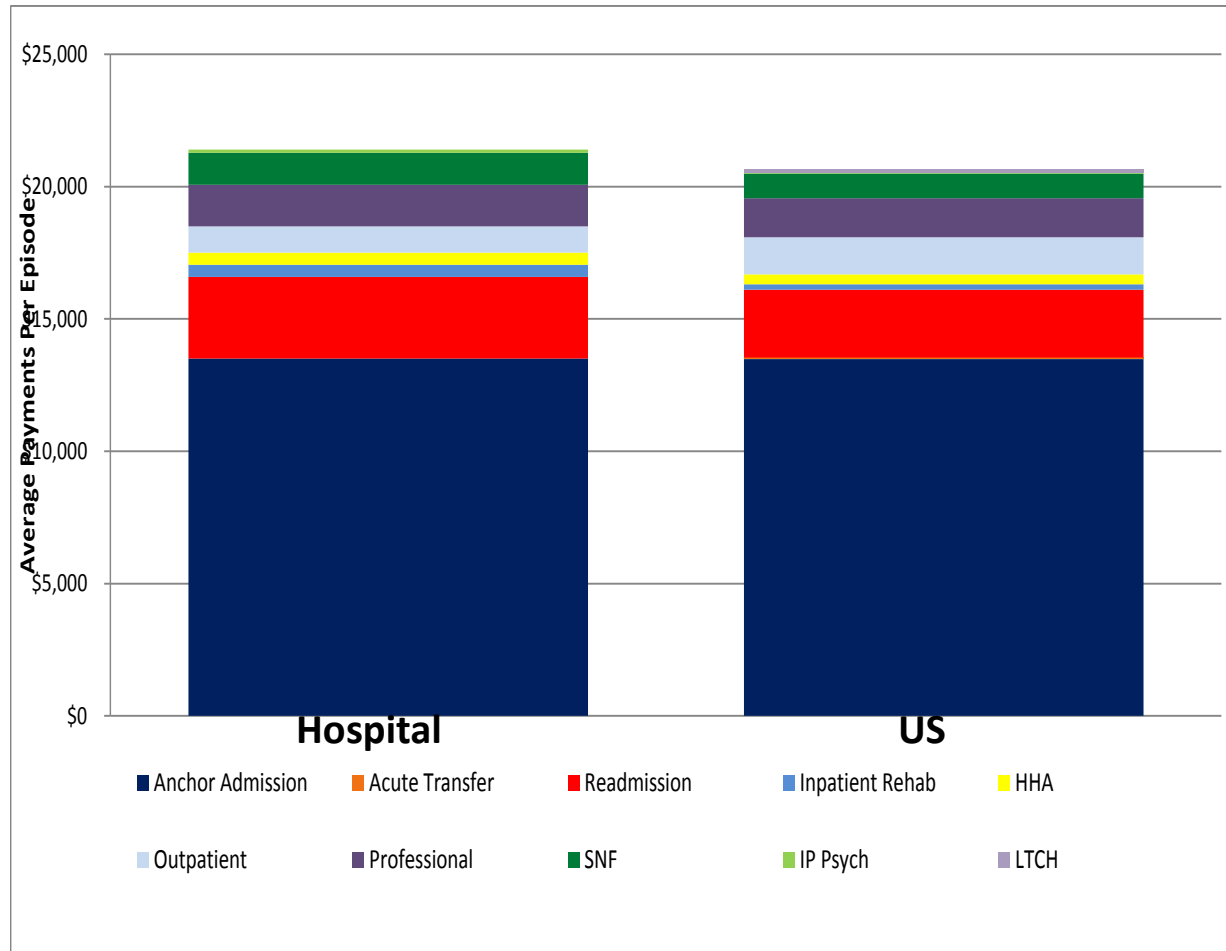


PCI – Tertiary Care Hospital

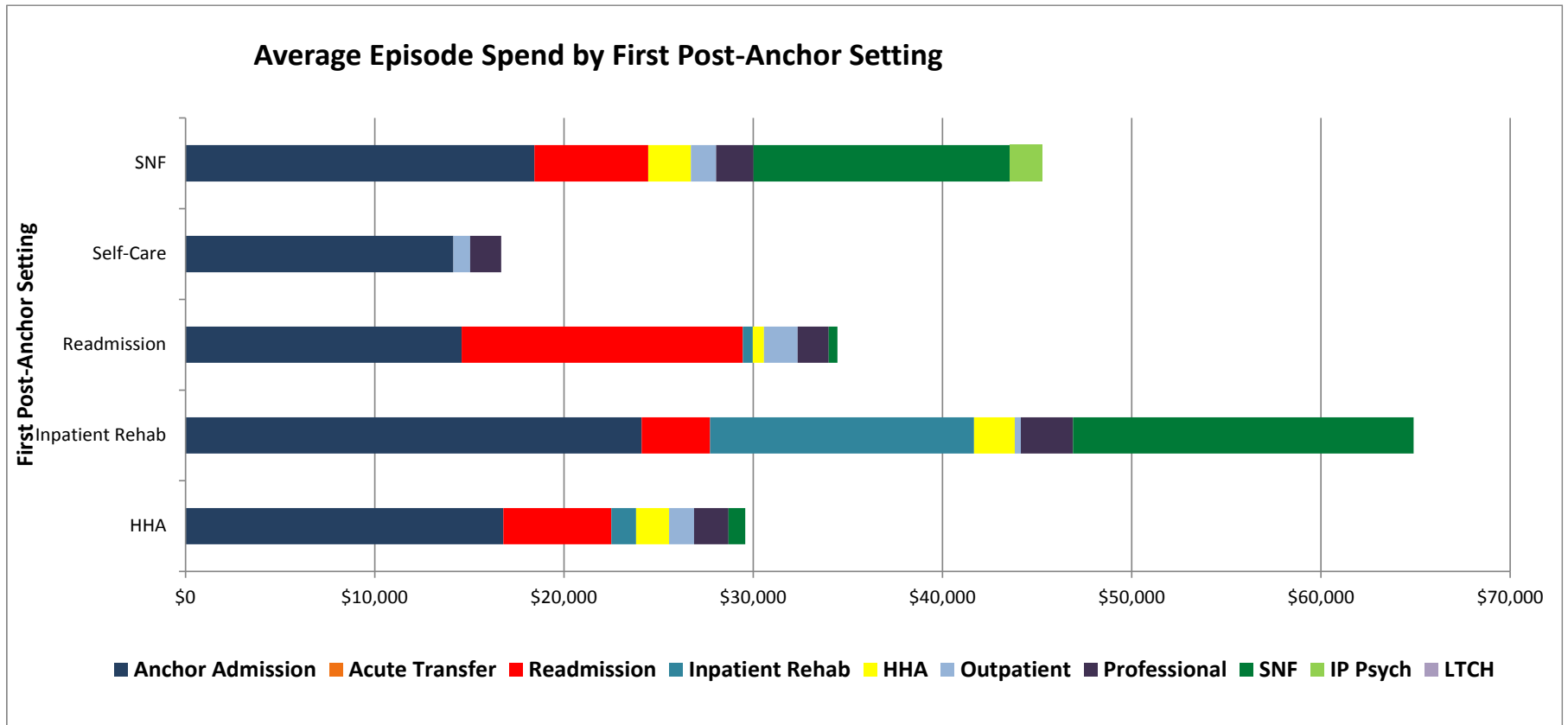
Total Episodes: 140



PCI – Major Academic Medical Center



PCI – Tertiary Care Hospital

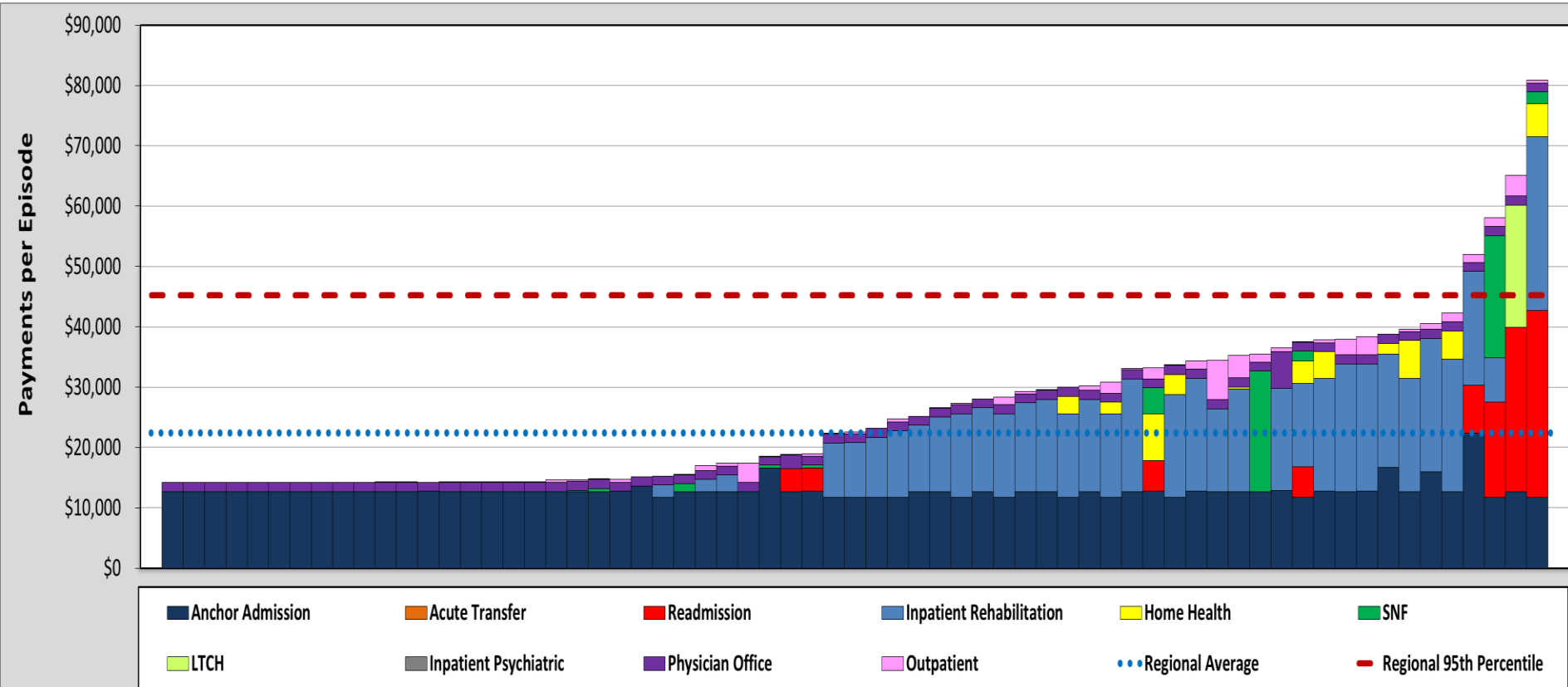


Case Study 2

A Tale of Two Cities

- Patient-centered analytics to evaluate opportunities for care redesign and shared savings
- Small city hospital vs. large metropolis medical center

Major Joint Replacements – Small City Hospital

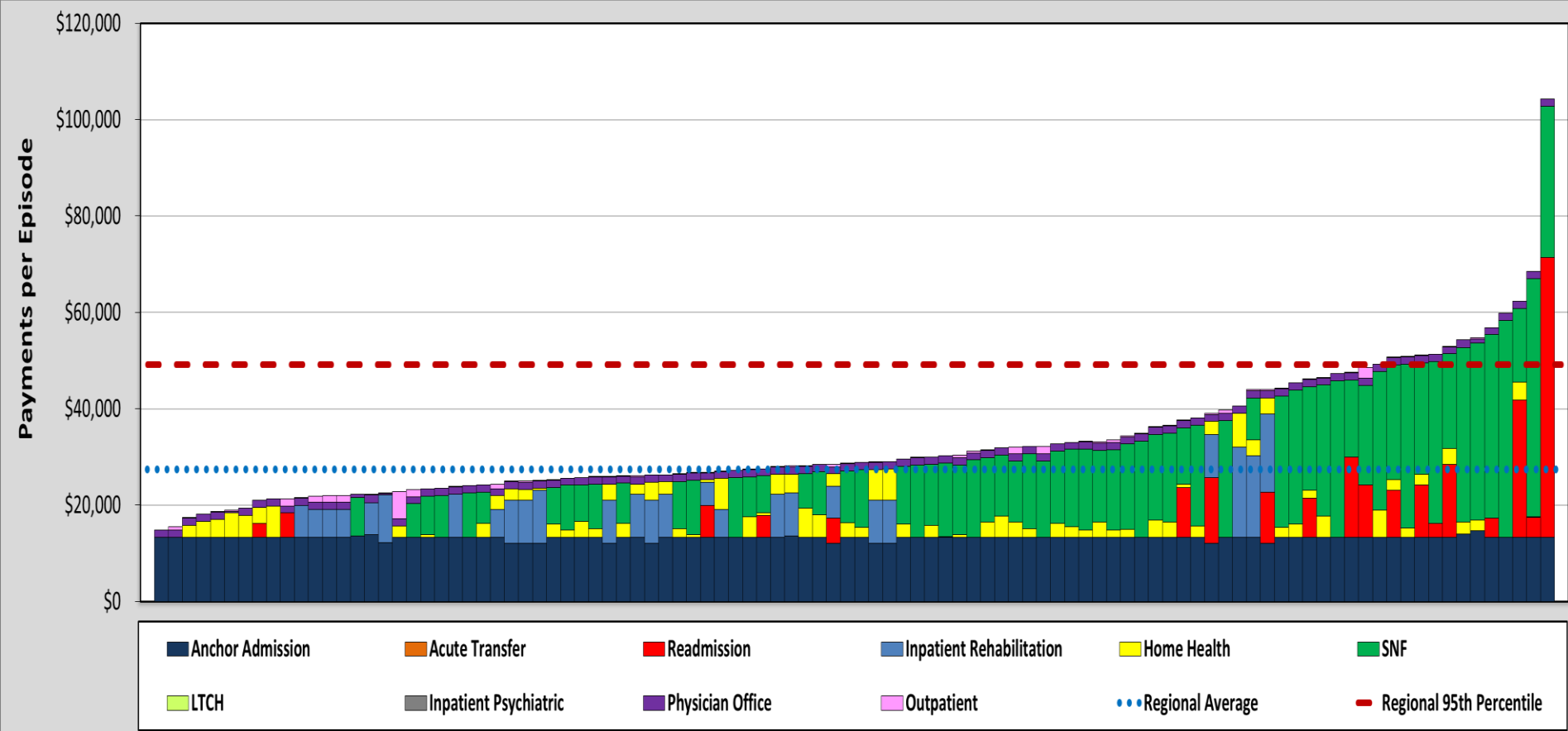


Major Joint Replacements – Small City Hospital

Opportunities and Strategies

- Opportunity
 - Maximize internal cost savings to improve margin under the bundled payment
- Strategies
 - Minimize risk by opting for the 75% limit
 - Use safe harbors to incentivize physicians
 - Work with vendors

Major Joint Replacements – Metropolis Medical Center



Major Joint Replacements – Metropolis Medical Center

Opportunities and Strategies

- Retain Savings Under New Care Delivery Model
 - Reduce readmissions and improper utilization of SNF care
 - Maximize gains by opting for 99% limit
 - Complement Medicare Pioneer ACO
- Enhance Revenue
 - Increase market share for Medicare managed care, Medicaid, commercial payers – “Center of Excellence”
 - Free up capacity for more intensive rehab services
- Engage Physicians Through Gainsharing
 - Expand “pay for performance”
 - Reduce device costs
- Improve Patient Care Quality and Outcomes
 - Coordinate delivery of services across entire continuum
 - Direct patients to most appropriate care settings

Questions?

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