



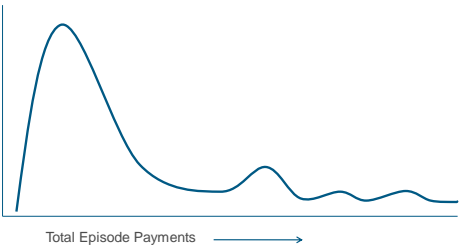
The Importance of Data & Analytics in a Bundled Payment Approach

Bob Kelley, Senior Vice President, Center for Healthcare Analytics
Thomson Reuters

May 2012

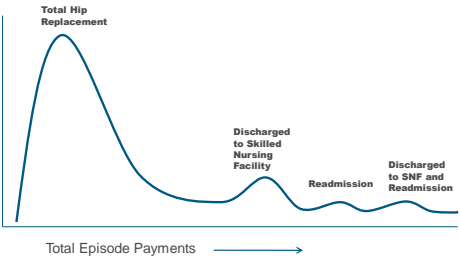


WHY IS THIS DISTRIBUTION IMPORTANT ?



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PAYMENT DISTRIBUTION SHAPED BY ALTERNATIVE TREATMENT PATHWAYS



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MARKETSCAN CLAIMS DATABASES

- **Content**
 - Fully integrated claims data at the patient level
 - Data linked at the patient level by a unique identifier that is consistent across services, health plans, time
- **Reflects the true continuum of care**
 - Fully integrating all treatments and plan design
 - To understand impact of cost, treatment, and behavioral drivers

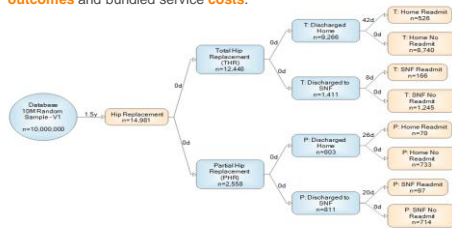
Payer Databases: >145 million unique patients since 1995

Commercial (under 65)	40M lives/year through 2010
Medicare Supplemental	3M lives/year through 2010
Multi-state Medicaid	10-13 states; 6.4M lives/year through 2010

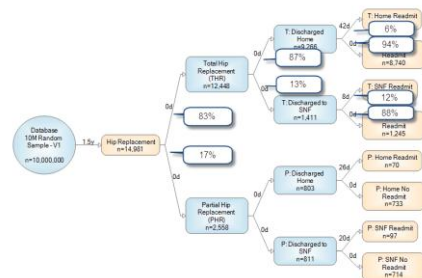


A SIMPLE TREATMENT PATHWAY: HIP REPLACEMENT

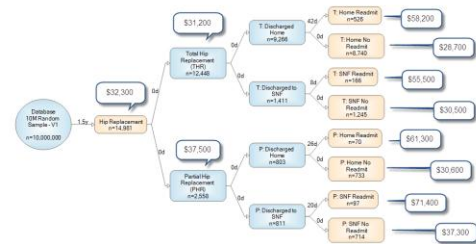
Important to identify specific **treatment decisions**, understand relevant **decision criteria**, and understand expected impact on **patient outcomes** and bundled service **costs**.



FACTORS THAT SHAPE THE DISTRIBUTION: PATHWAY FREQUENCY



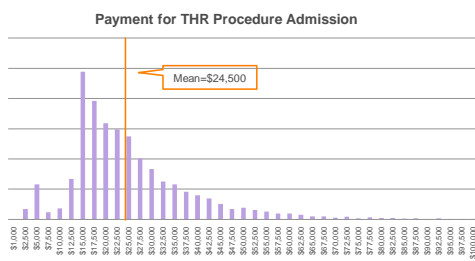
FACTORS THAT SHAPE THE DISTRIBUTION: MEAN PAYMENT



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FACTORS THAT SHAPE THE DISTRIBUTION: PAYMENT VARIABILITY



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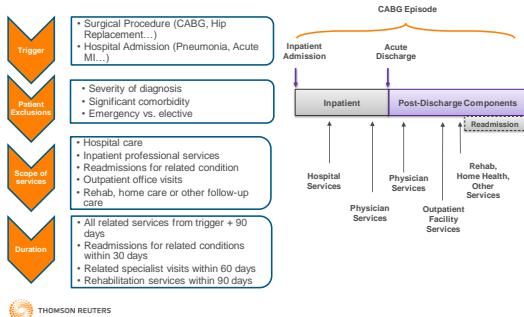
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MANAGING RISK IN ACUTE BUNDLES

- **Providers assume** performance risk for cost of services while **Payers retain** insurance risk for the population
- **Providers** must have the information they need to anticipate and manage variation in:
 - Surgeon preferences
 - Rates of referral to post-acute facilities
 - Patient characteristics (e.g., comorbidities) effect on required services and resulting cost
 - Prices for required services provided in and out of "network"
 - Number, likelihood and potential causes of "outlier" patients
 - Services that may or may not be "related" to the bundle
 - Number, likelihood and potential causes of readmissions

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STEPS IN DESIGN OF ACUTE CARE BUNDLES



HOW DATA CAN HELP: UNDERSTANDING REALITY

- Evaluate the **opportunities and risks** associated with moving from fee-for-service to a bundled payment arrangement
- Leverage data and established methodologies to understand patterns across the **continuum of care**
- Test the price impact of **alternative service bundle definitions**
 - Components and services included in the bundle
 - Time period covered by the bundle
 - Inclusion / exclusion criteria
 - Outlier threshold
- Identify opportunities to improve care, **reduce variability** and manage financial risk, while differentiating care and outcomes to maintain or capture additional market share

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EXPLORING TREATMENT PATHWAYS

- What **variables** are relevant to the analysis ?
 - Patient characteristics (e.g. age, diagnosis and severity, comorbidities, family support)
 - Treatment alternatives
- Which treatment **decisions** vary by provider rather than by patient characteristics?
 - Treatment modality (e.g. medical management vs. surgery)
 - Post-acute care (e.g. SNF vs. home health)
- Which “nodes” represent significant **differences in total cost** ?
- Which decisions might have significant impact on **patient outcomes** ?

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WHAT CMMI IS LOOKING FOR IN CARE REDESIGN

- Affect a broad range of categories of clinical conditions
 - large number of beneficiaries
 - most significant avoidable costs
- Strong evidence of physician commitment to align incentives across the care continuum
- Proposals should:
 - Offer significant savings to Medicare
 - Be scalable and replicable
 - Rapidly involve participation by other payers
 - Be implemented on aggressive timelines



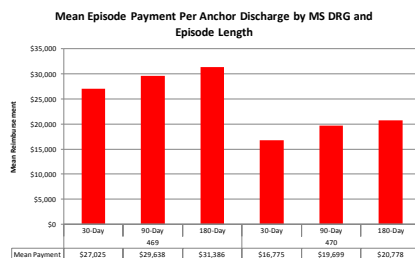
Financial and Performance Accountability for Cross-Provider Care
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CMMI MULTIPLE OPTIONS

Payments Included in Bundle	Model 2	Model 3	Model 4
Inpatient Facility (part A)	✓		✓
Inpatient Professional (part B)	✓		✓
Readmissions	✓	✓	✓
Post Acute Facility	✓	✓	
Post Acute Professional	✓	✓	

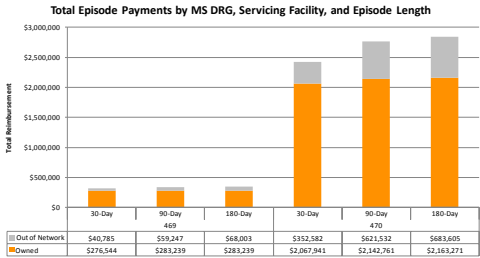
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JOINT REPLACEMENT: MEAN EPISODE PAYMENTS



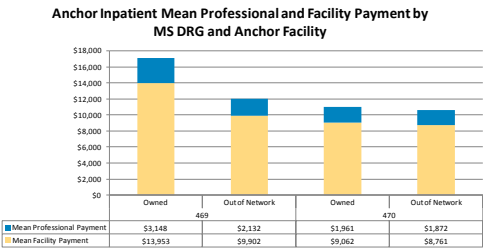
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JOINT REPLACEMENT:
DISTRIBUTION OF TOTAL EPISODE PAYMENTS



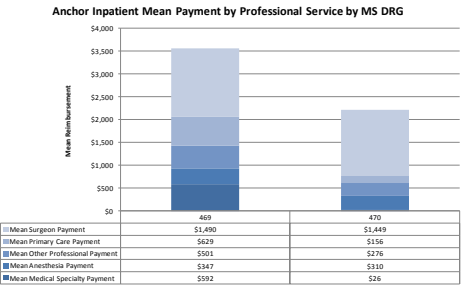
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JOINT REPLACEMENT:
INPATIENT UTILIZATION PROFILE



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JOINT REPLACEMENT:
INPATIENT REIMBURSEMENT - PROFESSIONAL



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WHICH READMISSIONS SHOULD BE COVERED?

Thomson Reuters prefers “specificity” over “sensitivity” since it focuses the provider on reducing specific causes of readmission. Prefer to target 25% reduction in specific readmissions, over 10% reduction in all-cause readmissions

- Proximity analysis based on prevalence of DRG post-discharge vs. pre-admission
- Analyze prevalence of readmissions for various conditions 30, 60, 90, and 100 days post-discharge
- Also compared to *pre-anchor* admission rate

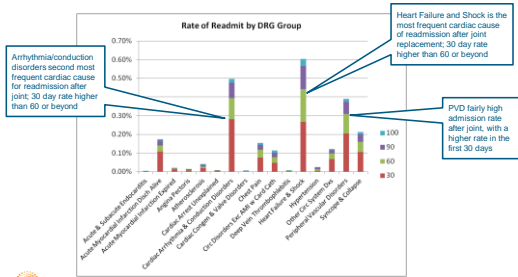


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READMISSION ANALYSIS

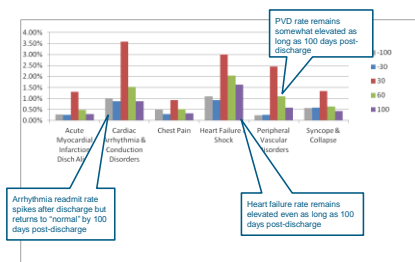
- Example: Cardiac medical DRGs after joint replacement



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READMISSION ANALYSIS

- Example: Cardiac medical DRGs after joint replacement



Note: rates are annualized for comparability over different length time periods

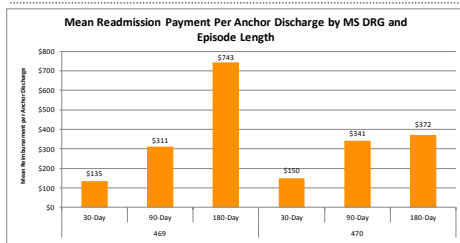
DRG EXCLUSION PROCESS

- Proximity alone is not sufficient
 - Evidence that admission rates spike after a procedure even for unrelated conditions (e.g., cancer)
- Clinician review required for final decision
 - Reviewed diagnoses included in DRG
 - Clinical judgment as to whether related; assume yes unless clear evidence to the contrary



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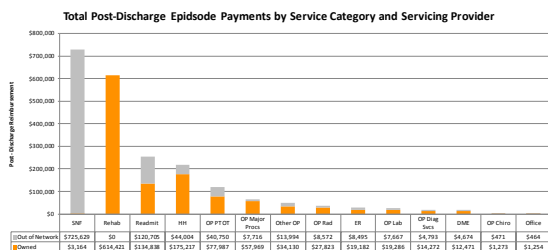
JOINT REPLACEMENT: CLINICALLY RELATED READMISSIONS



- If the cost of readmissions was distributed across *all* joint replacements, the marginal cost per replacement would be as shown above
- This represents a starting point for pricing a bundle to include readmissions; reduction in readmissions increases potential bundle savings



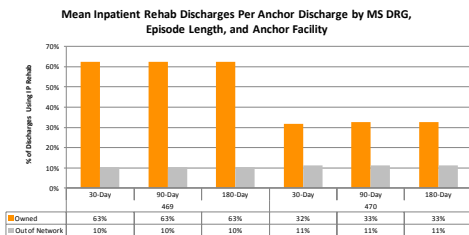
JOINT REPLACEMENT : TOTAL POST DISCHARGE PAYMENTS



- The largest category of reimbursement after discharge is related to Rehab most of which occurs at Client owned facilities



JOINT REPLACEMENT: INPATIENT REHABILITATION



- Patients were discharged to inpatient rehabilitation much more frequently by Client when compared to out of network facilities



WHAT IS THE BUNDLE MODELER?

- The Bundle Modeler is a hands-on Excel-based tool that models a bundle design
- It allows you to set a baseline price and cost scenario for a bundle, then model other cost and use scenarios to see where potential savings opportunities exist
- The Bundle Modeler structure uses the basic bundle components:
 - Inpatient (professional and facility)
 - Post-discharge facility care
 - Post-discharge outpatient care
 - Readmissions
 - Pre-admission care



STEP 1: HOSPITAL-SPECIFIC INFORMATION

- Enter case volume
- Enter estimated percent of long term readmissions (30-90 days) that will pass clinical review for inclusion
- Enter rates for bundle
 - Can use national or local defaults if unsure



STEP 2: SET INITIAL BASELINE

- Choose whether to start with national or locally estimated defaults
- Modify defaults to reflect your own experience in terms of price, cost and utilization

Select Option to use as default for baseline:

☐ National Data

☒ Locally Adjusted Estimates

Enter data representing age 40-64, Without Major Complications/Comorbidities	Percent of cases with this type of service	Avg reimbursement per case with this type of service	Avg cost per case with this type of service	Average Reimbursement/Case over all cases	Average cost/Case over all cases
Knee Replacement Admission					
Facility	100.00%	\$8,564	\$6,485	\$8,564	\$6,485
Supplies: Implants	100.00%	\$5,849	\$3,689	\$5,849	\$3,689
OR/Recovery	100.00%	\$1,773	\$2,672	\$1,773	\$2,672
Room and Board/Ancillary	100.00%	\$5,206	\$5,611	\$5,206	\$5,611
Supplies: Other	100.00%	\$1,409	\$572	\$1,409	\$572
Pharmacy	100.00%	\$953	\$196	\$953	\$196
Anesthesia	100.00%	\$1,952	\$1,297	\$1,952	\$1,297
All Other	100.00%				

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STEP 3: DESIGN SCENARIOS

- Design both a "Gain" and "Loss" Scenario by altering values from the Baseline based on expected improvements or risks
 - Default values for Gain/Loss scenarios are available in the tool

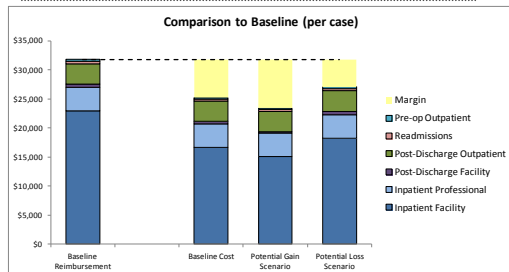
Gain Scenario

Enter data representing age 40-64, Without Major Complications/Comorbidities	Percent of cases with this type of service	Avg cost per case with this type of service	Average cost/Case over all cases
Knee Replacement Admission			
Facility			
Supplies: Implants	100.00%	\$5,000	\$5,000
OR/Recovery	100.00%	\$3,689	\$3,689
Room and Board/Ancillary	100.00%	\$2,672	\$2,672
Supplies: Other	100.00%	\$1,611	\$1,611
Pharmacy	100.00%	\$572	\$572
Anesthesia	100.00%	\$196	\$196
All Other	100.00%	\$1,297	\$1,297
Total			\$15,038

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MANAGING RISK



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Questions or Follow-Up Discussion

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