CENTER for STUDYING HEALTH SYSTEM CHANGE

Issue Brief

Findings from HSC

NO. 112 • JULY 2007

DISTORTED PAYMENT SYSTEM UNDERMINES BUSINESS CASE FOR HEALTH QUALITY AND EFFICIENCY GAINS

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Efforts to improve the efficiency and quality of health care are unlikely to be successful if physicians and hospitals incur steep financial losses from success in accomplishing these goals, according to a new study by the Center for Studying Health System Change (HSC). Currently, most efforts to improve efficiency for a specific medical condition usually reduce the number of services per patient that can be billed, posing financial challenges for providers. These challenges are often magnified by the current fee-for-service payment structure, where some services are highly profitable and others are unprofitable, further undermining the case for redesigning care delivery to improve quality and efficiency. These dynamics are seen in the collaboration between Virginia Mason Medical Center (VMMC) and Aetna in Seattle to improve care for four common conditions. Although Aetna and participating self-insured employers have agreed to pay higher rates for certain unprofitable services if reductions in use of profitable services are achieved, VMMC still faces a financial challenge from applying more efficient care practices to patients covered by other insurers.

Increasing Efficiency in Response to High-Performance Networks

A critical approach to containing health care costs over time is to encourage physicians to practice in more efficient ways consistent with clinical practice guidelines. A recent innovation by some insurers to encourage more efficient physician practice is the creation of high-performance networks (HPN).[1] In an HPN, insurers analyze total spending for insured services per episode of care for a medical practice, along with measures of quality of care, to identify physicians for favored network status. These calculations tend to be made by specialty—often primary care physicians are excluded—for episodes of common clinical conditions. HPNs can potentially impact health care costs by encouraging patients to shift to "high-performing" physicians, but the greater promise for the health care system comes from motivating physicians to change practice patterns to improve their cost performance or quality ratings to increase their market share.

If physicians respond to incentives to increase efficiency, they must overcome three barriers. First, much of the spending for an episode of care is for services ordered by the physician but provided by others, including hospital services, services of physicians in other practices, diagnostic tests and pharmaceuticals. In some cases, spending may result from patient self-referrals for services. Unless physicians practice in an integrated delivery system, they have little information about the spending implications of their decisions or those of their patients. Even those practicing in integrated systems lack data on some services, such as spending for pharmaceuticals or a patient with a migraine headache visiting an emergency department in another hospital system. Insurers are best positioned to provide physicians with this information support, but few do at present.

A second barrier is that reducing spending typically means fewer services. Although some of the services targeted for reduction will be provided by other entities, such as a pharmacy or a hospital, loss of revenue from reduced volume of certain physician services could be a problem for some physician practices. While growing practices will often be able to ignore this issue, or even see it as a way to reduce their need for capital to expand patient volumes, other practices might consider it a financial challenge.

The third barrier concerns the fact that under current payment-rate structures, some services are much more lucrative than others.[2] Services involving a lot of new technology tend to be highly profitable, while evaluation and management services, where payment is predominantly for the physician's time, tend to be paid poorly. In many cases, greater efficiency will mean fewer lucrative services and more or similar

numbers of poorly paid services.

To the degree that overly high payment rates have induced greater use of certain services, one might expect that, on average, changes in practice to achieve more efficiency will mean disproportionate reductions in the most lucrative services. This will be a problem for all practices, even those experiencing growth. The only way to overcome this challenge would be if the increase in patient volume generated by the efficiency gains in an HPN enables substantial reductions in unit costs, something few practices are likely to be able to achieve.

The Virginia Mason Medical Center Experience

Seattle was one of the first markets where Aetna introduced a high-performance network product, known as Aexcel. Although it was only the third largest insurer in the market—behind Premera Blue Cross and Regence Blue Shield—Aetna's market share was large enough to assess physician performance for many specialties with claims data. Virginia Mason Medical Center (VMMC) is an integrated delivery system, including a multispecialty group practice and an acute care hospital, with a national reputation. Although some specialties at VMMC qualified for the Aexcel designation, others did not.

Seeking the Aexcel designation for all of its specialties, VMMC negotiated an arrangement with Aetna to work jointly to improve care for four common conditions (see Data Source). The arrangement called for VMMC to apply its experience with the Toyota production system to provide episodes of care more efficiently and Aetna to provide information support through analyses of claims data on VMMC patients.[3] Four major Seattle employers—Costco, Starbucks, King County and Nordstrom—participated and each chose one of the conditions for VMMC to focus on, based in part on prevalence in their workforces. The four conditions are as follows:

- uncomplicated lower back pain;
- gastroesophageal reflux disease (GERD);
- migraine headaches; and
- cardiac arrhythmias.

Table 1

Net Margins for Low Back Pain Patients at Virginia Mason Medical Center

Current Treatment Plan	Average Commercial Reimbursement	Estimated Total Cost	Net Margin
Primary Care	$230	$260	$(30)
Neurosurgery Consultation	175	215	(40)
Physiatry Consultation	325	365	(40)
MRI Imaging	900	400	500
Physicial Therapy	660	960	(300)
Total	2,290	2,200	90
Redesigned Treatment Plan	**Average Commercial Reimbursement**	**Estimated Total Cost**	**Net Margin**
Primary Care	$77	$87	$(10)
Spine Clinic	400	415	(15)
Physicial Therapy	330	460	(150)
Total	807	962	(175)

Note: Reimbursement and costs at 2005 rates.

Source: Virginia Mason Medical Center

Lower Back Pain. Lower back pain posed the most immediate fiscal challenge to VMMC. Patients with this problem entered the system in a variety of ways—through a primary care physician, an orthopedist, a neurosurgeon or a physical medicine specialist. The existing pattern of care was slightly profitable for VMMC, with large margins from magnetic resonance imaging (MRI) offsetting large losses from physical therapy and small losses from evaluation and management services. VMMC believed that care could be improved by evaluating patients more quickly and by convincing physicians not to order MRIs for uncomplicated patients. A spine clinic was created that offered same-day access for an assessment visit. The plan is expected to reduce average commercial reimbursement per episode from $2,290 to $807 (see Table 1) with a reduction in margin from a $90 surplus to a $175 loss.

The reduction in margin would have been more severe if not for the reduction in the volume of unprofitable physical therapy sessions from six to three, offsetting some of the impact of elimination of profitable MRIs. The medical benefits of evaluating patients much earlier led to a sharper reduction in physical therapy sessions than originally projected, lessening the financial impact somewhat. Other efficiencies from more effective care for low back pain do not affect VMMC's revenues. These include lower costs for pain-killing drugs and a reduction in employee days of work lost because of low back pain.

VMMC respondents indicated that the reduced volume of physician services had not been a problem because overall the clinic is quite busy and does not face the prospect of underemployed staff. Indeed, capital funds are tight, so efficiencies that enable VMMC to serve more patients with existing facilities are seen as a positive. But the reduction in net margins alarmed VMMC, which requested higher payment rates for physical therapy in recognition of loss of margins from reductions in MRI use. But any success in negotiating a higher payment rate will not provide a great deal of relief because Aetna patients comprise a relatively small share of VMMC revenue and the more effective delivery pattern applies to all patients.

Gastroesophageal Reflux Disease. GERD has a different business situation because changes in care delivery did not pose the risk of negative financial implications for VMMC. But making treatment more efficient could not have been pursued without information support from Aetna. VMMC concluded that endoscopies were not being overprescribed for this condition but found large potential savings from substituting generic proton pump inhibitors for the

expensive brand name drug that was being prescribed. Since VMMC, like most physician practices today, is not at risk for spending on prescription drugs, it could reduce spending without affecting its own revenue. On the other hand, it did not share in the pharmacy savings to offset the investment of management time to change the practice pattern.

Migraine Headaches. For migraine headaches, Aetna information support also was important. Analysis of claims data suggested that expensive drugs prescribed for migraines were often dispensed in quantities that were too large and led to waste. Moreover, patients could avoid emergency department (ED) visits and expensive imaging procedures by having small "rescue" prescriptions on hand to take with onset of a migraine. Analysis of claims data also uncovered a small number of migraine patients who had made frequent visits to emergency departments outside of VMMC; these patients were contacted for counseling.

Changes in prescribing patterns did not have a financial impact on VMMC. But ED visits (for insured patients) and MRIs are both profitable, with commercial margins of $180 and $450, respectively. Roughly 5 percent and 7 percent of VMMC members with a migraine diagnosis had ED visits or MRIs, respectively, so reducing these percentages (there is not a specific target) cost the organization positive margins that are used to cross-subsidize other services.

Cardiac Arrhythmias. VMMC's experience with arrhythmias may ultimately result in the greatest revenue losses, although the full impact on net margins has yet to be realized because VMMC has only recently implemented the relevant new care processes.

A planned shift in heart rhythm monitors—from Holter to King of Hearts—will not impact net margins significantly because Holter monitoring was not particularly profitable—"old" technologies tend not to be. But in the course of reviewing arrhythmia care, VMMC recognized inefficiencies in evaluation of coronary artery disease risk. VMMC realized that physicians were often ordering more expensive stress tests using nuclear imaging scans instead of less expensive—and less profitable—stress echocardiograms. Clinical guidelines suggest that the latter approach is just as effective and does not expose patients to radiation. Under plans to implement computerized ordering algorithms that explicitly favor echocardiogram stress tests, VMMC will reduce costs for purchasers from $2,300 per episode of care to $695, but reduce its margin from $785 to $305. The change in stress testing is an example of reducing overuse of a very expensive and profitable new technology, which would have a large impact on VMMC's bottom line.

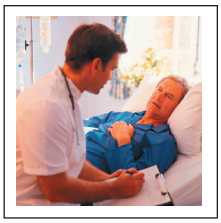
Implications

The financial challenges faced by VMMC to increase efficiency and quality for four conditions does not encourage optimism about substantial changes in efficiency coming from physician practices paid on a fee-for-service basis in the near term. For three of the four conditions, VMMC will likely experience a reduction in revenue and a reduction in net margin. In all four, VMMC invested valuable management and staff time over the course of several years to develop and implement new patterns of care delivery—and does not anticipate a financial return.

In some cases, VMMC found that physician education was insufficient to fully change to the preferred practice pattern and had to expand the use of its computerized physician order entry (CPOE) system to obtain the desired behavior changes. Under CPOE, the physician must justify the order for the procedure.

VMMC has advantages in pursuing changes to increase efficiency per episode of care that are unavailable to many other physician practices. For one thing, VMMC is a nonprofit organization with a culture that values quality improvement. Some observers believe that VMMC could have resisted Aetna's pressures by threatening to drop out of Aetna's network unless all specialties received the Aexcel designation. But VMMC management instead sought to work with Aetna and the major employers, seeing an opportunity to galvanize the organization to improve the quality of care. Indeed, all four conditions appeared to provide the opportunity to substantially improve quality, as well as to increase efficiency.

Aetna's support of VMMC with analyses of the claims experience of patients seen at VMMC was critical to success in at least two of the conditions. This support was likely facilitated by the longstanding relationship between the two organizations, dat-



Without major changes in the payment system, society cannot expect major gains in efficiency and quality to be achieved more broadly.

Data Source

This analysis was based on a case study of Virginia Mason Medical Center's (VMMC) efforts to increase its efficiency and quality per episode of care in response to pressures from Aetna's implementation of a high-performance network product in Seattle. Methods are discussed in detail in Pham, Ginsburg, McKenzie and Milstein, "Redesigning Health Care Delivery in Response to a High-Performance Network" (see Note 3). Data in Table 1 are courtesy of VMMC.

Acknowledgement: This research was funded by the California HealthCare Foundation.

ISSUE BRIEFS are published by the Center for Studying Health System Change.

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ing at least to 1999, when Aetna purchased VMMC's small health plan. Not enough is known about Aetna's expense to provide information support from its claims files or the risks it perceives to proprietary information to know whether to expect insurers offering HPN products to provide information support to more physician practices. But unless insurers can find ways to provide information support to physician practices, this will seriously limit the potential of physicians accepting responsibility beyond the services they provide directly, which is critical to the potential of achieving major savings.

The distortions in the structure of payment rates under fee for service make it much more difficult for physician practices to embrace efforts to practice more efficiently. It is well understood that most services involving procedures using new technology are relatively profitable and that others, especially evaluation and management services, are not.[4] It means that any practice change that reduces the volume of highly lucrative procedures is threatening to the financial viability of practices and will likely engender resistance. Reforming the structure of payment rates in the direction of different services having similar net margins has many virtues, such as removing incentives to induce demand for those with the highest margins, but an equally important and less-recognized benefit would be diminishing a barrier to improving efficiency and quality.

Insurers may acknowledge the barriers that medical practices face in taking steps to increase episode-based efficiency but focus on their ability to shift patients to higher-performing providers. This can be effective initially, but ultimately, the success of tools, such as HPNs, to reduce costs per episode will depend on physician efforts to improve efficiency. There is only so much capacity in better-performing practices to accept an increase in market share, so major gains from this approach will have to come from increases in efficiency in other practices.

Creating the conditions under which many practices improve their efficiency will require both support of physician practices' efforts by payers and buy-in by physicians, who have shown in the managed care arena their ability to block developments that are too threatening to them. This suggests that the gains from increased efficiency will have to be shared by payers—and those who pay premiums—and physician practices.

The VMMC experience also showed that improvements in quality can be substantial for some conditions. For lower back pain, VMMC believes that its spine center has led to major benefits in faster recovery. In addition to benefiting patients, who spend less time in pain, it benefits employers who pay less for sick leave and likely experience higher employee productivity at work. But for the most part, these improved outcomes are not measured well enough to incorporate them into the analysis of physician practice efficiency and quality or to offer rewards to practices that achieve better results.

Summing up, there is good news but also bad news in the innovative collaboration between VMMC and Aetna. The collaboration of an insurer and an integrated delivery system appears to have achieved important gains in both efficiency and quality. But without major changes in the payment system, society cannot expect major gains in efficiency and quality to be achieved more broadly.

Notes

1. Draper, Debra A., Allison Liebhaber and Paul B. Ginsburg, *High-Performance Health Plan Networks: Early Experiences,* Issue Brief No. 111, Center for Studying Health System Change, Washington, D.C. (April 2007).

2. Ginsburg, Paul B., and Joy M. Grossman, "When the Price Isn't Right: How Inadvertent Payment Incentives Drive Medical Care," *Health Affairs*, Web-exclusive (Aug. 9, 2005).

3. How VMMC changed its practice patterns is discussed in Hoangmai H. Pham, Paul B. Ginsburg, Kelly McKenzie and Arnold Milstein, "Redesigning Care Delivery in Response to a High-Performance Network: The Virginia Mason Medical Center," *Health Affairs*, Web-exclusive (July 10, 2007).

4. Ginsburg and Grossman, "When the Price Isn't Right."