ACO Accelerated Development Learning Session

San Francisco, CA
September 15-16, 2011

Module 1A: Describing and Understanding Your Population's Risk Profile

September 15, 2011
1:00–3:00 p.m.

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Objectives for the Learning Module

1. To assess the implications of the type of agreement I have (or intend to have) with payers
2. To describe my patients and how are they "aligned" with me
3. To assess how much care—and of what type—they use and how this may vary from year to year
4. To determine the proportion of care that I provide and the care that others provide
5. To identify opportunities to lower costs and improve quality
6. To begin to identify implementation steps

1. What type of agreement do I have (or intend to have) with payers?

- Bundles/episodes vs. total care
- Risk-sharing continuum
  - Shared savings
  - Shared risk
  - Partial capitation
    - Blend of Fee for Service and per capita risk
    - Carve-out of services for per capita risk
  - Global capitation

1. What type of agreement do I have (or intend to have) with payers? *continued*

- Risk considerations
  - Incidence or insurance risk (e.g., # of coronary artery bypass grafts [CABGs], # of patients with diabetes)
  - Performance risk (cost of treating each CABG, patient with diabetes)
  - Risk mitigation options
    - Individual reinsurance/excess loss
    - Aggregate stop-loss/risk corridors
    - Risk adjustment

2. Who are my patients and how are they "aligned" with me?

- Enrolled in a product
  - They selected me and I have some direct authority to care; and/or
  - The patient pays more for out-of-ACO self-directed care
- Assigned—they are assigned to me and I have
  - Some direct authority (e.g., Medicaid plans)
  - Little to no direct authority to direct care; the patient has nearly unrestrained point of service (POS) choice

2. Who are my patients and how are they "aligned" with me? *continued*

c. Attributed or "aligned"[1]
   i. Patient-based vs. episode-based
      1. Patient-based—provider responsible for all care, e.g., patient → PCP → ACO
         a) Most often, all care for the whole performance year
      2. Provider responsible for an episode (CABG)
         a) Specific episodes
         b) Specified time period

[1] Some of this discussion is drawn from "Whose patient is it? Patient attribution in ACOs," Susan E. Pantely, Milliman, January 2011.

2. Who are my patients and how are they "aligned" with me? *continued*

ii. Primary care vs. specialists

1. Primary care providers (PCPs)
   a) Most often used with global/total care accountability
   b) However, some specialists often act as primary care: gynecologists, cardiologists, endocrinologists
   c) Individual accountability vs. team accountability
2. Specialists
   a) Most often used in episode/bundling systems and for specialty-specific quality reporting
   b) But some act as PCPs for extended periods of time
   c) For Medicare patients: less than 80% can be attributed to PCPs only, but this increases to as much as 94% if specialty attribution is allowed[2]

[2] Pham, H.H. et al. (2007). Care patterns in Medicare and their implications for pay for performance. *New England Journal of Medicine*, 356(11), 1130-1139.

2. Who are my patients and how are they "aligned" with me? *continued*

iii. Prospective vs. retrospective

1. Up to one-third of Medicare patients would not be attributed to the same PCP in a subsequent year[3]
2. One-touch prospective—less than 40% attributed by plurality during performance years
3. With retro—managing patients who may not end up aligned

[3] Pham (2007).

2. Who are my patients and how are they "aligned" with me? *continued*

iv. The units for attribution

1. Evaluation and Management (E&M) vs. all professional services
2. Plurality vs. majority vs. one-touch
    a) Majority reduces # attributed
    b) Plurality is most common—but not always accepted (face validity)
    c) One-touch results in larger populations, but provider resistance
3. $ vs. visits

2. Who are my patients and how are they "aligned" with me? *continued*

v. The importance of risk adjustment

1. 15% of Medicare patients do not have an E&M code in a year[1]
2. Not more that 70% of commercial plan members might be attributed using the most generous method[2]
3. The patients that might be missing:
   a) Very sick—if specialists are not included
   b) The very well—especially in commercial populations, but also the 15% of Medicare with no E&M

[1] Ibid, Gregory C. Pope, p. 191.
[2] Ibid, p. 195, quoting information from Mehrotra et al. (2010). The effect of different attribution rules on individual physician cost profiles. *Annals of Internal Medicine*, 15 (10), 649-654.

2. Who are my patients and how are they "aligned" with me? *continued*

v. The importance of risk adjustment *continued*

4. How risk adjustment works: HCC example

a) ICD-9 codes grouped together based on diagnoses that are clinically related into approximately 804 Diagnostic Groups

b) Each Diagnostic Group relates to a well-specified medical condition, ex., diabetes, congestive heart failure

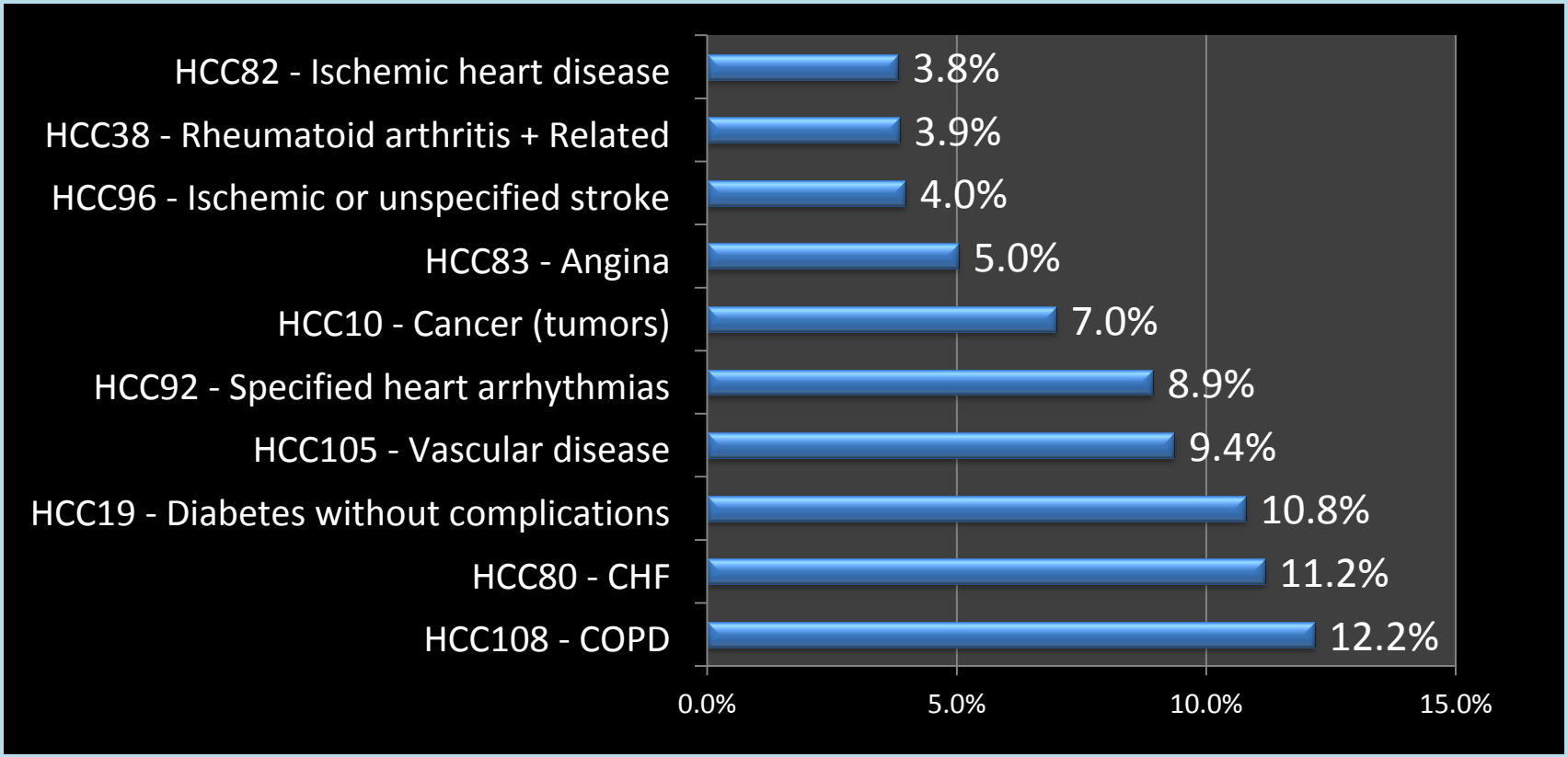
c) Diagnostic Groups are further aggregated into 189 Condition Categories (CCs)

d) CCs are clinically related and have similar Medicare cost implications

e) Hierarchy logic is imposed on certain disease groups (e.g., within pulmonary); thus, model is known as the Hierarchical Condition Category (HCC) Model

2. Who are my patients and how are they "aligned" with me? continued

- The importance of risk adjustment continued
  - Prevalence of HCCs in Medicare population



2. Who are my patients and how are they "aligned" with me? *continued*

v. The importance of risk adjustment

Risk adjustment case example

- Risk factors
  - Age/Sex rate cell base score
  - Diabetes Mellitus (DM), HCC15 = 0.608
  - Congestive Heart Failure (CHF), HCC80 = 0.395
  - Interaction: DM*CHF = 0.204
- Relative risk score (RRS) = Age/Sex base score + 0.608 + 0.395 + 0.204
- Expected cost for each patient is determined by multiplying the RRS by the average expenditure for the population (e.g., US Medicare population)

3. How much care of what type do they use and how does this vary from year to year?

- Actuarial analysis:
  - Utilization by service
  - Cost per unit of service
  - Cost per covered life per month or year
  - Trend in utilization
  - Trend in cost per service
  - Trend in cost per life

Actuarial Analysis

Service Category	Admissions per 1,000	Length of Stay	Total Utilization per 1,000	Allowed Average Charge	PMPM Claim Cost
Inpatient Facility					
Medical	16.4 Admits	2.91	47.8 Days	$4,150.30	$16.53
Surgical	13.2 Admits	3.45	45.5 Days	$8,957.05	$33.96
Skilled Nursing	1.8 Admits	12.00	21.6 Days	$603.73	$1.09
…	…	…	…	…	…
Total Inpatient	48.1 Admits	3.35	161.0 Days		$62.64
Outpatient Facility					
Emergency Room			104 Cases	$1,342.87	$11.64
Surgery			56 Cases	$3,258.70	$15.21
Radiology					
General			163 Cases	$306.74	$4.17
CT/MRI/PET			27 Cases	$1,313.96	$2.96
…	…	…	…	…	…
Outpatient Total					$45.85
Professional					
Office/Home Visits			2,669 Visits	$63.50	$14.12
Inpatient Visits			137 Visits	$151.78	$1.73
Inpatient Surgery			28 Proced	$2,038.94	$4.76
Emergency Room Visits			113 Visits	$172.82	$1.63
Radiology					
General			727 Proced	$92.81	$5.62
CT/MRI/PET			94 Proced	$383.76	$3.01
…	…	…	…	…	…
Professional Total					$53.48
…	…	…	…	…	…
Total Medical Cost					$250.64

Source: V. Boyarski et al., ACOs beyond Medicare, Milliman Healthcare Reform Briefing Paper, April 2011 © 2011 Milliman, Inc.

HRR Data on Patterns of Care

Service Category	% of beneficiaries with Claims	ALOS or Visits per Episode	Services per 1,000 Beneficiaries	Expenditure per Service	Expenditure per Beneficiary
Inpatient hospital					
Acute inpatient	21.5%	5.3 Days	352 Admits	$9,068.63	$3,192.07
Post-acute care					
Skilled nursing	6.5%	25.5 Days	92 Admits	$8,976.46	$827.18
Inpatient rehab	1.1%	13.3 Days	12 Admits	$16,226.16	$190.01
Inpatient LTCH	0.3%	26.2 Days	4 Admits	$32,704.87	$128.86
Home health	10.1%	19.5 Visits	196 Episodes	$2,786.27	$544.80
Total PAC					$1,690.85
Other benefits/services					
OP services	70%		4,044 Events	$267.46	$1,081.63
Emergency room			531 Visits		
E&M services	90.3%		12,043 Visits	$68.09	$820.03
Procedures	64%		4,385 Events	$134.48	$589.66
Imaging	72%		4,254 Events	$86.24	$366.86
Lab tests	73.0%		8,888 Events	$35.34	$314.13
Other tests	50.5%		1,576 Events	$40.31	$63.53
Part B drugs/vacc.	55.8%				$251.75
DME	28%		1,653 Events	$116.70	$192.95
Amb surg center	10.6%		187 Events	$414.58	$77.58
Hospice	2.9%	63 Days	32.7 Admits	$9,438.16	$308.53
…	…	…	…	…	…
Total Medical Cost					$9,102.78

4. What proportion of this care do I provide and who provides what I do not?

Service Category	*Admissions/ 1,000 Internal*	*Admissions/ 1,000 External*	*% External*
INPATIENT FACILITY			
Medical	20.0	6.00	30%
Medical Other	3.1	0.50	16%
Surgical	15.4	4.00	26%
Psychiatric	2.1	0.20	10%
Alcohol/Drug Abuse	1.3	1.00	77%
Maternity	11.5	1.50	13%
SNF	1.5	0.00	0%
Inpatient Total	54.9	13.20	24%
Repeat for:			
Days/1,000			
Cost per day			
Cost per member			

4. What proportion of this care do I provide and who provides what I do not? *continued*

- Perform analysis for all services that can be segregated between internal and external
- Drill down to provider level to determine locations and services
- Use drill down to diagnosis/specialty

5. How much opportunity do I have to lower cost and improve quality?

- Different approaches
  - — Actuarial
    - Type of service compared to “best practice” or well managed – e.g., loosely managed vs. well-managed
    - Proportion of services that are avoidable with intervention (e.g., Ambulatory Care Sensitive admissions, non-emergent emergency room [ER] visits)
  - — Case or episode comparisons

Comparisons to Better Performing Systems

Service Category	*Cost PMPM Loosely Managed*	*Cost PMPM Well Managed*	*Differences*
INPATIENT FACILITY			
Medical	$21.48	16.53	4.95
Medical Other	$4.20	3.67	0.53
Surgical	$39.91	33.96	5.95
Psychiatric	$1.22	0.69	0.53
Alcohol/Drug Abuse	$0.41	0.38	0.03
Maternity	$6.66	6.32	0.34
SNF	$1.00	1.09	-0.09
Inpatient Total	$74.90	62.64	12.26
When differences are material, drill down within service category			
Days/1,000			
ALOS			
Admissions			

Opportunities

Medicare		
Medicare: Loosely Managed	**Number of Admissions**	**% of Admissions**
Ambulatory Care Sensitive	49	15%
Preference Sensitive	33	10%
Readmissions	53	16%
Short-Stay Medical	26	8%
Subtotal	159	49%
Total Admissions	330	100%

Source: A First Look at ACOs' Risky Business, Quality is Not Enough, Fate Fitch et al. Milliman, April 2011.

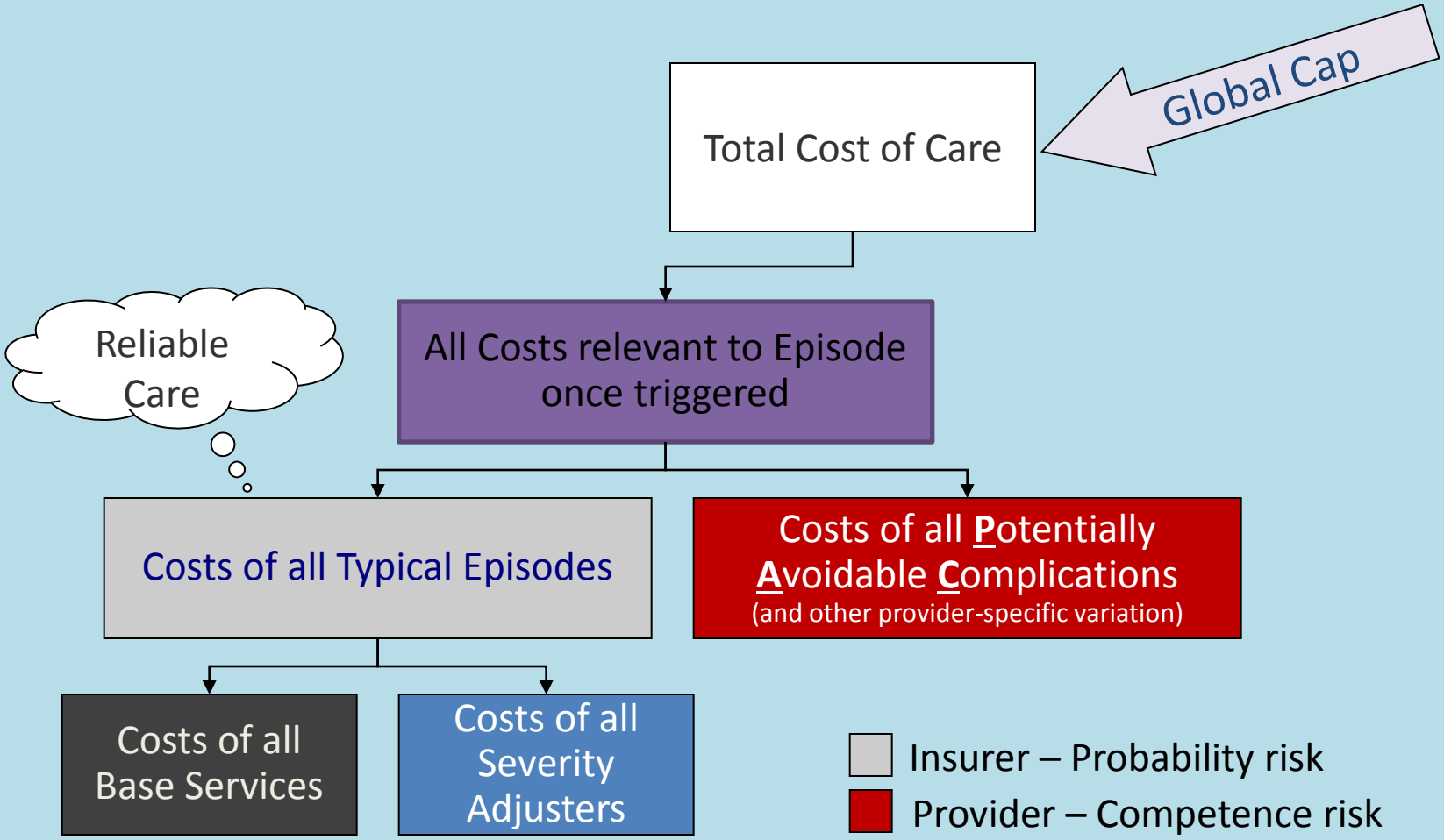
Tools for Targeting from a Population and/or Episode Perspective

- Many choices. To name a few:
  - Milliman
  - Prometheus
  - MEDai
  - Ingenix—ETGs/ERGs
  - Thomson Reuters—MEGs
  - DST Health Solutions—Johns Hopkins ACGs
  - Verisk Health—DxCGs
  - 3M Health Systems—CRGs
  - Public domain tools: e.g., CDPS, CMS-HCCs

Using These Tools in ACOs—PROMETHEUS Example

- Understand and reduce variation in typical and Post-acute Care (PAC) costs across teams and specialties
- Focus internal quality improvement on reduction of PACs as they increase the overall cost of producing an episode and decrease the health system's margin
- Target high-risk-factor patients for follow-up and active disease management
- Create internal incentives based on total episode cost budgets

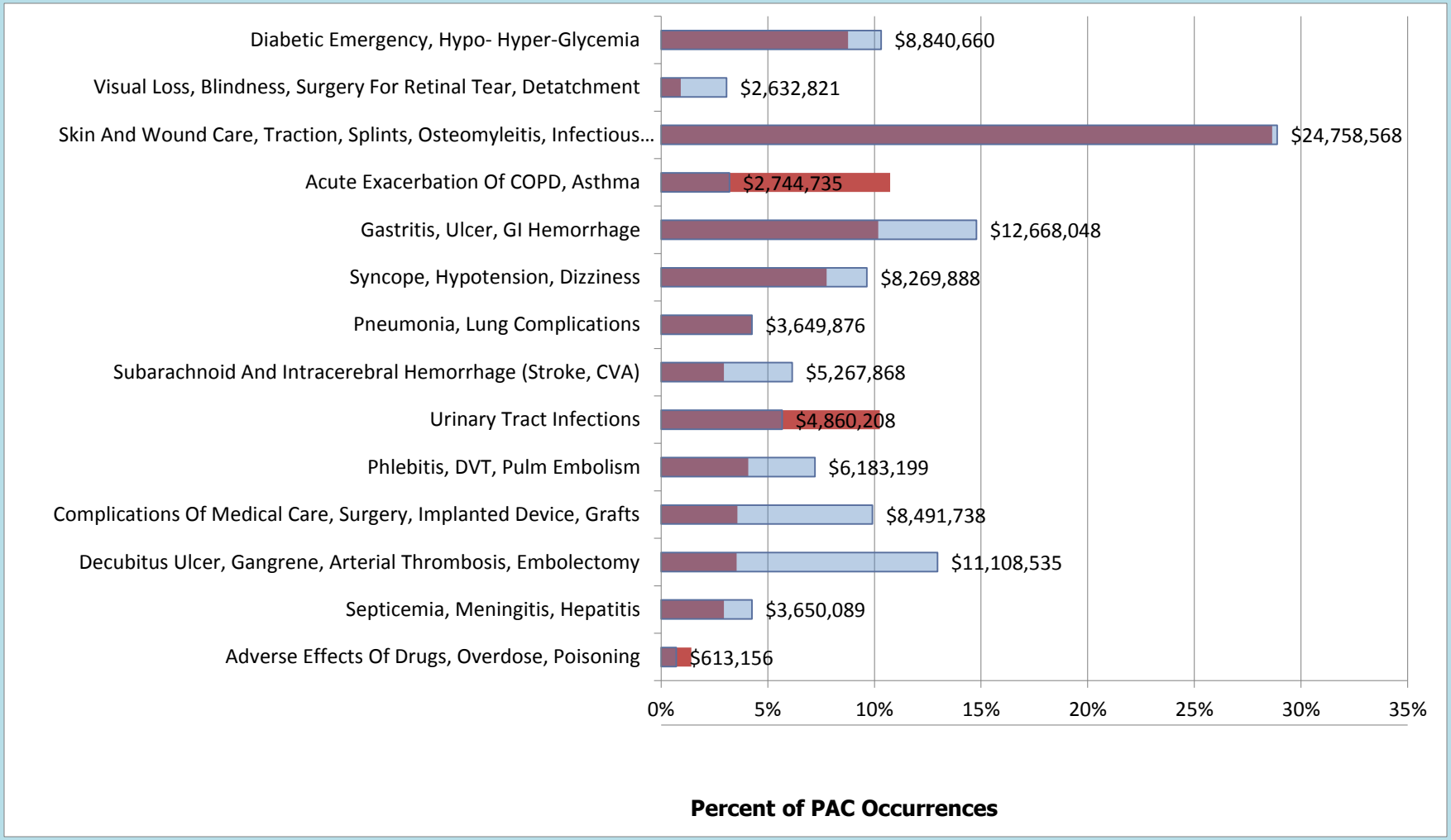
Revealing the Sources of Cost Variation



Total Cost and Frequency of PACs for Patient with Diabetes

		Diabetes		
	DESCRIPTION	# of Patients	% of Patients w PACs	DM Costs
	ALL RELEVANT SERVICES	172,103		$1,166,748,148
	ALL PACs	**135,373**	**78.66%**	**$336,636,663**
PAC TYPE	DESCRIPTION	* of PAC Occurrences	% of PAC Occurrences	** Medical Costs
1	PACs Related to Index condition			
	PAC Hospitalizations	1,315	0.65%	$12,072,030
	PAC ED visits, and other Professional Services	17,310	8.57%	$11,473,481
2	PACs Related to Comorbidities			
	PAC Hospitalizations	11,862	5.87%	$120,437,544
	PAC ED visits, and other Professional Services	123,536	61.18%	$61,536,873
3	PACs Related to Patient Safety Failures			
	PAC Hospitalizations	1,722	0.85%	$24,212,494
	PAC ED visits, and other Professional Services	46,171	22.87%	$34,906,925
	Total PAC occurences / costs due to Hospitalizations	14,899	7.38%	$156,722,068
	Total PAC occurences / costs due to ED, Prof Services	187,017	92.62%	$107,917,279
	Total PAC Occurrences	201,916		
	Avg PAC Occurrences / costs per unique Patient incurring PACs	1.49		$1,955

The True Test of a Medical Home: PACs of Type 2



5. How much opportunity do I have to lower cost and improve quality?

- Population management analytic tools useful to ACOs should have two components:
  1. Measuring and predicting or explaining an individual patient's future or current medical care costs using predictive models that rely on diagnoses, prior medical care, age, gender, and other demographic risk factors
  2. Identifying opportunities for interventions that will produce better quality and reduce avoidable costs at the patient level through “care gap” and avoidable care analysis

Path to Success: The Single Patient Truth

What Everyone Should Know

- **Until all information is aggregated and normalized, ACO stakeholders won't know "what they don't know."**
- **Because ACOs are assuming responsibility for the patients and will be at risk for managing the health status as well as costs, it is CRITICAL that everyone at risk has "the single patient truth."**
- **By bringing together the single patient truth, providers will be fully knowledgeable, engaged with the patients, and able to account for their care to external entities.**

6. Sample Implementation Timeline

Suggested Implementation Steps	Timing (Start and Duration)
Understand patient alignment and incentive methods	Within 1 month (6 mos.)
Build data infrastructure and warehouse capacity	
Acquire or train new analytic capacity	
Select tools for benchmarking and analysis	
Develop data analysis and internal dissemination plan	
Acquire data on aligned population	
Describe aligned patient population • Patterns of disease prevalence/risk • Patterns of care/utilization—including use of non-ACO providers	
Identify specific opportunities to gain early successes	

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