Issue Brief

Evidence-Informed Case Rates: Paying for Safer, More Reliable Care

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ABSTRACT: There is widespread dissatisfaction with the current modes of paying for health care. Created by Prometheus Payment, evidence-informed case rates (ECRs) are designed to create fair payments for all providers delivering care to a patient for a particular condition. ECRs would combine global fees with an allowance for complications and performance incentives. The authors model ECRs for two scenarios, acute myocardial infarction and diabetes. Their analysis shows that, under fee-for-service payments, a high proportion of the costs of care go toward potentially avoidable complications—some 30 percent of payments for acute myocardial infarctions and 60 percent of payment for diabetes care. They conclude that ECRs would hold the delivery system accountable for the technical risk it imputes on the total costs of care—for medical errors and potentially avoidable complications. Further, ECRs would create incentives for providers to deliver care that is safer, more reliable, and consistent with evidence-based guidelines.

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Overview

Widespread dissatisfaction with the performance of the U.S. health care delivery system has led to calls for payment reform. Many proposals to replace the dominant fee-for-service mode of reimbursement center on episode-based payment. Interest in this approach comes on the heels of increased use of software that groups care into episodes for retrospective claims analyses and pay-for-performance efforts. Organizations such as the National Quality Forum have convened experts to create a framework for measuring the efficiency of care using episodes of medical care.[1] Others,

such as the Quality Alliance Steering Committee, are developing ways to model care episodes. All of these efforts are based on the concept that accountability for the quality and efficiency of care can be achieved only by tracking costs across all providers treating a patient for a particular condition over time, as first conceptualized by Jerry Solon and further refined by Mark Hornbrook.[2]

Prometheus Payment is a nonprofit corporation working to develop a new payment model to improve health care quality, lower administrative burdens, enhance transparency, and support a patient-centered health care environment. It has created an episode-based payment model, with global fees to pay for all of the care recommended by guidelines or experts for treating a patient across the continuum of care.[3] This includes care delivered by physicians, hospitals, laboratories, imaging centers, pharmacies, rehabilitation centers, and other providers. These global fees are combined with robust performance incentives designed to promote cost control and quality improvement. Specifically, a portion of payment is withheld and redistributed based on providers' performance on measures of clinical processes, care outcomes, and patient experiences.

The building blocks of this payment model are evidence-informed case rates (ECRs). Under these rates, providers receive a risk-adjusted payment to care for a patient diagnosed with a specific condition across inpatient and outpatient settings. Payment amounts are based on the resources required to provide care as recommended in well-accepted clinical guidelines. Prometheus Payment assembled clinical working groups to develop the first layer of ECRs in specific clinical areas, including cancer care, chronic care, interventional cardiology, and orthopedic care. The result of that effort was published in a previous Commonwealth Fund report.[4]
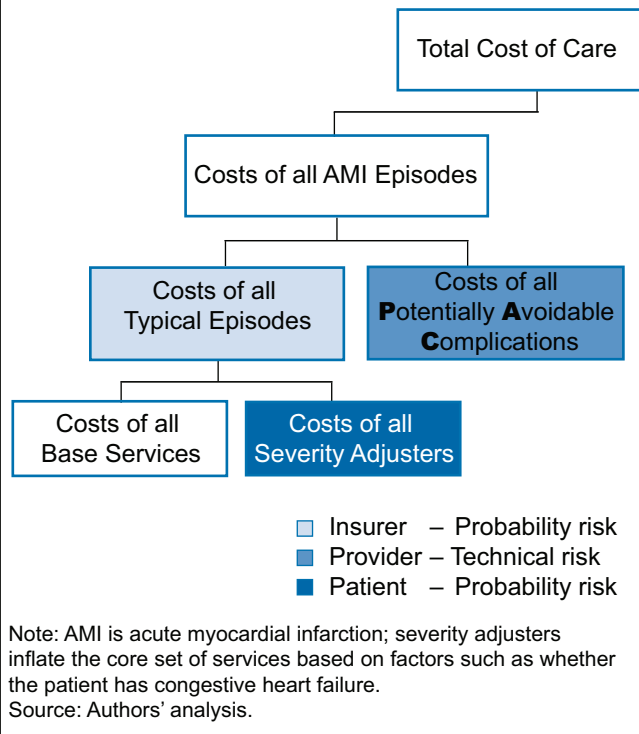
Throughout 2007 and early 2008, on behalf of Prometheus Payment, we modeled ECRs to determine the extent to which a fully priced

episode of care can be assembled in a way that distinguishes between the different types of risks embedded in the total cost of health care. In particular, we sought to separate probability risk from technical risk.

Probability risk, the classic form of insurance risk, is caused by the likelihood of a negative event occurring to a patient as a result of his or her genes, health status, and any external event not controllable by the provider (e.g., contracting a virus or breaking a leg). In the Prometheus model, insurers bear full financial responsibility for probability risk.

Technical risk is related to "care production"; it is controllable by the provider and a result of their clinical skills. Prometheus Payment defines the negative consequences of technical risk as potentially avoidable complications (PACs). Examples of PACs among patients admitted to a hospital for an acute myocardial infarction include urinary tract infections, graft complications, phlebitis, and even strokes. Both the Centers for Medicare and Medicaid Services and the private insurer Wellpoint recently announced they will no longer pay for some of these PACs.[5] For patients with chronic conditions, PACs include any hospitalization related to the chronic condition. For example, diabetes patients should not need to be hospitalized if their condition is managed properly, even if they have multiple comorbidities. Providers might argue that some PACs are not under their control, but rather the control of another provider. But the goal of an ECR is to pay for care across the continuum, creating collective responsibility for the management of a patient's condition.

ECRs separate technical risk from probability risk in order to hold physicians accountable for the former but not the latter. As a result, providers would carry some financial risk for patient outcomes that are the result of poor-quality care. By clearly delineating these two types of risk, accountability for results can be assigned appropriately to insurers and providers, as illustrated in Figure 1.[6]

Figure 1. Separation of Risk in the Prometheus Model

```
Total Cost of Care
        |
Costs of all AMI Episodes
        |
   +----+----+
   |         |
Costs of all     Costs of all
Typical Episodes  Potentially Avoidable
                  Complications
   |
+--+--+
|     |
Costs of all   Costs of all
Base Services  Severity Adjusters
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☐ Insurer – Probability risk
◼ Provider – Technical risk
■ Patient – Probability risk

Note: AMI is acute myocardial infarction; severity adjusters inflate the core set of services based on factors such as whether the patient has congestive heart failure.
Source: Authors' analysis.

Building Evidence-Informed Case Rates

Using two large national databases—an all-payer facility charges database and a full claims dataset from a cohort of 5 million insured Americans—we created an ECR for an episode of acute medical care, an acute myocardial infarction (AMI), and an episode of chronic disease, diabetes mellitus of type 1 or 2. The models determine the base ECR for each of these two scenarios and identify factors that inflate the base ECR. They define the boundaries of "typical" care and what constitute potentially avoidable complications.

Construction of an ECR is a five-step process:

1. *Defining the boundaries of an ECR:* In this step, we specify what constitutes typical care for a particular medical condition. Typical care is defined as care that is routinely expected to be delivered to a patient, with or without comorbidities or other factors that necessarily increase the intensity of services and are outside of the control of the provider (e.g., admission of a patient for an AMI to a hospital dur-

ing a weekend). We outline typical care using clinical guidelines or expert opinion, as well as analysis of medical claims data for AMI and diabetes patients. Patients who have additional conditions that meet the exclusionary criteria, for example a patient with renal failure, are removed from analysis. The claims for the remaining patients are then aggregated into a pool, named "typical cases and services," and used to model the base costs as well as costs related to other cost modifiers in step 3. Additionally, all costs associated with PACs are segregated into a separate pool that will be used in step 5.

2. *Adjusting for regional variations in practice patterns:* This step will be taken when the models are applied in pilot implementations. Adjustments will take into account the regional rate of PACs as well as the general intensity of resource use, both of which may vary from the national averages. Some might argue that making these adjustments could enshrine regional variations. Yet, convincing providers to accept technical risk will be challenging enough, without attempting to reduce variations in regional practice at the same time.

3. *Analyzing the study population:* Using the source databases, we select patients with typical cases and services and conduct univariate and bivariate analyses to examine the associations of costs with various comorbid conditions and severity factors (e.g., congestive heart failure in patients admitted for an AMI or hypertension in patients with diabetes). We then perform multivariable regression analyses to adjust for severity and determine base costs of an ECR and the quantitative effect of various cost modifiers on that base.

4. *Adding a 10% margin:* We add a fixed percentage to the base severity-adjusted ECR for any patient.

5. *Creation of the allowance for potentially avoidable complications:* Using the total cost of all PACs as a base (as determined in step 1), we create a

pool for PAC allowances equal to 50 percent of the total base costs. This money is spread in a fixed and proportional way to each ECR, creating an ECR-specific allowance for PACs. This creates a significant incentive for providers to reduce the number of PACs, since they get to keep the difference between the allowance and the actual cost of the PACs. For example, consider a physician group that manages 100 diabetes patients covered by an ECR, in which the average severity-adjusted base was $4,000 and the average PAC allowance was $1,800. At the end of the year, if the severity-adjusted cost of typical care averaged $4,000 and the cost of PACs averaged $1,000, the physician group would collect $80,000 from the portion of the PAC allowance that was not used.

The ECR thus created starts when an episode of care begins and a base case rate is paid. Additional allowances become available for comorbid conditions and procedures that are included as part of the ECR. Money from the pool designated for PACs also becomes available, based on the severity and complexity of the patient, to care for any complications that may occur. Finally, incentive payments are freed up as providers achieve certain benchmark levels of performance. The global nature of the ECR encourages providers to coordinate care within an episode and limit duplication of services, thus creating a strong incentive to eliminate errors and improve quality.

Modeling Results:
Acute Myocardial Infarction

We applied the process described above to create a model ECR for AMI. Table 1 illustrates the differences in costs between AMI cases that do not include potentially avoidable complications, which we refer to as typical cases, and ones that do. On average, PACs add nearly $17,000 in health care costs per case. PACs include infections and routine complications from medical care incurred in hospitals as well as avoidable complications specific to the treatment of an AMI in a hospital, such as

hemorrhage or complications from a graft or implanted device. The costs of these PACs vary greatly, from a few thousand dollars for an allergic reaction to medication to tens of thousands for hemorrhage. Under the current payment system, all of these costs end up in the hospital and professional claims charged to payers.

Readmissions to the hospital within 30 days for causes related to the prior AMI double the cost of the original case. Overall, the readmission rate was 10 percent and the total cost of readmissions is approximately 9 percent of the total cost for all AMIs. As a result, significantly reducing readmissions would have an important impact on the total costs of care.

Segregating the costs of typical care from PACs allows us to better model the real effect of the severity of a patient's condition on cost, without the added noise created by PACs. ECRs would hold the delivery system accountable for the technical risk it imputes on the total costs of care. Based on our study, the total cost of all PACs and readmissions is significant, representing 30 percent of the total cost of all AMIs—a considerable added burden for payers.

Table 3 illustrates the impact of the PAC allowance on the total severity-adjusted ECR per patient. Higher-cost cases receive larger PAC allowances, but those funds represent a smaller percentage of the total cost of the case. This is designed to increase the dollars allocated to manage potential complications for more severely ill patients, while mitigating the potential for providers to overstate the severity of a patient's condition in order to "game" the payment system.

Modeling Results: Diabetes Mellitus

In the case of a chronic condition such as diabetes, ECRs would cover a patient's care during a 12-month period, which is the period of eligibility for commercially insured health plan members.

Table 2 summarizes the distribution of costs for patients with diabetes mellitus. As with the model ECR for AMI, this model demonstrates the

importance of separating the costs of typical care from potentially avoidable complications. While the total average cost for all patients with diabetes is $6,000 per year, the annual cost for typical care is only half this amount. The total burden of PACs is approximately 60 percent of the overall costs of diabetes care. As such, basing an episode payment on currently observed averages would "bake in" the cost of PACs—a scenario that Prometheus' proposed payment model is designed to avoid.

Additionally, the relative severity of a patients' condition has a significant impact on the base episode cost. This makes it important to mod-

ify base costs according to the severity of illness as well as demographic factors. Figure 2 summarizes the total ECR for three typical diabetes patients. Each variable, such as obesity or age, translates into an inflation or deflation of the base cost.

We also examined what health care services were actually received by patients, to see whether they were given all of the services recommended by the clinical working group and designated as the base ECR cost. According to the clinical rec–ommendations, the total cost for typical medical services (excluding pharmacy) that should be pro–vided to diabetes patients is $1,311. Our analysis

Figure 2. Severity-Adjusted Base ECR Price for Three Patients

Variables	Count	Estimate	Patient 1	Patient 2	Patient 3
Intercept	85,806	12.7962	1	1	1
RF3: Diabetes Mellitus-IDDM, Uncontrolled	5,105	1.0242			1
PH10: Statins and other antilipids	52,213	5.1273		1	1
PH1: Insulin	23,075	3.3478			1
PH6: ACE or ARB inhibitors	42,598	2.3672		1	1
PH5: Beta Blockers	28,202	1.5674		1	1
PH4: Antihypertensive combinations	17,950	2.0116			1
PH9: Antidepressants	21,412	2.6315			1
P15: Other diagnostic procedures (interview, evaluation, consultation)	62,627	1.0122		1	1
P10: Laboratory services	42,208	0.5809		1	1
RF5: DM with Hyperlipidemia, Obesity	25,375	0.4379			1
P6: Eye diagnostic and minor therapeutic procedures	7,919	1.1151		1	1
P13: Ancillary, home health, transport	4,469	0.6605			1
Age: 65-<80 vs. 50-<65	29,149	-0.4148		1	1
Age: 80+ vs. 50-<65	11,853	-1.0958			
Gender: F = 1; M = 0	45,037	-0.4014			
Typical Diabetes Care			$1,311	$3,453	$9,375

Notes: Intercept represents the core cost of a patient with no severity factors; count is the number of observations in the analyzed cohort of patients; estimate is the statistical factor estimated by the regression model; and IDDM is insulin-dependent patient with diabetes mellitus.

Source: Author's analysis.

revealed that more than 90 percent of the patients in the study cohort received only $311 worth of services on average, an underuse of services amounting to $1,000. Across all of the patients in the study cohort, the cost for services that should have been delivered but were not totaled $90 million.

The base payment of an ECR—before severity adjustments—is designed to cover all health care services recommended by clinical guidelines or expert opinion. This is meant to address underuse, which has been demonstrated to be a widespread problem in the U.S. health care delivery system.[7] To eliminate the underuse, we added $1,000 to the ECR base and deducted $90 million from the total PAC costs, still leaving a significant amount in allowance per patient (Table 4).[8]

Implications

The model ECRs for AMI and diabetes reveal the extent to which potentially avoidable complications are inflating health care costs. Extrapolating from this analysis, we estimate that the total cost of PACs across all U.S. patients could exceed half a trillion dollars a year. Significantly reducing the number of PACs could transform the delivery of care in America, the ability to provide coverage to the uninsured, and the economics of the delivery system.

Evidence-informed case rates would create incentives for providers to improve care and avoid complications. By clearly separating probability risk from technical risk, we can pinpoint the costs due to "production defects" and hold providers accountable for them. Hospitals and physicians that deliver highly reliable care (i.e., with very low rates of potentially avoidable complications) could explicitly warranty their work to send a clear signal to consumers and third-party payers that they are delivering better care than their competitors. A few experiments along these lines have been successfully attempted.

In the early 1990s, a two-year pilot program examined the impact of creating an episode-based payment for knee or shoulder arthroscopic surgery, including an explicit two-year warranty from the surgeon that was guaranteed through a posted bond. The total costs of the care episodes were lower than historical averages, profit margins improved for both the surgeon and the hospital, and the number of complications decreased. The warranty concept has since permeated the self-pay portion of health care, including corrective eye surgery and general cosmetic surgery, as well as dental care. Still, it has taken more than 10 years for it to be tried in the third-party payer system. In mid-2007, Geisinger Health System of Pennsylvania announced that it would provide a 90-day warranty for any complications that occur as a result of elective cardiac bypass surgeries. Under the program, a single price for bypass surgery is charged, covering any pre-operative, operative, and post-operative expenses incurred up to 90 days after the surgery.

The scarcity of these examples demonstrates the difficulty of achieving reliable care, as well as the fact that providers are generally unwilling or unable to put a price on a complete episode of care.

A transition model is necessary to move the health care delivery system from the fee-for-service payment system to a completely transparent pricing system such as Geisinger's. ECRs have the potential to facilitate this transition by combining payment for a core set of evidence-informed services, adjusted for severity, with an explicit profit margin and an allowance for potentially avoidable complications. This allowance, based on currently observed rates of such complications, would create a powerful incentive for physicians and hospitals to work together to reduce the rate of PACs. As physicians and hospitals refine their care processes to deliver more reliable care, they will emulate Geisinger's work and that of providers around the country who are trying to reengineer care delivery (e.g., Premier's QUEST program and the American Academy of Family Physicians' TransforMED).[9]

Recommendations

For payment reform to work, providers will need to, first, acknowledge that current health care delivery processes result in unacceptably high levels of potentially avoidable complications and, second, take steps to make care safer and more reliable. For their part, health care purchasers must acknowledge that fee-for-service payments are paying for errors that hurt the plan members they insure.

Evidence-informed case rates offer a solid foundation on which to build payment reform. Such reform will encounter resistance, because every potentially avoidable complication is a revenue stream for someone in the health care industry. Still, this payment model would encourage delivery of care based on the best clinical evidence, reduce the misuse, overuse, and underuse of services, and offer incentives for providers to focus on making care safe, reliable, and effective for all patients.

NOTES

[1] http://www.qualityforum.org/projects/ongoing/priorities/index.asp

[2] Solon et al., "Delineating Episodes of Medical Care," *American Journal of Public Health*, 1967 57(3): 401–8; Hornbrook et al., "Health Care Episodes: Definition, Measurement, and Use," *Medical Care Review*, 1985 42(2): 163–218.

3 www.prometheuspayment.org. Prometheus Payment takes its name from the Titan who defied Zeus by giving humans the gift of fire. The term "Promethean" has come to mean daringly original or creative.

[4] F. de Brantes and J. A. Camillus, *Evidence-Informed Case Rates: A New Health Care Payment Model,* The Commonwealth Fund, April 2007, http://www.commonwealthfund.org/publications/publications_show.htm?doc_id=478278.

[5] See CMS and WellPoint announcements at http://phx.corporate-ir.net/phoenix.zhtml?c=130104&p=irol-newsArticle_general&t=Regular&id=1124709&, and http://www.cms.hhs.gov/apps/media/press/factsheet.asp?Counter=3043&intNumPerPage=10&checkDate=&checkKey=&srchType=1&numDays=3500&srchOpt=0&srchData=&srchOpt=0&srchData=&keywordType=All&chkNewsType=6&intPage=&showAll=&pYear=&year=&desc=&cboOrder=date.

[6] ECRs assign patients' severity risk to insurers as part of overall probability risk.

[7] E. A. McGlynn, S. M. Asch, J. Adams et al. "The Quality of Health Care Delivered to Adults in the United States," *New England Journal of Medicine* , 2003 348 (26): 2635–45.

[8] To create ECRs for chronic conditions, we deduct the costs of services that were not received from the total costs of PACs prior to creation of the PAC allowances because a) the payers have to fund the base evidence-informed ECR, and b) avoiding underuse should help reduce the number of potentially avoidable complications.

[9] L. L. Johnson and R. L. Becker, "An Alternative Health-Care Reimbursement System," *Arthroscopy*, August 1994 10(4): 462–470.

[10] A. S. Casale, R. N. Paulus et al., "ProvenCare[SM]": A Provider-Driven Pay-for-Performance Program for Acute Episodic Cardiac Surgical Care," *Annals of Surgery*, October 2007 246(4): 613–21; discussion 621-3. Also see http://www.psa.state.pa.us/psa/lib/psa/advisories/v4n4sdecember_2007/dec_2007_advisory_v4_n4.pdf.

[11] http://www.premierinc.com/quality-safety/tools-services/quest/index.jsp; http://www.transformed.com/

Table 1. Range of Mean Allowed Amounts for Acute Myocardial Infarction Cases

	# Unique patients	Mean allowed amt ($)	Std Dev	Total costs	5% ($)	10% ($)	25% ($)	50% ($)	75% ($)	90% ($)	95% ($)
Relevant Claims for AMI	13,977	$53,206	$44,027	$743,657,708	$6,178	$9,135	$17,085	$33,361	$56,009	$88,739	$116,610
Typical AMI Cases	7,246	$40,712	$31,195	$295,001,860	$5,216	$7,973	$15,478	$32,025	$51,083	$74,113	$91,548
AMI Cases with PACs	6,731	$57,092	$49,658	$384,283,380	$6,982	$9,870	$17,787	$34,240	$59,977	$98,493	$129,177
Added burden for PACs		$16,379		$160,046,846							
Preventable readmissions *	1,663	$38,709	$74,419	$64,372,468	$2,401	$3,825	$8,629	$21,572	$44,973	$81,104	$115,471
Total PAC Pool				$224,419,314							

Notes: *The mean time from discharge to hospital readmission was 4.3 days. AMI is acute myocardial infarction; PACs are potentially avoidable complications. Costs do not include professional services. Mean allowed amount represents charges allowed by the payer to the provider.
The standard deviation represents the variability in the mean allowed amount. The amounts in the percentile columns represent the mean allowed amount at that percentile in the distribution of all the cases
Source: Authors' analysis of insured member database.

Table 2. Range of Mean Allowed Amounts for Diabetes Cases

Relevant Claims for Diabetic patients	# Unique patients	Mean allowed amt ($)	Std Dev	Total costs	5%	10%	25%	50%	75%	90%	95%
Professional services, hospital stays, and pharmacy by patient	218,541	$6,076	$16,151	$1,327,961,414	$218	$465	$1,363	$3,138	$6,145	$11,350	$18,126
Number of patients	218,541				8,721	10,927	32,781	54,635	54,635	32,780	10,927
Claims for Typical Services	**# Unique patients**	**Mean allowed amt ($)**	**Std Dev**	**Total costs**	**5%**	**10%**	**25%**	**50%**	**75%**	**90%**	**95%**
Typical Services (prof and pharmacy)	171,631	$3,021	$2,432	$518,236,262	$174	$404	$1,196	$2,506	$4,235	$6,092	$7,431
Number of patients	171,631				6,806	8,579	25,743	42,908	42,908	25,744	8,582
Claims for PAC-related services	**# Unique patients**	**Mean allowed amt ($)**	**Std Dev**	**Total costs**	**5%**	**10%**	**25%**	**50%**	**75%**	**90%**	**95%**
PAC-related services	121,576	$6,685	$20,861	$812,805,760	$238	$432	$1,101	$2,484	$5,200	$12,891	$25,114
Number of patients	121,576				4,864	6,078	18,236	30,394	30,394	18,326	6,080

Notes: PACs are potentially avoidable complications. Mean allowed amount represent charges allowed by the payer to the provider. The standard deviation represents the variability in the mean allowed amount. The amounts in the percentile columns represent the mean allowed amount at that percentile in the distribution of all the cases.
Source: Authors' analysis of insured member database.

Table 3. PAC Allowance and Total ECR Price per Typical AMI Patient

	Factors	Avg Cost	Number	Total Cost
Total AMI cases (Facility Plus Professional)		$53,206	13,977	$743,657,708
Claims for typical patients		$40,712	7,246	$295,001,860
Claims for patients with PACs (including readmissions)		$66,655	6,731	$448,655,848
Added Burden for PACs (including readmissions)		$16,056		$224,419,314
Allowable Cost of PACs	50%			
$112,209,657				
Flat Fee Portion (spread 25% costs of compl over all cases)	25%		$2,007	$28,052,414
Proportional Rate (75% of compl costs as a rate over base costs)	75%			15%

	Factors	Patient 1	Patient 2	Patient 3
Cost of Care of Typical AMI Case (Facility Plus Professional)		$10,957	$43,915	$120,045
Allowance for PACs		$3,628	$8,502	$19,761
Flat Fee Allowance (25% of compl costs spread over all)	$2,007	*$2,007*	*$2,007*	*$2,007*
Proportional Allowance	15%	*$1,620*	*$6,495*	*$17,754*
Margin	10%	$1,096	$4,392	$12,005
Total ECR per Patient (severity + PAC allowance + margin)		$15,680	$56,809	$151,811

Notes: AMI is acute myocardial infarction; PACs are potentially avoidable complications; ECR is evidence-informed case rate.
* The total PAC pool is split into two parts: one is distributed as a flat fee across all ECRs and the other is distributed on a proportional basis. The first part is comprised of 25 percent of the total pool, in this instance $20 million. Since it is distributed across 16,322 AMI cases, it amounts to a flat fee allowance of $1,258 per AMI. The second part is comprised of 75 percent of the total pool, in this instance $62 million, which represents 15 percent of the total typical costs of AMI. As such, in this example, every ECR will have a flat fee allowance of $1,258 and a proportional allowance of 15 percent of the severity-adjusted base.
Source: Authors' analysis of insured member database.

Table 4. PAC Allowance and Total ECR Price per Typical Diabetic Patient

	Factors	Avg Cost	Number	Total Cost
Total diabetes cases		$6,076	218,541	$1,327,855,116
Claims for typical patients		$3,002	171,631	$515,236,262
Claims for patients with PACs		$6,685	121,576	$812,735,560
Added Burden for PACs		$6,685		$812,735,560
Evidence-informed adjustment	75%	$700	128,723	$90,106,275
Allowable cost of PACs	50%			$361,314,643
Flat Fee Portion (spread 25% costs of PACs over all cases)*	25%	$413		$90,328,661
Proportional Rate (75% costs of PACs as a rate over base costs)*	75%			41%

	Factors	Patient 1	Patient 2	Patient 3
Cost of Care of Typical Patients		$1,311	$3,453	$9,375
Allowance for PACs*		$955	$1,840	$4,286
Flat Fee Allowance	$413	*$413*	*$413*	*$413*
Proportional Allowance	41%	*$542*	*$1,426*	*$3,872*
Net Percent Allowance for PACs		73%	53%	46%
Margin	10%	$131	$345	$938
Total severity-adjusted ECR per Patient		$2,397	$5,638	$14,598

Notes: PACs are potentially avoidable complications; ECR is evidence-informed case rate.

* As the total severity-adjusted base cost of care increases (here from $1,311 to $9,375), the total dollar-based PAC allowance per ECR increases, providing the physician with ample resources to care for the patient as their severity increases and, as a result, as the likelihood of the development of a potentially avoidable complication increases as well. The total PAC allowance, as a percent of the severity-adjusted base, decreases as the severity-adjusted base increases, partially as a mechanism to mitigate against artificially increasing a patient's severity factors.

Source: Authors' analysis of a database of insured member database.

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