

Prometheus Implementations Webinar



Fair, Evidence-based Solutions. Real and Lasting Change.

24 March 2010

Agenda

- Introduction
- 1:00 – 1:30 Team Pilot Site Updates
 - ✓ Francois de Brantes, CEO HCI3
 - ✓ Sarah Burstein, Mid-Atlantic Region
 - ✓ Elizabeth Siteman, Central Region
 - ✓ Jessica DiLorenzo, Northeast Region
 - ✓ Robert Smith, CBGH, Colorado Health Foundation Grant
- 1:30 – 2:00 Two-Channel Feedback System
 - ✓ Doug Emery, Western Region
- 2:00 – 3:00 Version 3 ECR Analytics

Your Team

- Francois de Brantes, Executive Director
- Chad Brown, South/Southeast Region
- Sarah Burstein, Delaware/Maryland/PA
- Jessica DiLorenzo, Northeast
- Doug Emery, West
- Michael Moses, Toolkit Automation
- Amita Rastogi, MD, Cost of Care/ECR
- Elizabeth Siteman, Mid-west/Central

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Francois de Brantes, Executive Director, HCI3

- Nearing on 10 implementation sites by year end:
 - 4 RWJF-funded sites
 - 2 NYSHF-funded sites
 - 3 COHF-funded sites (hopefully)
 - At least one site working directly with a health plan
- 21 ECRs fully developed, playbooks to be updated and posted on web site
 - Version 3 of the SAS-based analytical package in use now
 - Version 3.5 will have some small enhancements, including options for attribution, to be released by end of May
 - PACs for Inpatient Medical and Chronic ECRs submitted to NQF for endorsement
- TA tools to support sites in full production
 - ECR data run validation
 - Provider contract templates
 - Scorecard data submission and reporting

Sarah Burstein, Mid-Atlantic Region

- IBC/CKHS: Philadelphia, PA
 - ECR selected: Knee Replacement
 - Currently running Version 3 Analytics to establish baseline data and determine PAC reduction rate target
 - Contracting almost complete
 - New Quality Officer hired at CKHS to lead Prometheus effort and Provider re-engineering effort
 - Developing knee replacement quality assessment with CKHS surgeons
 - Potential to expand to other ECRs after Knee Replacement

Elizabeth Siteman, Central Region

- ECOH: Rockford, IL
 - ECRs selected: Diabetes, CAD, Hypertension
 - Pilot “go live”: January 1, 2010
 - Currently collecting/submitting quality data for baseline performance assessment
- Priority Health/Spectrum Health: Grand Rapids, MI
 - ECRs selected: Diabetes, CHF, COPD, Asthma, Colon Resection
 - Targeting pilot “go live” in 2011
 - Currently organizing into 4 tracks:
 - Administrative/financial
 - Delivery of care
 - Operational/implementation
 - Communications

Jessica DiLorenzo, Northeast Region

- New York State Health Foundation – Cost Containment grant:
 - 2 pilot sites in New York State
 - 1 Medicaid, 1 commercial Plan
 - 2010: select sites, identify physicians/health systems, choose ECRs, begin baseline data collection, create “users group” to share lessons learned
 - 2011: Go live and measure results
- Current challenges:
 - Attention/bandwidth in a time of competing priorities
 - Administrative delays – contracts!
- New Jersey – Interest from large payers
 - Running ECR analysis
 - Initial scoping of potential implementation 2Q/2010

Robert Smith, CBGH

COHF Grant

- Project scope and milestones
- Steering Committee – role and composition
- Organizational engagement and responses
 - Employers
 - Health plans
 - Providers
- Issues
- Next steps

Two-Channel Feedback System: Bringing Transparency and Accountability to Payment Reform



Fair, Evidence-based Solutions. Real and Lasting Change.

Doug Emery, Western Region

Four Principles of Sound Reform

- Using interoperable health information technology (through which, data can be communicated and exchanged among different information systems, software applications and networks);
- Measuring and reporting health care quality;
- Collecting and reporting information on health care prices; and
- Implementing programs such as pay-for-performance reimbursement systems or high performance networks which encourage consumers to use high-quality, cost effective services.



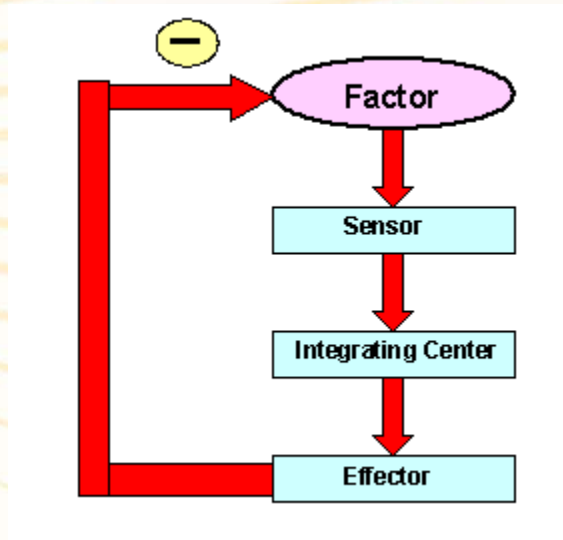
Uwe Reinhardt, Ph.D.

*“How can you have consumerism
when no one knows what anything
costs?”*

The Problem: America’s healthcare “system” is almost completely opaque – to the tune of nearly \$2.5 trillion per year, and growing...

Two Kinds of Feedback Loops

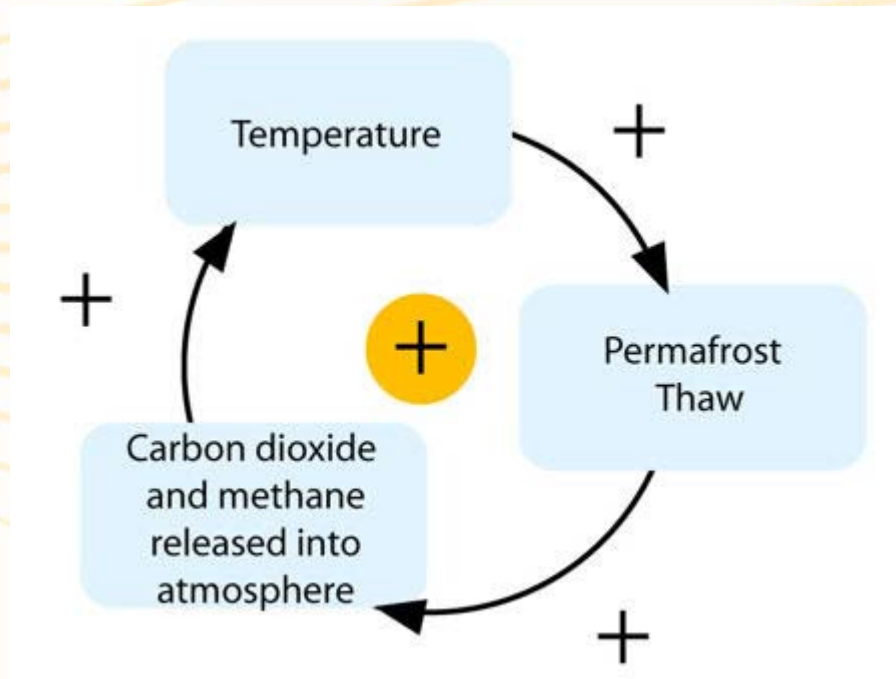
Negative Feedback Loops....



negative loops control and/or regulate

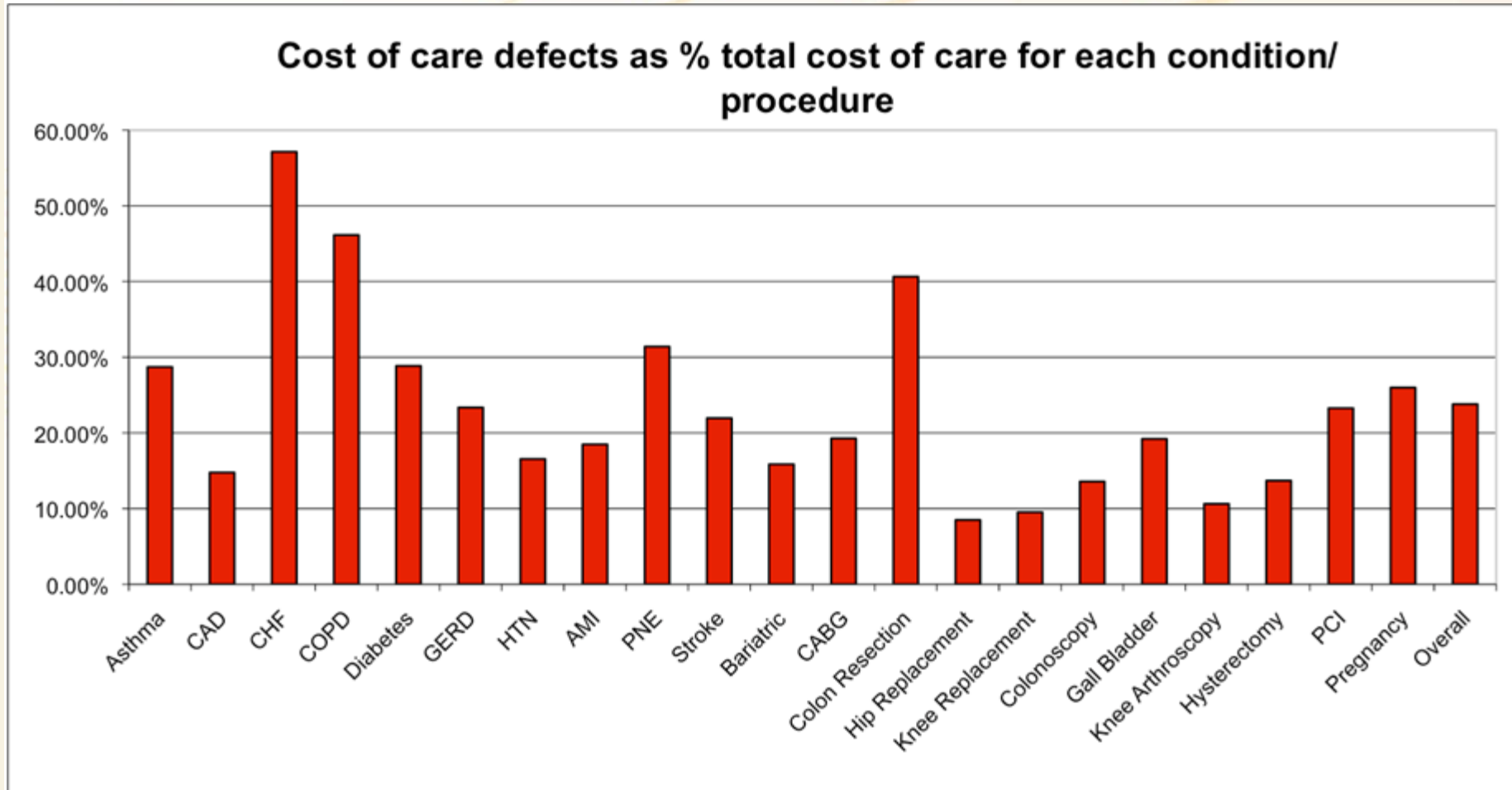
And...

Positive Feedback Loops



positive feedback loops amplify

Bringing PAC rates down = negative feedback loop



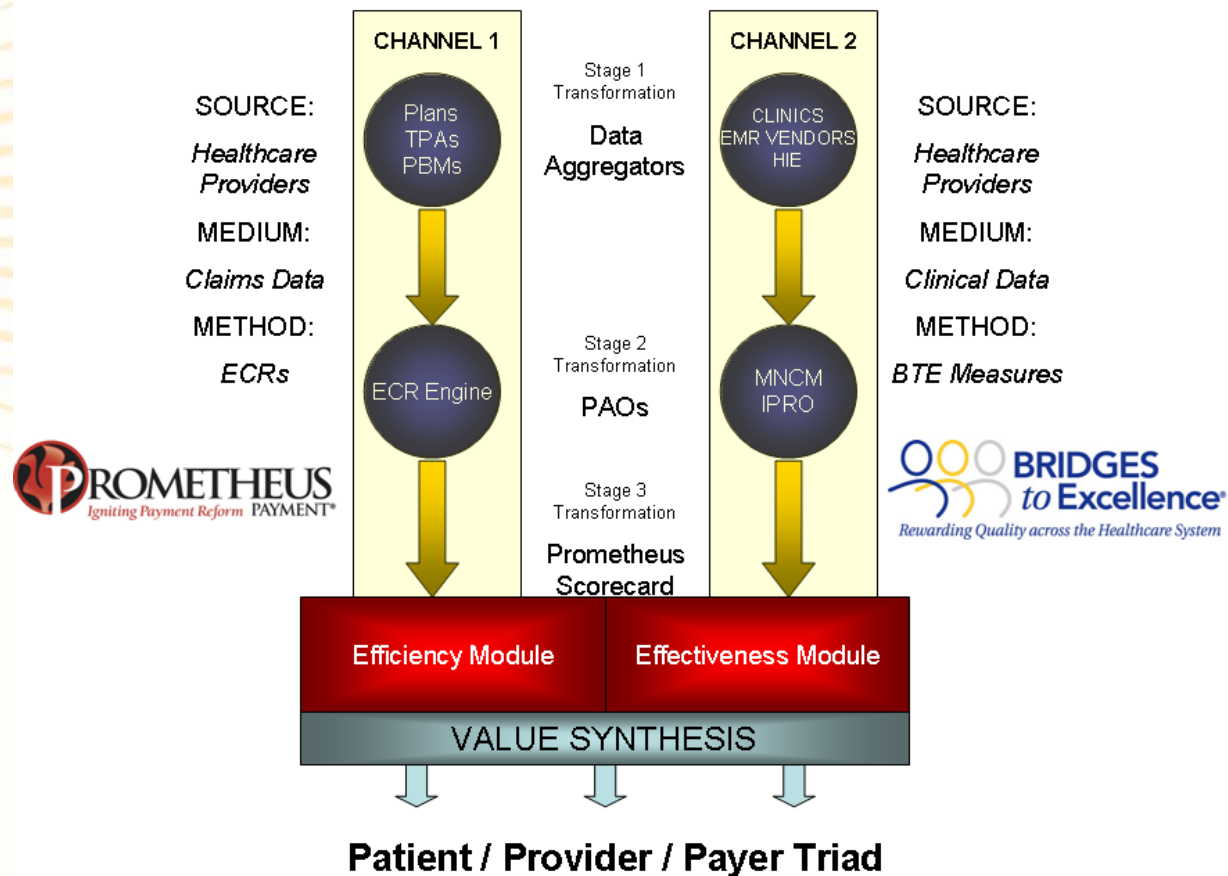
Bringing quality scores up = positive feedback loop

Diabetes Care Recognition Measures							
<i>Clinical Measures</i>	<i>Measure Focus</i>	<i>Min/Max</i>	<i>Points</i>	<i>Num</i>	<i>Den</i>	<i>Result</i>	<i>Score</i>
<i>Poor control measures</i>							
HgBA1c Control	> 9.0	27.50%	15	3	25	88%	13.2
Blood Pressure Control	≥ 140/90	40.00%	15	4	25	84%	12.6
LDL Control	≥ 130 mg/dl	40.00%	10	5	25	80%	8
<i>Superior control measures</i>							
HgBA1c Superior Control	< 7.0	40.00%	5	20	25	80%	4
HgBA1c Superior Control	< 8.0	40.00%	5	22	25	88%	4.4
Blood Pressure Superior Control	< 130/80	30.00%	10	21	25	84%	8.4
LDL Superior Control	< 100 mg/dl	35.00%	10	18	25	72%	7.2
<i>Process Measures</i>							
Ophthalmologic Exam			10	15	25	60%	6
Nephropathy Assessment			5	19	25	76%	3.8
Podiatry Exam			5	20	25	80%	4
Smoking Status and Cessation Advice and Treatment			10	24	25	96%	9.6
Total possible points			100				81.2

Channel 1 = Claims data

Channel 2 = Clinical data

Channel 1 and Channel 2 Value Stream



Channel 2 Outputs

- Physicians will be assessed using chronic condition modules that contain specific process measures
- A total Quality Scorecard will be developed based on a patient mix-weighted calculation

Chronic Obstructive Pulmonary Disease (COPD) Care

Clinical Measure	Points Per Measure	Num/Den Result	Points Awarded (Points per Measure x Num/Den Result)
Process Measures			
Lung Function/Spirometry Evaluation	10	89%	8.90
Inhaled Bronchodilator Therapy	10	97%	9.70
Smoking Status Cessation Advice & Treatment	20	87%	17.40
Assessment of COPD Exacerbations	10	95%	9.50
COPD Exacerbation Therapy	10	86%	8.60
Assessment of O2 Saturation	10	93%	9.30
Long-Term O2 Therapy	15	91%	13.65
Pneumococcal Vaccination	5	90%	4.50
Influenza Vaccination	10	95%	9.50
Total	100		91.05

Illustrative

Illustrative

	Possible Points	Actual Points	% of Patients	Weighted Score (Actual points x % of patients)
COPD Care	100	91.05	40.0%	36.42
Hypertension Care	100	68.65	15.0%	10.30
Cardiac Care	100	74.90	7.5%	5.62
Diabetes Care	100	68.80	15.0%	10.32
Heart Failure Care	100	59.71	2.5%	1.49
Asthma Care	100	33.79	20.0%	6.76
Total	600	396.90	100%	70.91

Channels 1 and 2 Outputs

Synthesized

Example

1. Physician is eligible for \$14,326 in fixed and \$14,201 in variable financial rewards respectively
2. Physician receives a score of 70.91 on the Quality Scorecard
3. Physician qualifies for fixed reward of \$14,326 as 50 minimum threshold score was achieved
4. Physician qualifies for variable reward of \$7,423 or 52.28% of variable reward pool of \$14,201 $(70.91 - 50)(90 - 50) = 20.91/40$
5. Physician will receive \$21,749.57 as a Total Rewards Payout

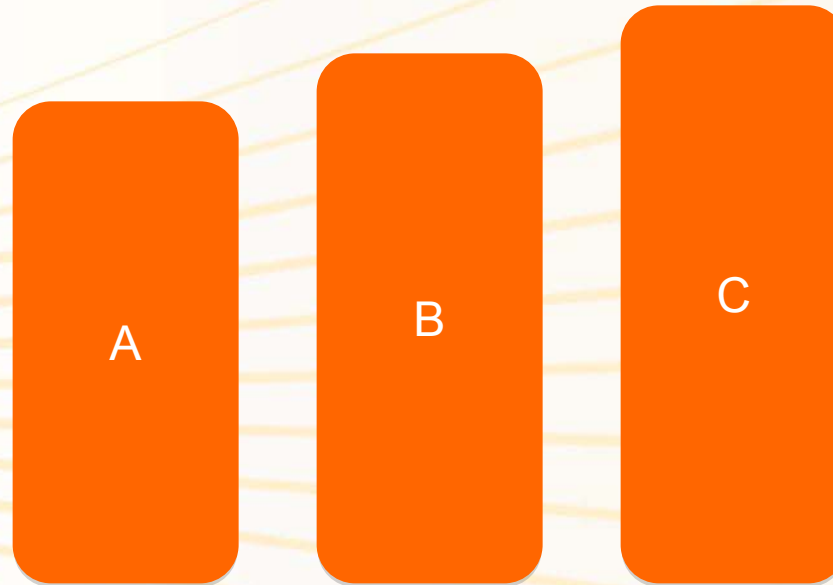
	Diabetes	COPD	Asthma	Hypertension	CAD	CHF	Total
Total	96	29	24	164	27	10	350
Fixed Rewards	\$78	\$55	\$17	\$14	\$17	\$208	
	\$7,488	\$1,595	\$408	\$2,296	\$459	\$2,080	\$14,326
Variable Rewards	\$77	\$54	\$17	\$14	\$17	\$208	
	\$7,392	\$1,566	\$408	\$2,296	\$459	\$2,080	\$14,201

Sample Rewards Calculation	
Maximum Variable Rewards	\$14,201
Min	50
Max	90
BTE Final Score	70.91
% Rewards Due	52.28%
Variable Rewards Payout	\$7,423.57
Fixed Rewards Payout	\$14,326.00
Total Rewards Payout	\$21,749.57

Example

Engaging Patient Consumerism

Episode of CHF



Each “team” can improve by (1) increasing their quality score, (2) decreasing their episode price – provided they meet the min Q score of 80

Episode Cost	\$25,500	\$27,500	\$30,000
Quality Score	82	90	92
Value Index	311	305	326
Co-pay	\$560	\$0	\$1,700

Value Index = Episode Price / Quality Score

Co-pay A = (311-305) * 90

Co-pay C = (326-305) * 90

So...with a two-channel feedback system we can:

- Leverage and encourage the adoption of interoperable HIT / HIE
- Create actionable reports on quality and outcomes
- Reveal delivery system prices / costs
- Engage consumers

Version 3 ECR Analytics (Channel1)



Fair, Evidence-based Solutions. Real and Lasting Change.

Brief history of ECR Analytical package development

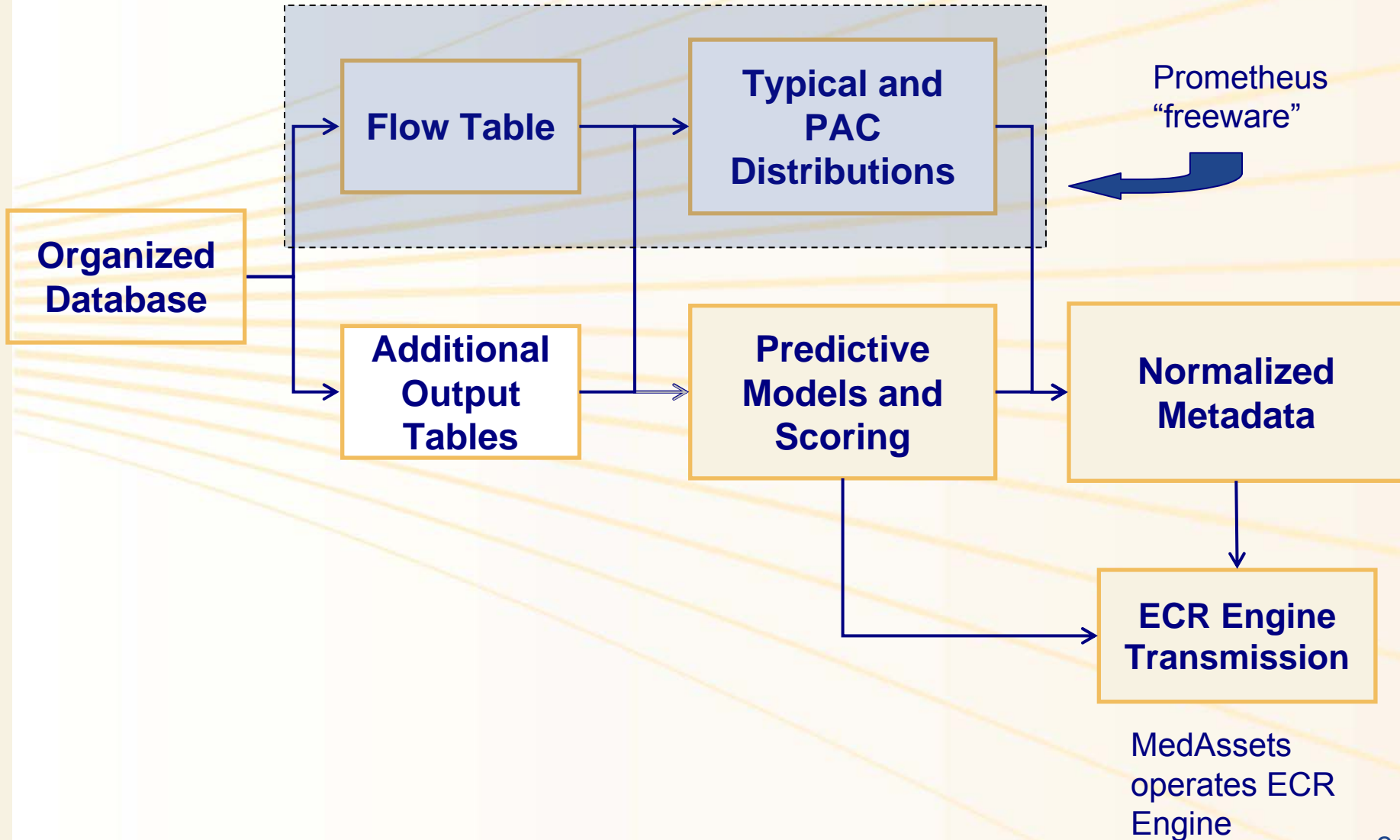
- Version 1 for chronic – April 2009
- Version 2 for chronic and introduction of analytics for inpatient medical – June 2009
- Version 2.5 for chronic, inpatient medical and inpatient procedural – Sept 2009
- Version 3 for all 21 ECRs – January 2010
- Version 3.5 for all 21 ECRs – May 2010

Version 3 ECR Analytical Package

Full SAS-based Programs (runs on PC or UNIX):

1. Detailed Instructions(what data & how to run programs)
2. Flows, PAC rates(opportunity, which ECRs)
3. Drill down..... which PACs are cost drivers (actionable)
4. Normalize: scoring 0,1,2,3risk models (input to engine)
5. Severity index.....compare plan's severity to CIP
6. Core Pricing for chronic care ECRs(care coordination)
7. Full ECR price w PAC allowance.....(Prometheus Case Rate)

Version 3 ECR Analytics



What are PACs?

- PACs stand for Potentially Avoidable Complications/Costs/Care...
- A PAC is any event that negatively impacts the patient and is potentially controllable by all the physicians and hospitals that manage and co-manage the patient.
- Most PACs can be turned into potential savings to all (divvy up the pie):
 - To providers – as bonus
 - To payers – as decreased outlays
 - To patients – as better health

PACs in Different ECR Types

- Chronic Conditions
 - Any hospitalizations or ER visits related to the patient's core chronic condition or any co-morbidity (except in CAD – we have typical stays)
 - Professional services for PAC-related ED visits and hospitalizations
- Acute Medical Events
 - PACs during index hospitalization (includes HACs and PSIs)
 - Readmissions and other PACs within 30 days of discharge
- Inpatient and Outpatient Procedures
 - PACs during the index procedure (or during the stay for inpatient procedures)
 - PACs during the 180 post-discharge period, including readmissions

PAC Assignments

- PAC Type 1 – Index Condition Related PACs
 - Any PAC related to the ECR anchor condition
 - Best controlled by treating provider
 - Diabetic ECR – Diabetic Emergency Hypo/Hyper Glycemia
- PAC Type 2 – PACs due to Comorbid Conditions
 - Any PAC related to a condition other than the ECR condition
 - Best controlled by care-coordination
 - AMI ECR – Diabetic Emergency Hypo/Hyper Glycemia
- PAC Type 3 – PAC Suggesting Patient Safety Failure
 - Any PAC that could have been avoided by better care or closer monitoring of the patient
 - Best controlled by process improvement
 - Diabetes ECR – adverse drug events (drug interactions)
 - AMI ECR – Falls or Trauma in the hospital (check-lists)

Summary of Chronic Care PACs

		Chronic Care Summary			Diabetes		
	DESCRIPTION	# of Patients	% of Patients w PACs	** Chronic Costs	# of Patients	% of Patients w PACs	DM Costs
	ALL RELEVANT SERVICES	648,825		\$3,033,173,075	172,103		\$1,166,748,148
	ALL PACs	469,012	72.29%	\$868,334,920	135,373	78.66%	\$336,636,663
PAC TYPE	DESCRIPTION	* of PAC Occurrences	% of PAC Occurrences	** Medical Costs	* of PAC Occurrences	% of PAC Occurrences	** Medical Costs
1	PACs Related to Index condition						
	PAC Hospitalizations	7,627	1.30%	\$85,992,869	1,315	0.65%	\$12,072,030
	PAC ED visits, and other Professional Services	100,699	17.18%	\$42,486,769	17,310	8.57%	\$11,473,481
2	PACs Related to Comorbidities						
	PAC Hospitalizations	25,262	4.31%	\$255,588,200	11,862	5.87%	\$120,437,544
	PAC ED visits, and other Professional Services	319,228	54.45%	\$155,964,492	123,536	61.18%	\$61,536,873
3	PACs Related to Patient Safety Failures						
	PAC Hospitalizations	4,174	0.71%	\$58,482,670	1,722	0.85%	\$24,212,494
	PAC ED visits, and other Professional Services	129,280	22.05%	\$86,333,153	46,171	22.87%	\$34,906,925
	Total PAC occurrences / costs due to Hospitalizations	37,063	6.32%	\$400,063,739	14,899	7.38%	\$156,722,068
	Total PAC occurrences / costs due to ED, Prof Services	549,207	93.68%	\$284,784,414	187,017	92.62%	\$107,917,279
	Total PAC Occurrences	586,270			201,916		
	Avg PAC Occurrences / costs per unique Patient incurring PACs	1.25		\$1,460	1.49		\$1,955

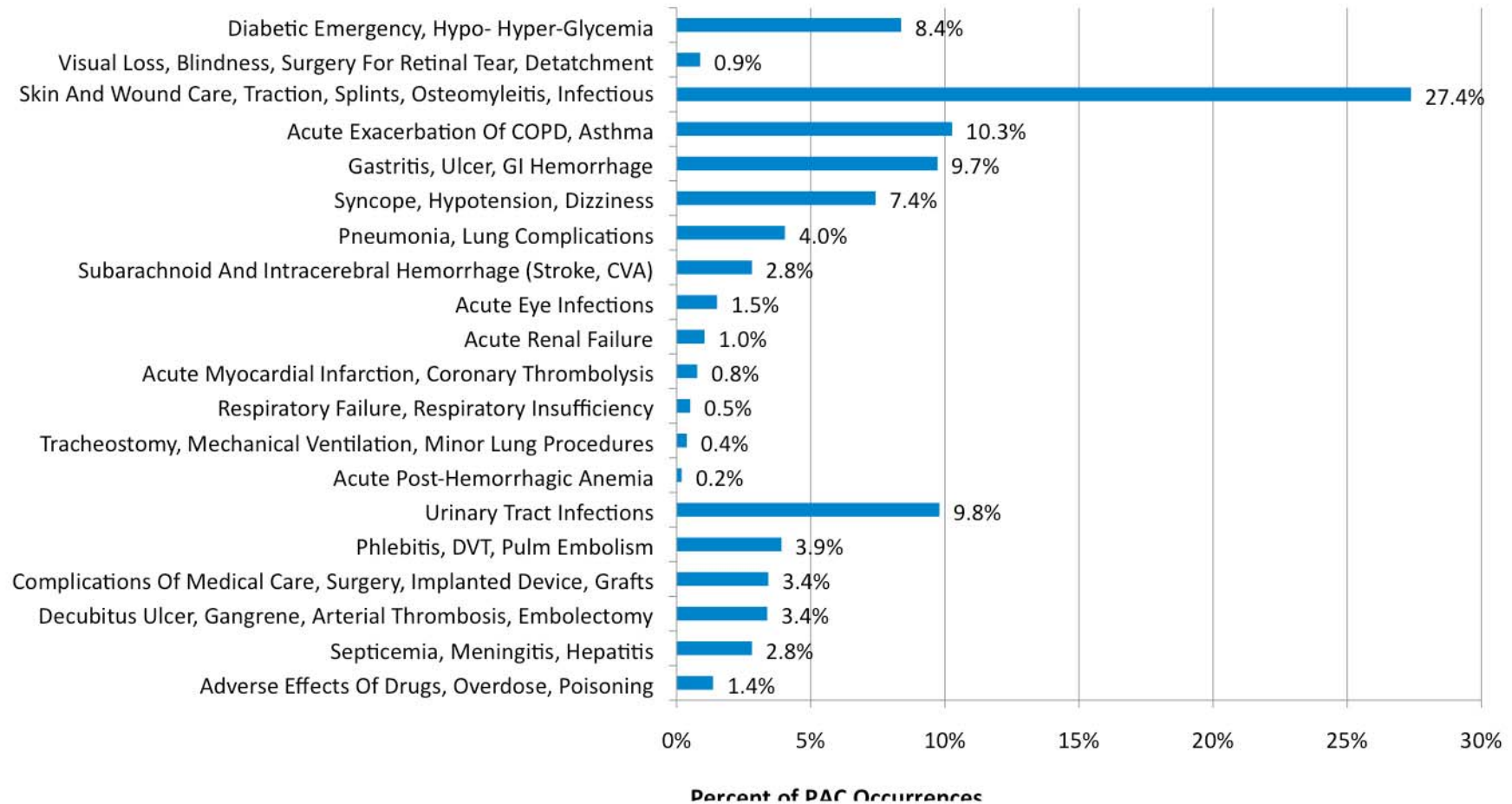
Diabetes PAC Assignment Example

Diabetes Professional, Emergency Room & Outpatient Facility services classified as PACs:

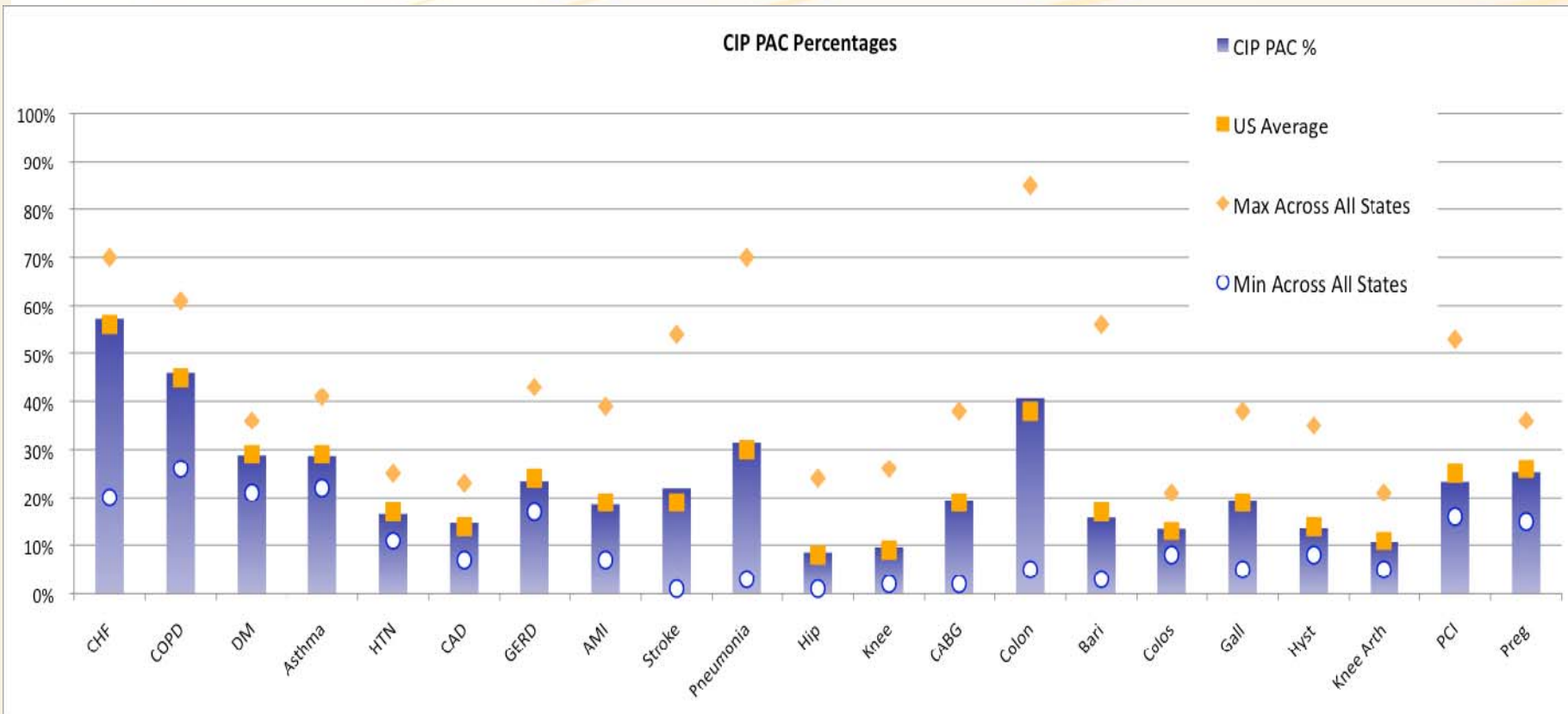
PAC	PAC DESCRIPTION	# OF PAC OCCURRENCES	% OF PAC OCCURRENCES	PAC COSTS	TYPE OF PAC
	INDEX CONDITION RELATED PACs (PAC Type 1):	17,310	9.26%	\$11,473,481	
PAC20	Diabetic Emergency, Hypo- Hyper-Glycemia	15,662	8.37%	\$8,840,660	1
PAC68	Visual Loss, Blindness, Surgery For Retinal Tear, Detachment	1,648	0.88%	\$2,632,821	1
	PACs DUE TO COMORBID CONDITIONS (PAC Type 2):	123,536	66.06%	\$61,536,873	
PAC18	Skin And Wound Care, Traction, Splints, Osteomyelitis, Infectious Arthritis	51,209	27.38%	\$24,758,568	2
PAC30	Acute Exacerbation Of COPD, Asthma	19,208	10.27%	\$2,744,735	2
PAC19	Gastritis, Ulcer, GI Hemorrhage	18,205	9.73%	\$12,668,048	2
PAC02	Syncope, Hypotension, Dizziness	13,870	7.42%	\$8,269,888	2
PAC12	Pneumonia, Lung Complications	7,555	4.04%	\$3,649,876	2
PAC03	Subarachnoid And Intracerebral Hemorrhage (Stroke, CVA)	5,264	2.81%	\$5,267,868	2
PAC69	Acute Eye Infections	2,828	1.51%	\$375,949	2
PAC10	Acute Renal Failure	1,949	1.04%	\$987,696	2
PAC09	Acute Myocardial Infarction, Coronary Thrombolysis	1,442	0.77%	\$1,202,054	2
PAC13	Respiratory Failure, Respiratory Insufficiency	956	0.51%	\$1,274,781	2
PAC14	Tracheostomy, Mechanical Ventilation, Minor Lung Procedures	702	0.38%	\$203,551	2
PAC70	Acute Post-Hemorrhagic Anemia	348	0.19%	\$133,859	2
	PACs SUGGESTING PATIENT SAFETY FAILURES (PAC Type 3):	46,171	24.69%	\$34,906,925	
PAC11	Urinary Tract Infections	18,334	9.80%	\$4,860,208	3
PAC17	Phlebitis, DVT, Pulm Embolism	7,315	3.91%	\$6,183,199	3
PAC06	Complications Of Medical Care, Surgery, Implanted Device, Grafts	6,392	3.42%	\$8,491,738	3
PAC16	Decubitus Ulcer, Gangrene, Arterial Thrombosis, Embolectomy	6,326	3.38%	\$11,108,535	3
PAC04	Septicemia, Meningitis, Hepatitis	5,259	2.81%	\$3,650,089	3
PAC05	Adverse Effects Of Drugs, Overdose, Poisoning	2,545	1.36%	\$613,156	3
ALL PACs	TOTAL PAC OCCURRENCES	187,017	100%	\$107,917,279	

Diabetes ED, Professional: Frequency of PACs

Diabetes ECR Prof, ED PAC Percentages

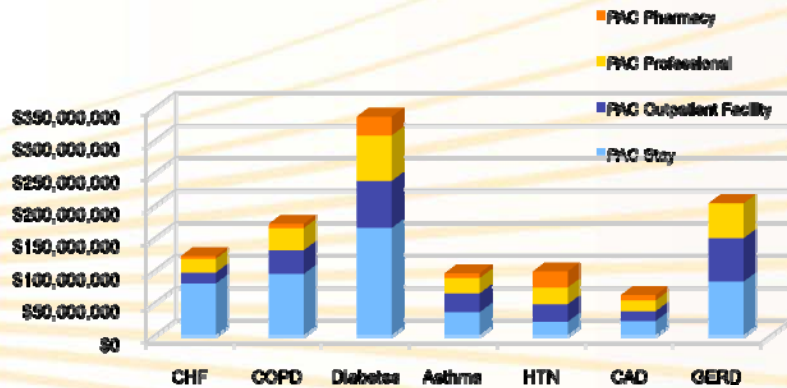


Output Example: CIP PAC %

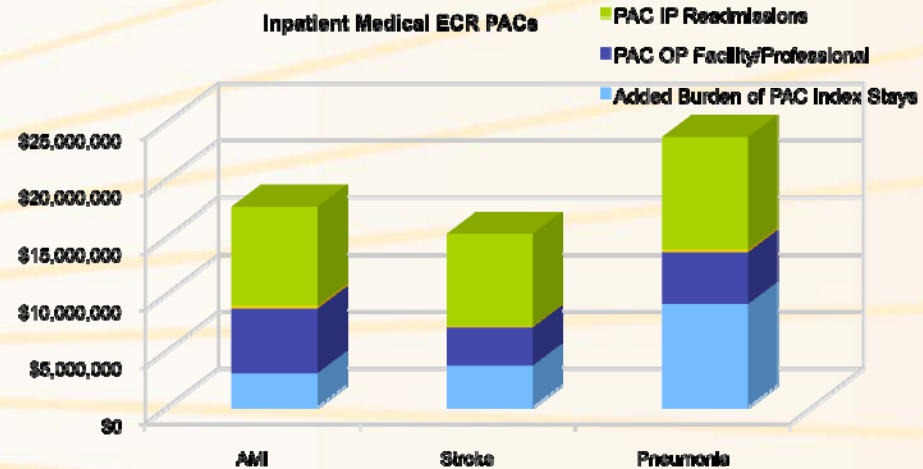


Output Example: CIP PAC Breakdown

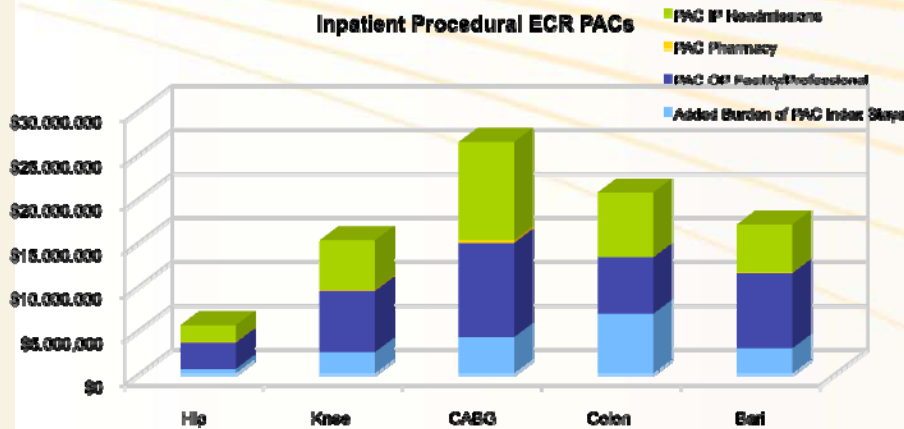
Chronic ECR PACs



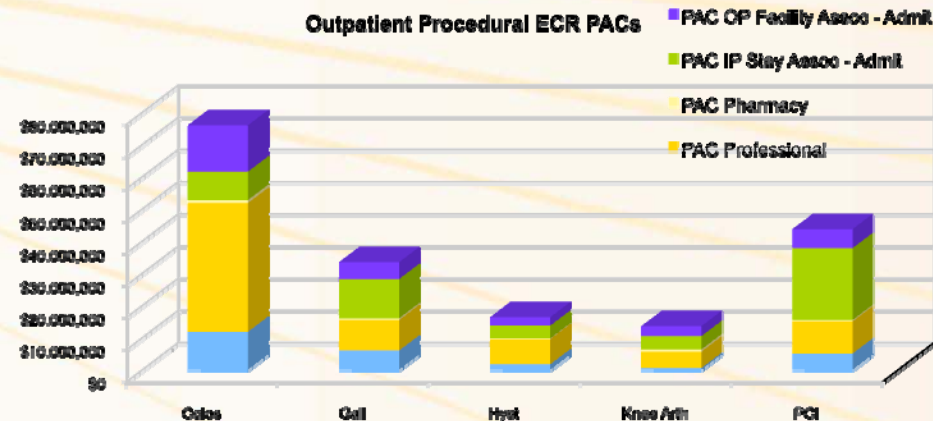
Inpatient Medical ECR PACs



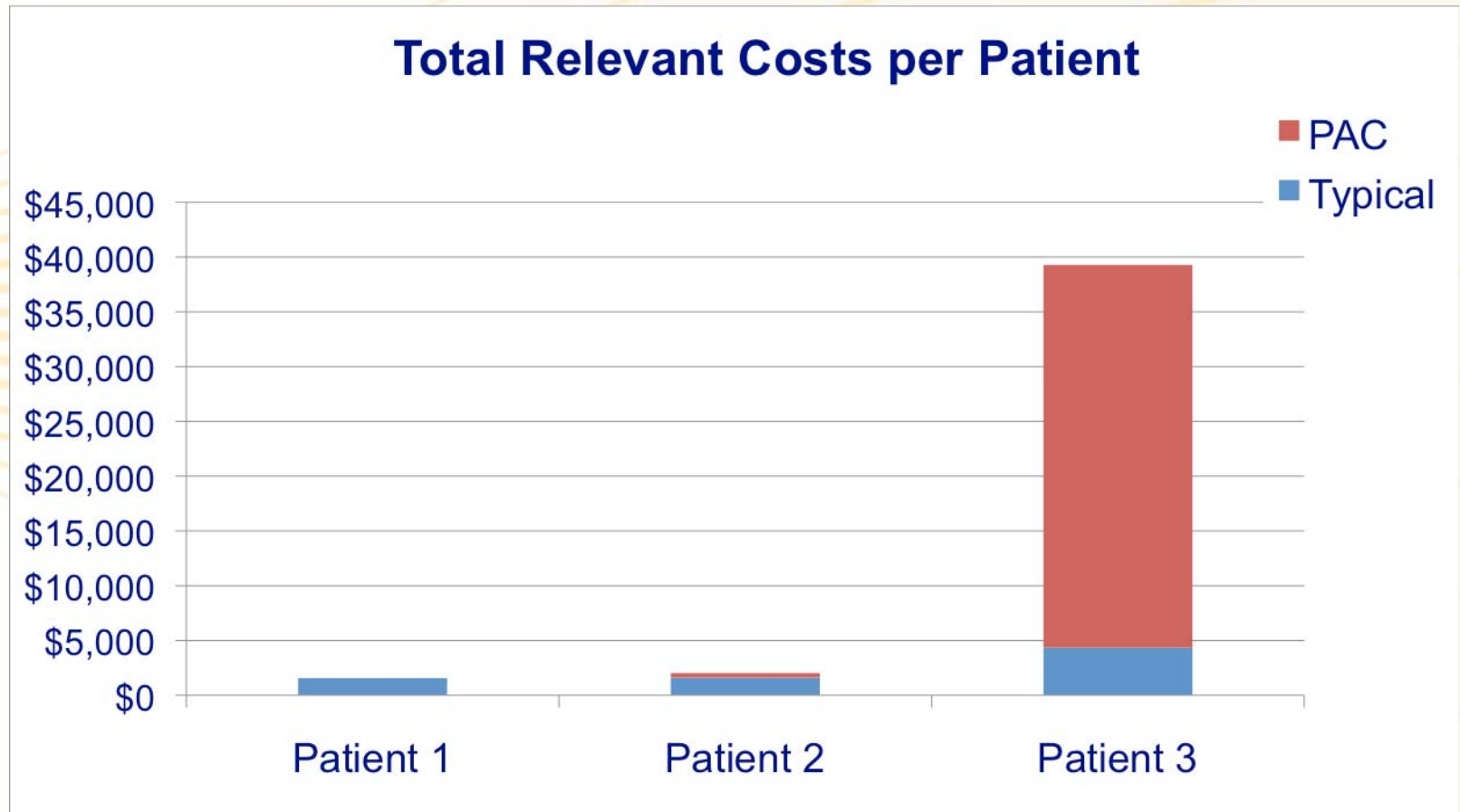
Inpatient Procedural ECR PACs



Outpatient Procedural ECR PACs

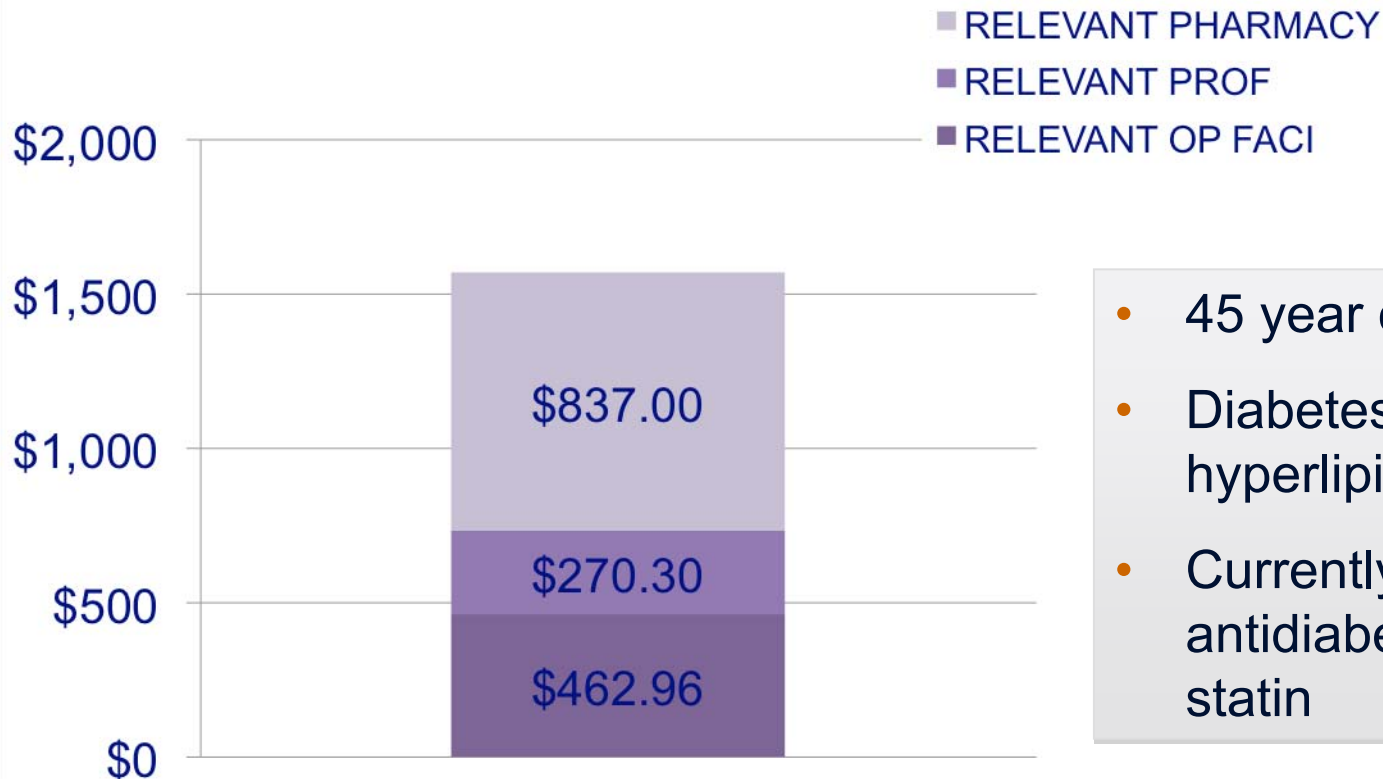


Example of Patient-level Analysis



Patient 1: No PACs

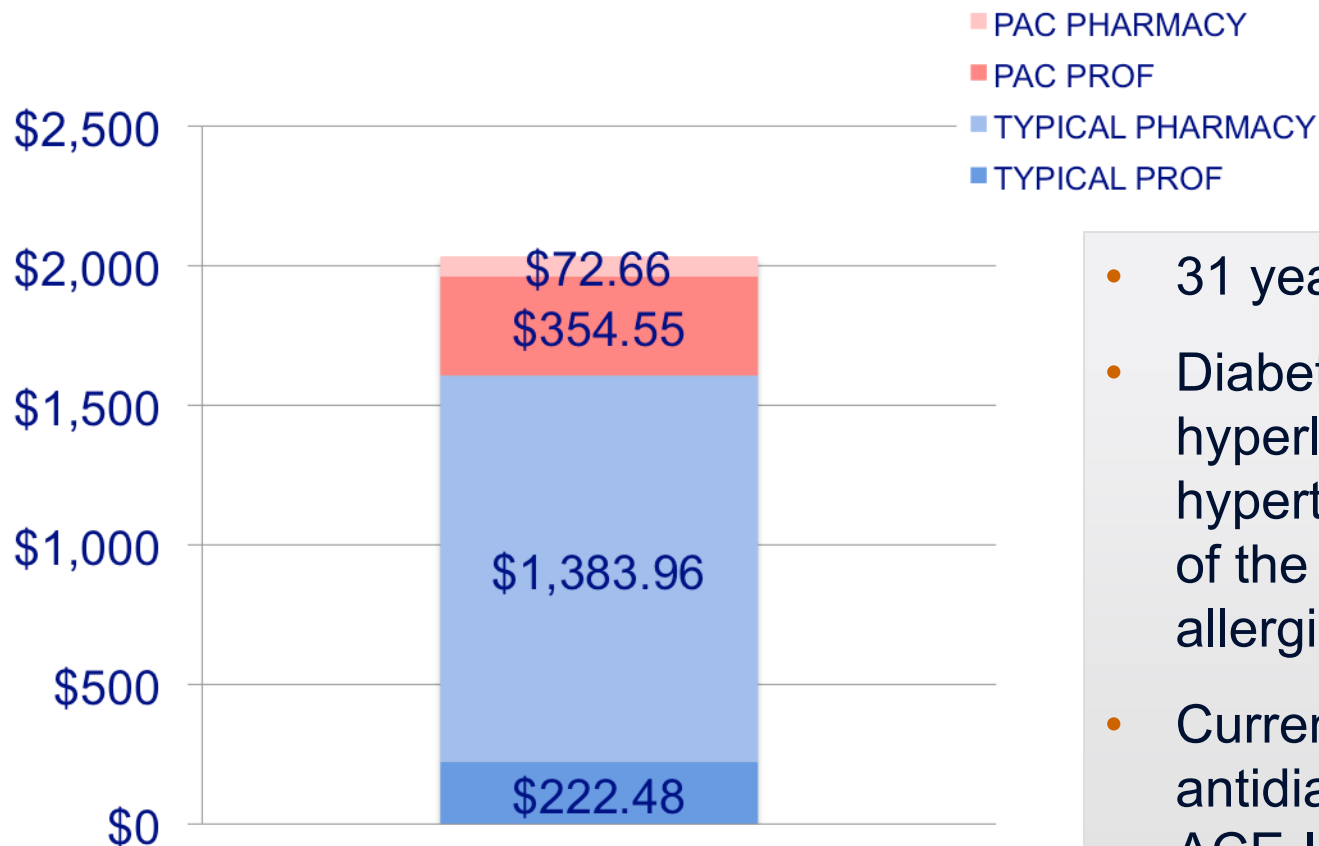
**Patient 1: Total Relevant Costs =
\$1,570.26**



- 45 year old male
- Diabetes, obesity, hyperlipidemia
- Currently taking antidiabetics and a statin

Patient 2: Minimal PACs

**Patient 2: Total Relevant Costs =
\$2,033.65**



- 31 year old male
- Diabetes, obesity, hyperlipidemia, hypertension, diseases of the digestive system, allergic reactions
- Currently taking antidiabetics and an ACE-Inhibitor

Patient 2's PACs

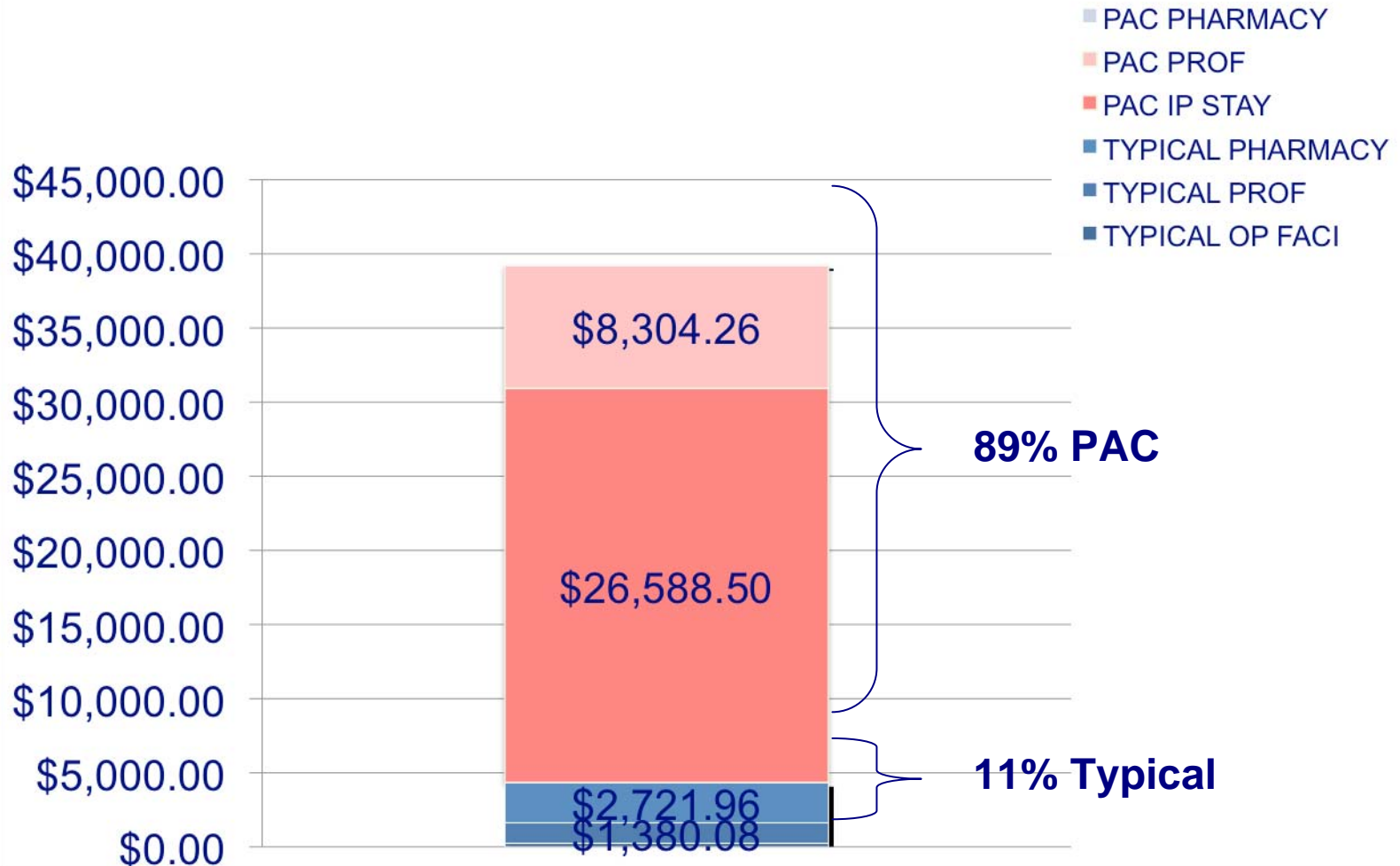
- Patient 2's PACs totaled \$427
 - \$355 came from Professional
 - Office visit 1: diabetes, hyperlipidemia, impotence, Pityriasis versicolor \$70
 - Office visit 2: abscess, diabetes \$158
 - Office visit 3: abscess, Pityriasis versicolor \$126
 - \$73 came from Pharmacy
 - Clotrimazole-betameth Cream \$47
 - Cephalexin \$17
 - Triamcinolone 1% cream \$8

Patient 3

- 64 year old female
- Diabetes with ophthalmic manifestations, obesity, hyperlipidemia, anemia, hypertension, coronary atherosclerosis, chronic renal failure, cardiac dysrhythmias
- Currently taking antidiabetics, antacids, antispasmodics, ACE-Inhibitor, Beta blockers, Calcium channel blocking agents, Diuretics, Antiplatelet agents, Statins, Vasodilators and Ophthalmic glaucoma agents

Patient 3: Complex PACs

Patient 3: Total Relevant Costs = \$39,286.20



Patient 3's PACs totaled \$34,938

– \$26,589 came from Hospitalizations

- Inpatient Stay 1: Coronary Atherosclerosis, intermediate coronary syndrome, hypertensive chronic kidney disease \$4,548
- Inpatient Stay 2: Acute Renal Failure, Acidosis, CHF, DM w renal manifestations \$22,041
- \$46 came from Pharmacy
- Meclizine \$36
- Sulfamethoxazole \$10

– \$8,304 came from Professional

- Professional services during Inpatient Stay 1:
 - » Coronary Atherosclerosis \$370
 - » Chest pain \$567
 - » CHF \$268
- Professional services during Inpatient Stay 2:
 - » Acute renal failure \$1,381
 - » Diverticulosis \$610
 - » Cardiac dysrhythmias \$466
 - » Lower respiratory \$370
 - » Anemia \$220
 - » CHF \$156
 - » Hernia \$42
- Acute renal failure \$1,780
- AMI \$2,244

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