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Tomorrow's Doctors, Tomorrow's Cures

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National Bundled Payment Summit 2014

Data Reporting and Analytics

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Foci Today

1. Trends observed to date: the clinical condition matters!
2. Analytic opportunities

Methodology

- In this analysis, we utilized data from AMCs who are now in the risk phase of BPCI
- 7 health systems across the country
- Approximately 1,400 at-risk episodes per year
- Over 450 readmissions/year
- Average readmit occurs 40 days after index admit
- Episode families with the highest total Medicare payments: Major Joint Replacements, CHF, Cardiac Valve Replacement, Stroke, PCI

Fundamental Differences

- Medical episodes have high readmit rates for the same diagnosis that caused the index admission.
- Surgical episodes have lower readmit rates and they are more related to the surgery than the underlying condition.
- Top 5 reasons for readmission: CHF, Renal Failure, Septicemia, Kidney and Urinary Infections and GI hemorrhage

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Readmission Rates by First PAC Setting

- 59% of SNF patients were readmitted an average of 41 days post discharge
- 29% of Rehab patients were readmitted an average of 37 days post discharge
- 28% of Home Health patients were readmitted an average of 43 days post discharge

Readmission Rate by First Post-Discharge Setting

All Years, All Episodes

First Post Discharge Setting	Episode Count	Readmission Count	Readmission Rate	Readmit 1-7 Days Post Index Discharge	Readmit 8-14 Days Post Index Discharge
HHA	3,076	870	28 %	69	84
Hospice	73				
IP Psych	67	32	48 %		
IP Rehab	1,226	358	29 %	50	38
LTC	38	14	37 %		
Readmission	1,872	3,002	160 %	403	299
Self-Care	3,618				
SNF	2,642	1,570	59 %	179	175
Grand Total	**12,612**	**5,847**	**46 %**	**704**	**597**

Data for small cell sizes has been redacted

Volume and Variations – All Years

Index DRG	Episode Count	Total Actual Payment Amount	Average Actual Payment Amount per Episode	CV
470 - Major joint replacement or reattachment of lower extremity w/o MCC	1,607	$40,017,857	$24,902	0.45
292 - Heart failure & shock w CC	638	$14,861,934	$23,295	1.16
219 - Cardiac valve & oth maj cardiothoracic proc w/o card cath w MCC	248	$14,194,547	$57,236	0.27
065 - Intracranial hemorrhage or cerebral infarction w CC	359	$10,769,764	$29,999	0.68
220 - Cardiac valve & oth maj cardiothoracic proc w/o card cath w CC	227	$9,591,768	$42,254	0.34
291 - Heart failure & shock w MCC	284	$7,947,171	$27,983	1.03
216 - Cardiac valve & oth maj cardiothoracic proc w card cath w MCC	107	$7,858,001	$73,439	0.32
064 - Intracranial hemorrhage or cerebral infarction w MCC	173	$7,476,153	$43,215	0.58
247 - Perc cardiovasc proc w drug-eluting stent w/o MCC	370	$6,934,966	$18,743	0.59
683 - Renal failure w CC	268	$6,744,338	$25,165	0.75
871 - Septicemia or severe sepsis w/o MV 96+ hours w MCC	169	$6,056,736	$35,839	0.57
251 - Perc cardiovasc proc w/o coronary artery stent w/o MCC	293	$5,880,527	$20,070	0.70
690 - Kidney & urinary tract infections w/o MCC	284	$5,637,420	$19,850	0.81
293 - Heart failure & shock w/o CC/MCC	322	$5,361,212	$16,650	1.11
234 - Coronary bypass w cardiac cath w/o MCC	160	$5,160,366	$32,252	0.40
236 - Coronary bypass w/o cardiac cath w/o MCC	182	$4,883,429	$26,832	0.41
066 - Intracranial hemorrhage or cerebral infarction w/o CC/MCC	216	$4,264,007	$19,741	0.81
249 - Perc cardiovasc proc w non-drug-eluting stent w/o MCC	227	$4,191,842	$18,466	0.73
378 - G.I. hemorrhage w CC	197	$4,166,552	$21,150	0.92
641 - Nutritional & misc metabolic disorders w/o MCC	225	$4,094,874	$18,199	0.86
312 - Syncope & collapse	242	$4,035,586	$16,676	1.10

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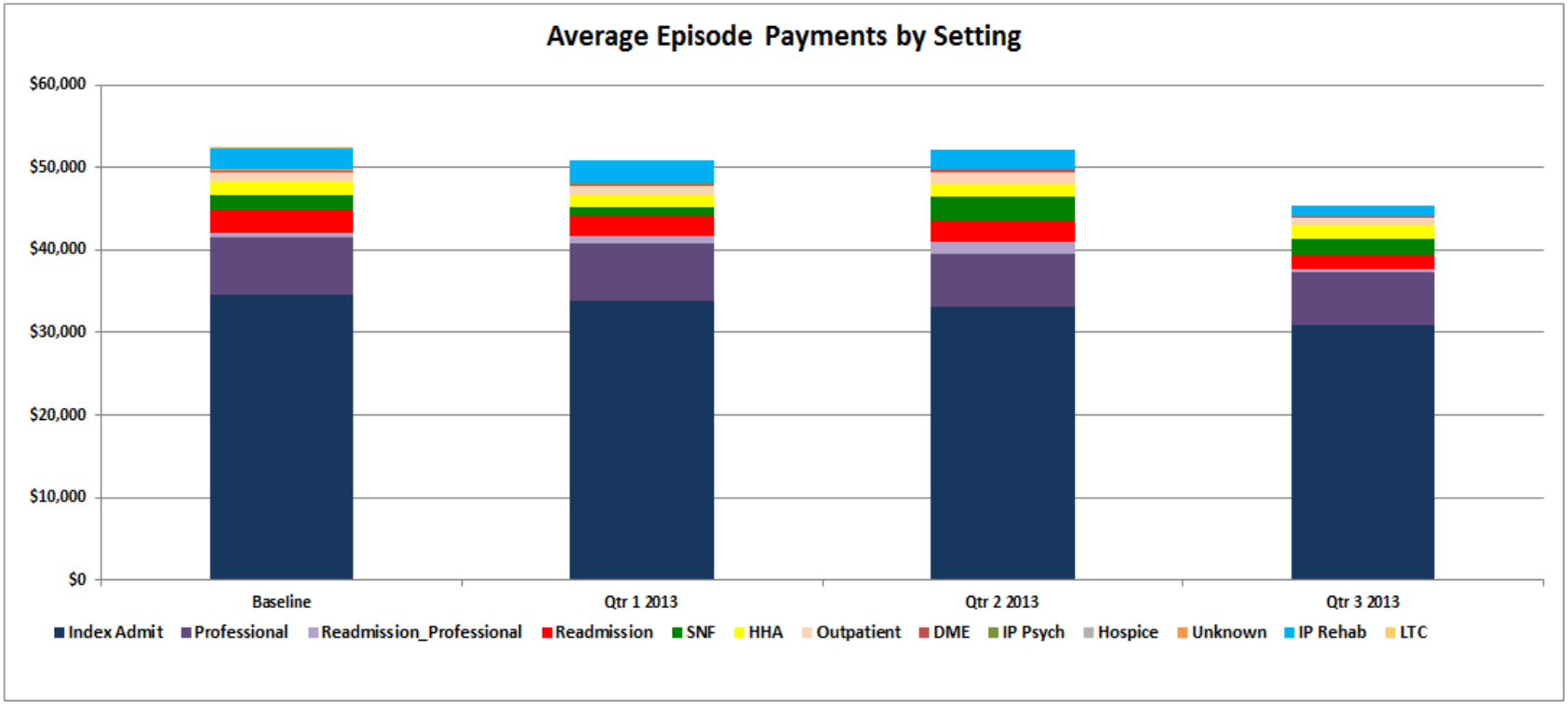
Cardiac Valve Replacement:

Significant cost driver is the **index admission**

- Top reasons for readmission: **Arrhythmia, Heart Failure, & Hemorrhage**
- Highest readmit rates for patients going to **IP Rehab (52% readmit rate) and SNF (48%) as first site**

Cardiac Valve



Ortho Procedures

Major Joint Replacements:

Significant cost drivers are **Post-Acute Care & professional fees**

- Top reasons for readmission are **Revisions of Hip/Knee replacement & Septicemia**
- Highest readmit rate is for patients that went to **SNF first (30% readmit rate)**

Top Readmit Reasons – Major Joints

Top 10 Readmission DRGs

All Years, Major Joint Replacements

Reason For Readmission	Readmission Count	Number of Episodes With At Least One Readmission	Average Days from Index Discharge
467 - Revision of hip or knee replacement w CC			25.2
872 - Septicemia or severe sepsis w/o MV 96+ hours w/o MCC			57.0
871 - Septicemia or severe sepsis w/o MV 96+ hours w MCC			49.4
292 - Heart failure & shock w CC			43.2
468 - Revision of hip or knee replacement w/o CC/MCC			32.2
300 - Peripheral vascular disorders w CC			16.0
689 - Kidney & urinary tract infections w MCC			38.8
312 - Syncope & collapse			37.0
690 - Kidney & urinary tract infections w/o MCC			33.3
812 - Red blood cell disorders w/o MCC			19.3
Grand Total	50	45	35.4

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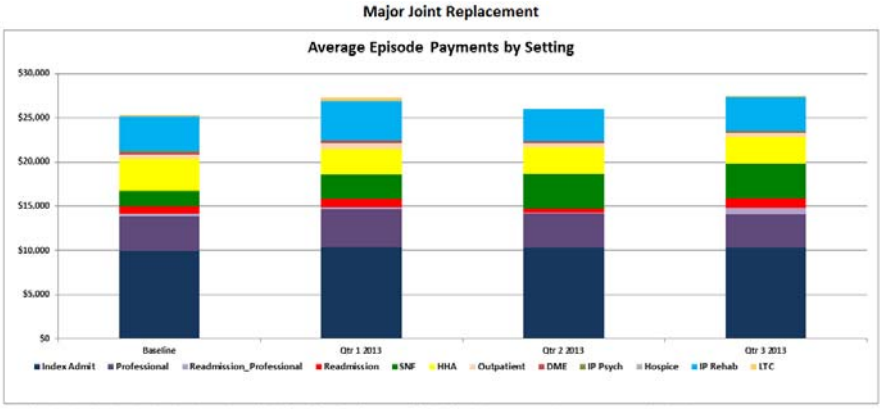
Major Joints Average Episode Components



Note: Completed episodes and related services only per Model 2 specifications. Payments for Model 2 episodes are prorated. payments are not winsorized.

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Congestive Heart Failure:

Significant cost driver is **readmissions**

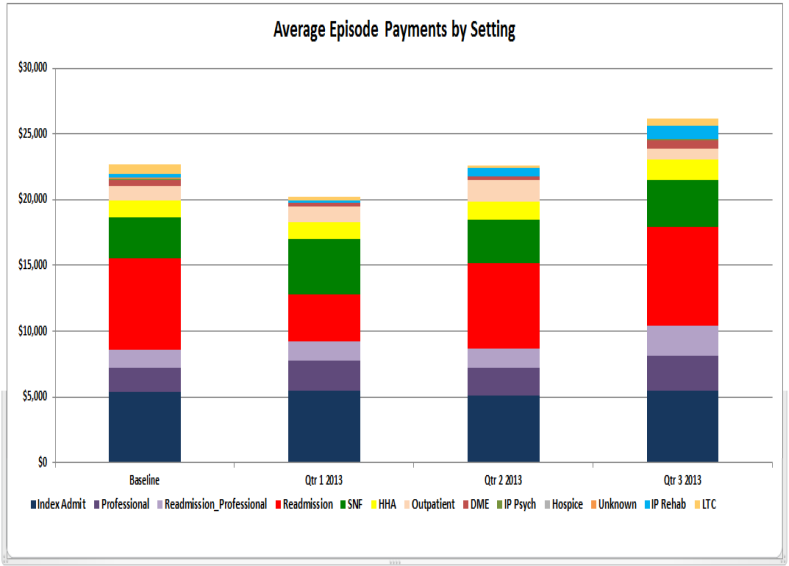
- Top reason for readmission: **Heart Failure**
- Highest readmit rate is for patients that went to **SNF first (69% readmit rate)**, but other rates are also high **(IP Rehab = 57%, Home Health = 49%)**

Top 10 Readmission DRGs

All Years, CHF

Reason For Readmission	Count of CompletedEpisode	Readmission Count	Number of Episodes With At Least One Readmission	Average Days from Index Discharge
292 - Heart failure & shock w CC		139	112	44.9
291 - Heart failure & shock w MCC		60	52	47.9
293 - Heart failure & shock w/o CC/MCC		52	43	44.0
287 - Circulatory disorders except AMI, w card cath w/o MCC		29	27	40.4
683 - Renal failure w CC		27	25	34.3
313 - Chest pain		15	15	40.4
280 - Acute myocardial infarction, discharged alive w MCC		15	13	35.7
309 - Cardiac arrhythmia & conduction disorders w CC		14	14	43.9
190 - Chronic obstructive pulmonary disease w MCC		13	11	52.8
193 - Simple pneumonia & pleurisy w MCC		12	11	48.7
Grand Total	1171	376	267	43.9

Congestive Heart Failure



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Challenges of Medical Conditions

- Most CHF patients have similar comorbidities
- Index admit CHF bundle captures only 25% of the total CHF admits (7 additional bundles are represented)
- 90 days is not enough time to manage these patients
- Real time data about other providers involved in the care is lacking; attribution issues are significant for medical conditions
- Reconciliation methodologies may have a larger impact on medical bundles
- Best option may be to be at risk for all related bundles to improve care

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Data Feedback Loops for Providers

1. NOW: In addition to monthly data and trend identification, providers need real time data, built into EMRs if it is meant to impact care

2. PERIODIC: Data that is used for recurrent and periodic monitoring (weekly) must be provider specific, patient and patient population specific, and identify all actionable trends

3. OVERALL PROGRAM MONITORING: Data optimally includes all providers managing the patient, all PAC sites, outlier updates, gainsharing impact, measurement against target

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Baseline Questions:

Basic demographic and utilization prevalence

- The number of episodes by episode family, DRG, and distinct analyses on medical vs surgical conditions
- Examine readmission rate by condition, by convened group, by week in the 90 day bundle, by DRG family, and by hospital other than bundler. Readmission rate trend year over year.
- The ED and outpatient visit rates < 30 days can be evaluated by condition and by convened group
- The Total Cost (to the Medicare program) by condition, the cost contribution by acute vs PAC settings, and by PAC setting
- For PAC, the distribution of first PAC setting by condition, by hospital, by group with trends over time for HHA, SNF, IRF
- Risk-adjusted population (using HCCs) analyses for building baseline and preparing for advanced comparison of changing population dynamics
- Analyses of episode attribution and eligible bundles: impact of beneficiary eligibility lag, program expansion to new bundlers and intersecting bundles
- Analysis of medical tourists/snowbirds by identifying out-of-area PACs and beneficiaries

But Are These the Most Important Questions?

Are we adding new knowledge to the existing literature? Which analyses will most help the bundlers as they move forward to manage additional episodes and of longer duration?

- Quantification of impact on IME/DSH for US teaching hospitals
- The change in severity of illness/case mix over time
- Improvements in coding with gainsharing incentive
- Outlier selection impact; Model reconciliation using alternate risk track selections
- Real-time volume impact on cost/risk; when volume drops, has there been a shift in technology, case mix, or practice change? Data can be used to point out sites for in-depth interviews
- What are the patterns of the highest utilizers in each episode?
- Can the data be used for early identification of disturbing or positive early trends?
- Can we gain a better understanding of characteristics which make readmissions avoidable or not
- Each area of BPCI has research agenda: gainsharing, redesign, EMR impact, waiver use, etc

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