Reference Pricing and Bundled Payments

A Match to Change Markets

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INTRODUCTION

As the costs of health care continue to increase, employers are turning to innovations in health care payment, benefit design, and network design to manage their costs. One reform that has gotten recent attention is reference pricing. Yet when used alone, this strategy has some limitations. Coupling a reference pricing strategy with a bundled payment to providers for the entire episode of care could make pricing easier and create alignment among consumers, employers, and providers in a number of ways. First, this approach is easier for consumers to understand, limits their financial liability, and allows for greater price and quality transparency. Second, it improves cost predictability for employers because they will pay a consistent bundled price that does not vary based on the services rendered. Third, providers have more accountability for defined outcomes and are financially liable for costs above the defined bundled price, creating a focus on delivering the highest quality, most efficient care.

This paper discusses how reference pricing can be successfully paired with bundled payment to create the alignment described above. First we begin with a look at an employer and a purchaser using a reference pricing strategy today.

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REFERENCE PRICING: SOME EXAMPLES AND ITS LIMITATIONS

DEFINITION:

Reference Pricing: The reference price is a set price for a specified procedure or service above which an employer will not pay. To minimize out-of-pocket spending, consumers must select a provider whose price is at or below the reference price. However, in more complicated episodes of care, the reference price, which may be attached to only one component of the patient's care such as either the facility or the health care professional, may not represent the entirety of a consumer's costs.

Employers and health plans have been using reference pricing as part of their benefit design for well over a decade. Employers initially implemented it principally for prescription drug benefits. In this instance, the price for the generic version of a drug serves as the reference price. The plan member receives full benefits for the generic option, but if the plan member chooses to purchase the brand name drug, he or she must pay the difference between the cost of the generic and the brand name version. For example, if a generic substitute for a drug costs $13 and the plan member selects the brand name version which costs $55, the plan member will pay $42. This policy has proven very effective for employers and led to significant increases in the use of generic drugs.

More recently, companies have instituted reference pricing for "commodity" procedures and services for which quality is thought not to vary.

Safeway: Reference Pricing for Colonoscopies

Safeway applied this approach to colonoscopies after noticing significant variation in the San Francisco Bay Area among the prices providers charge for that diagnostic test. Safeway employees can either seek colonoscopies from health care providers who meet or beat the reference price or, if they choose to go to a more expensive provider, pay the full difference between the reference price and the actual price. Typically, employers and health plans implementing reference pricing have limited it to single tests or procedures where the price is certain and it is easy to estimate the liability for the plan member.

CalPERS: Reference Pricing for Joint Replacements

In January 2011, The California Public Employees' Retirement System (CalPERS), the largest employer and health care purchaser in California (and second largest in the nation), launched a reference pricing program for total hip and knee replacements for its PPO enrollees. So far, this program has resulted in a shift among consumers toward health care providers offering joint replacements at or below the reference price. In some cases, providers have lowered their rates to meet the reference price. Safeway and CalPERS' efforts have clearly succeeded in achieving some of their intended outcomes.

Applying a reference price to a complex procedure such as a hip or knee replacement involves dozens of CPT codes; there may be variation in how care is provided that leads to unexpected out-of-pocket costs for consumers.

Plan Member Financial Risk in Reference Pricing

In its simplest form, the financial risk to the plan member (consumer or patient) is finite and quantifiable when a reference price is applied to a single test or drug, because it applies to a specific CPT code.[1] Each CPT code has a negotiated fee with a third-party payer.

1 CPT codes are billing codes that represent a particular procedure or treatment – for example, CPT 45330 applies to diagnostic colonoscopies.

However, applying a reference price to a complex procedure such as a hip or knee replacement involves dozens of CPT codes; there may be variation in how care is provided that leads to unexpected out-of-pocket costs for consumers. For example, a physician might decide to perform multiple diagnostic imaging tests prior to and after the procedure, or to select different types of imaging tests than some of their peers. Similarly, after the procedure, the orthopedist might recommend a stay at a rehabilitation facility, while another might recommend a few sessions of physical therapy.

Finally, the price might vary depending on the setting in which the plan member receives the service. As such, the price, mix, and frequency of services in a joint replacement procedure can vary, even when adjusting for the severity of the patient.

Table 1 illustrates the actual costs incurred by plan members for a total knee replacement episode, which includes all related services for 30 days prior to the procedure and 90 days post discharge.

TABLE 1: COSTS INCURRED BY PLAN MEMBERS FOR TOTAL KNEE REPLACEMENT

MEMBER	TOTAL PRICE PAID	MEMBER	TOTAL PRICE PAID
242135	$25,771	2090553	$29,309
417602	$25,596	2421668	$28,894
812087	$30,408	2422146	$26,430
924865	$23,535	2440440	$39,593
1150100	$25,393	2452130	$24,781
1151818	$32,796	2539138	$30,744
1265460	$28,083	2565910	$25,124
1291085	$34,097	2634747	$28,541
1291950	$31,285	2678174	$39,544
1361268	$24,891	2768381	$71,107
1413782	$25,538	2901261	$37,289
1475601	$26,429	3096999	$26,903
1507057	$28,436	3561414	$29,938
1750862	$29,022	3644029	$22,982
1762583	$24,971	3670701	$33,870
1985441	$25,318	3695561	$26,909
2087370	$25,899	4041966	$25,906

Source: HCI3[2]

The prices paid by the plan varied from a minimum of $22,982 to a maximum of $71,107, with an average of $29,863. If one set the reference price at the average, then one plan member potentially could pay $41,244 out-of-pocket if there was no mechanism in place to mitigate financial risk.

Mitigating Financial Risk

There are a number of ways to mitigate financial risk. First, plan sponsors can create a shorter time window for the episode, fixing it to the expenses incurred from both facility and professional services during the procedure. However, there can still be extensive variation and a potential for gaming by providers. For example, providers could reduce the costs of a stay in a facility, but make it up with admissions to expensive rehabilitation facilities that they might own.

Second, plan sponsors can create a ceiling on the expenses for which a plan member would be liable, commonly referred to as a "stop loss." The member pays nothing up to the reference price, pays the full cost between the reference price and the stop loss amount, and then pays nothing more. This is the idea behind the Medicare Prescription Drug benefit "donut hole." Using the data in Table 1, the plan could institute a stop loss at $39,561 which represents the 95th percentile of total knee

2 Drawn from commercial health plan data for a single geography.

replacement costs. As such, the plan member who had the $71,107 procedure would be limited to an out-of-pocket expense of roughly $10,000, instead of over $40,000 without the stop loss.

While these mechanisms can mitigate the financial exposure for the plan member, they don't eliminate the risk, even when the member selects a provider whose average episode costs are below the reference price. In those instances, there is still no guarantee the entire episode of care won't bring additional costs.

This is in part because reference pricing poses no particular financial risk to providers. When patients' procedures exceed the reference price or involve readmissions, providers bear no added costs. Only the member pays the price.

PROVIDER RISK IN BUNDLED PAYMENTS

DEFINITION:

Bundled Payment: Also known as "Episode-based payment" means a single payment to providers or healthcare facilities (or jointly to both) for all services to treat a given condition, or, to provide a given treatment. Providers assume financial risk for the cost of services for a particular treatment or condition as well as costs associated with preventable complications.

Under bundled payment arrangements, the provider is at full risk for any costs in excess of the contracted price. For example, using the data in Table 1 and assuming that the bundled payment contract was set at the average price of $29,863, the provider would be at financial risk for any costs above that amount. In instances when the provider continues to bill fee-for-service claims, all claims above the contracted rate would not be paid. Conversely, the provider would make a margin for any episode that costs less than the contracted rate.

The advantage of bundled payments is that they create an incentive for the provider to be more cautious about the quantity and type of services they provide, and to eliminate the potential for any preventable complications that could occur during and after the procedure, known as Potentially Avoidable Complications (PACs).

To protect the provider from risks beyond their control, bundles are usually adjusted for the severity of the patient. In addition, a payer will often institute a stop-loss amount in the event of a serious complication. As a result, the provider is at financial risk for managing the patient's episode, and the payer/purchaser retains the "insurance risk" of catastrophic events.

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REFERENCE PRICING + BUNDLED PAYMENTS: MARRYING MEMBER RISK AND PROVIDER RISK

Combining reference pricing with a bundled payment model can minimize member financial risk as well as manage provider financial risk. When providers contract for a bundled payment for knee replacements, the plan member would know the total cost of the bundle with each provider, only paying more than the reference price when selecting a provider whose bundle costs more. The data in

Table 2 below, provided by a health plan, represent the costs of getting a total knee replacement from several different providers in a market. The average costs (which could be equivalent to prices from the member perspective) for each provider vary from a low of $22,800 to a high of $29,800. Further, as we saw in Table 1, each provider has significant variability in the costs of their episodes. That variability is represented by the standard deviation and the coefficient of variation. The higher the coefficient, the greater the variability. The median price for the market is $25,590 and the orange highlights on each row/provider represent the point under which the provider's procedure costs were lower than the market median. For example, Provider A's procedure costs exceed the market median for approximately 75% of its cases. Conversely, Provider F's procedure costs never exceed the market median (because F has agreed on a bundled payment contract equal to the market median).

TABLE 2: AVERAGE COSTS OF KNEE REPLACEMENTS AND ASSOCIATED VARIABILITY, BY PROVIDER

Provider	Average	St. Dev	Coef of Var	5%	25%	50%	75%	95%	PAC Rate	Percentile for Market Reference	Probability of incurring OOP costs
A	$29,863	$8,439	0.28	$24,345	$25,552	$27,496	$30,660	$39,561	4.6%	27%	69.37%
B	$27,557	$8,609	0.31	$18,845	$22,482	$25,228	$29,253	$47,567	3.8%	51%	59.04%
C	$22,842	$4,902	0.21	$19,081	$20,540	$21,990	$23,118	$29,098	1.0%	87%	28.75%
D	$26,158	$6,417	0.25	$20,217	$22,433	$24,400	$28,914	$38,976	3.4%	60%	53.53%
E	$28,088	$7,502	0.27	$21,931	$23,907	$25,900	$28,517	$43,481	3.5%	47%	63.04%
F	$22,839	$4,614	0.20	$20,043	$20,677	$21,182	$23,280	$25,590	0.5%	90%	0.00%
Overall Market Median:	$25,590										

Each provider has a rate of Potentially Avoidable Complications (PACs) for the procedure. PAC rates are calculated as the ratio of average PAC costs to average total costs of the episode. While the rates are generally low, note that the lowest cost providers, C and F, also have the lowest PAC rates.

The last column in each row represents the probability that a plan member would incur out-of-pocket expenses if they select that provider for a total knee replacement, and the reference price in the market was set at the market median of $25,590. For example, although Provider D's average episode costs are reasonably close to the reference price, a plan member would have a 50/50 chance of incurring additional out-of-pocket costs. At the extreme, the costs could be well over $10,000 (depending on the out-of-pocket limitations including in the regulations of the Affordable Care Act).

While all providers have fee-for-service contracts, Provider F has accepted a bundled payment contract at the market median. Note that Provider F was already the most efficient in the market—even without the bundled payment, a plan member seeking care from Provider F would have only a small likelihood of incurring additional out-of-pocket expenses. By contracting for a bundled payment at the market median, Provider F will get higher margins on procedures without posing a downside risk for plan members.

As noted earlier, a refinement on this model would be to adjust the bundle price for the severity of patients (this can be done retrospectively so as to not over-complicate the presentation of information to consumers) such that providers are protected against adverse selection. As a result, the provider is responsible for all the costs of the episode and cannot bill the patient for any covered expense. The patient is only at risk for any added costs resulting from selecting a provider with a price above the reference price.

PRESENTING OPTIONS TO MEMBERS

The combination of reference pricing with a bundled payment can be further refined through a variety of options for plan members. Table 3 presents the same data as Table 2 from the plan member perspective. Each row represents a cost-sharing option above the reference price. While the strict application of reference pricing imposes a 100% member risk above the reference price, some employers might consider a lesser risk for higher-cost procedures such as total knee replacements.

TABLE 3: PRICES PER PROCEDURE AND MEMBER COST-SHARING ESTIMATES

	PROVIDER A		PROVIDER B		PROVIDER C		PROVIDER D		PROVIDER E		PROVIDER F	
Member Portion Above Reference Price	Avg	95th %tile	Avg	95th %tile	Avg	95th %tile	Avg	95th %tile	Avg	95th %tile	Avg	95th %tile
100%	$4,273	$13,971	$1,967	$21,978	$0	$3,508	$568	$13,386	$2,498	$17,891	$0	$0
75%	$3,205	$10,478	$1,475	$16,483	$0	$2,631	$426	$10,040	$1,874	$13,418	$0	$0
50%	$2,136	$6,986	$984	$10,989	$0	$1,754	$284	$6,693	$1,249	$8,945	$0	$0
25%	$1,068	$3,493	$492	$5,494	$0	$877	$142	$3,347	$625	$4,473	$0	$0

Irrespective, if we consider the first row, a plan member would see the potential out-of-pocket expense for each provider if their own procedure price ended up at the average for that provider or at the 95th percentile (where a stop-loss could apply). For example, employees would have no cost sharing if their procedure was at the average of Provider C, but could end up paying $3,508. However, if they select Provider F, there would be no out-of-pocket expense

We could further enhance and refine the estimates by multiplying the expected out-of-pocket costs by the probability of incurring them, as well as by displaying the rate of complications for each provider.

CONCLUSION

The CalPERS pilot has shown that creating member risk in the selection of providers for high-cost procedures like total knee replacements can result in plan members shifting to lower-priced providers, as well as some providers lowering their prices. These are highly desirable behavior changes in the current health care market.

However, for high-cost procedures such as knee replacements, the potential member liability—even when going to providers whose average is below the reference price—can be significant, and the provider typically bears no risk for exceeding the reference price.

As such, instituting reference pricing and bundled payment can create significant alignment among the consumer, employer, and provider. For consumers, bundled payments can limit their out-of-pocket financial liability and greatly encourage them to seek care from providers accepting bundled payment. Framing the choices for all plan members in a manner that helps them understand their potential liability, the probability they would incur such a liability, and the additional risk of incurring complications, could help employers wishing to implement this type of benefit and payment reform program. These benefit and payment reform programs will also require greater price and quality transparency, and this market demand will help advance the development of consumer transparency tools.

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For employers, they can expect greater cost predictability. There are instances when actual costs exceed the reference price because the

services rendered during the episode may differ from the set of services used to establish the reference price. Coupling a reference price with a bundled payment approach allows greater predictability in employer costs because the employer pays a consistent bundled price that does not vary based on the nature or extent of the services rendered.

For providers, pairing reference pricing with bundled payment creates accountability for defined outcomes (e.g., quality of care metrics) and financial liability for costs above the predetermined price for the bundle. This promotes a focus on delivering only the most appropriate health care services within the episode, optimizing patient outcomes, and avoiding preventable adverse events that can lead to a need to deliver more care, including readmissions.

In our example, only one provider initially accepted a bundled payment, which actually increased its margin per procedure while increasing its market share. While some might view this as a potentially lost opportunity for further savings to the payer, the CalPERS pilot teaches us that some providers will lower their prices to maintain market share. That's because the overall market median—the reference price—should drift down as other providers rein in their prices.

Finally, instituting a stop loss at the 95th percentile of costs for any provider would reduce the risk of a potentially catastrophic out-of-pocket expense for an employee, caused by factors outside their control, such as a patient safety failure during or after the procedure. The stop loss would only apply when a bundled price hasn't been negotiated with a provider, because bundled payment contracts already include stop-loss provisions.

Pairing reference pricing and bundled payment together can be a potent strategy for purchasers and plans to reduce health care costs, while providing the right incentives and high-quality care to employees and members.