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HEALTHCARE

Contracting value: Shifting paradigms

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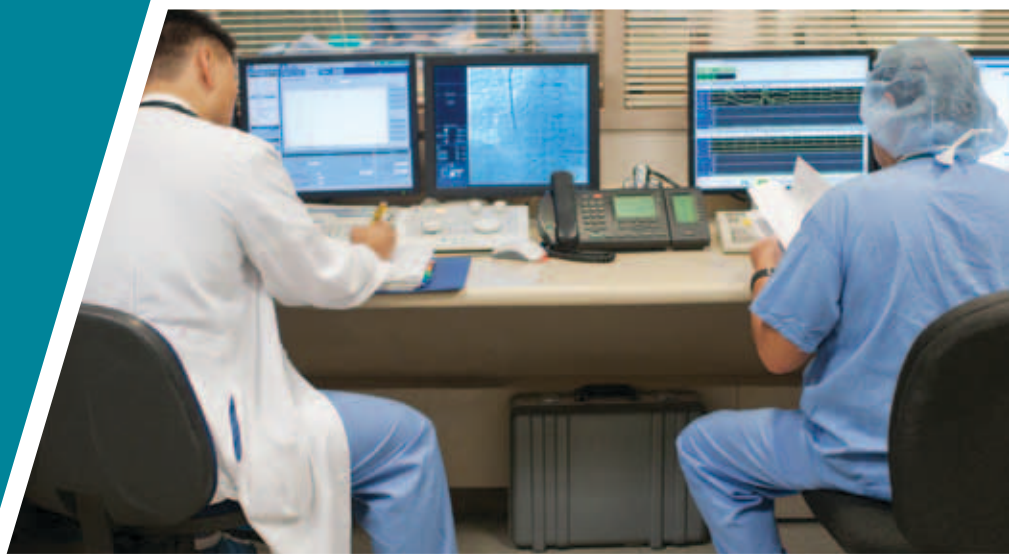
Contents

This is one of a series of reports where we look at emerging ideas and leading edge thinking about changes in how we provide, regulate and pay for healthcare. Healthcare organizations need to do much more to demonstrate that they can deliver value to patients. We have reached the end of the old arrangement in which hospitals and physicians have been paid without any questions being asked about the value of what was produced, its quality and safety and even whether it made the patient better or was necessary. There will be increasing transparency of cost and quality information. In many markets providers will be increasingly held to account for outcomes. This report looks at how this can be done, the implications for providers and how payers need to change their approach. This report builds on work with the Nuffield Trust looking at trends in Europe and on developments in other parts of the world, particularly the USA.

These ideas are still emerging and our report sets out some challenging ideas about how this trend will develop. The implications are profound both for payers and for the business and operational models of providers.



Foreword Contracting Value

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'Value' is a key term in the current crisis in health care globally, emphasizing that our problems in containing costs are just as crucial to tackle as our problems in capturing and ensuring quality. In fact, our current crisis can only be solved if we tackle these issues as two sides of the same coin. Value, after all, is outcome relative to costs: reducing costs *while* improving outcomes is obviously the ideal route to take.

The evidence that this route is feasible and highly rewarding (in all meanings of the term) is clear. Dramatically, however, existing payment systems tend to systematically work against providers and professionals taking this route. If we do not systematically fix this problem, we cannot expect to bend the cost curve without seriously endangering quality and access.

This report analyses the failures of the most prevalent payment systems globally, ranging from fee-for-service via block grants to the current attempts to pay for performance in the US, UK and elsewhere. In the quest for 'bundled payments' that cross organizational boundaries and 'accountable care organizations', health systems are now looking for the next step forward: paying for *outcomes* rather than *activities*; paying for *value* rather than reimbursing costs.

This report not only argues that doing this is possible: it also lays out the concrete principles which will help policy makers and payers to achieve the 'Holy Grail' of contracting value. By taking these core principles at heart, the seemingly insurmountable complexity of the issue is reduced considerably. Examples will illustrate how outcomes can be measured, and value can be made the core of a contract between payer and (groups of) providers. The greatest challenge is actually embarking upon this road. In the quest towards better healthcare for (relatively) lower costs, many deeply entrenched interests will be need to be overcome. Yet given the sheer scope of the pressures on our systems, there is not much of a choice.

Introduction

Throughout the world, healthcare systems are facing unprecedented pressure to cope with rapidly aging populations, a higher prevalence of chronic diseases and ever rising expectations. At the same time, the budgetary constraints most health systems face are equally unprecedented. In a time of stagnating economic growth, countries struggle with the almost unstoppable upward direction of their healthcare expenditures – which even in good times usually grew faster than the base economic growth rate.

There is also a growing awareness that the quality healthcare systems deliver – the safety, patient centeredness and effectiveness of the care – is highly variable. Since the end of the last century, an avalanche of reports has shown that we all too often do not deliver the results that we know are possible, and that as a consequence many people suffer unnecessarily and even die.

Whether it is the way chronic care is delivered or the organization of mental healthcare; whether it is back surgery or cancer: the care that is delivered is often too little, too much or sometimes just wrong. From the perspective of the patient, our care systems appear fragmented and poorly coordinated, wasting many opportunities to improve health outcomes or to deliver the care most needed at the right time and the right place.

These missed opportunities are costly. In a fascinating reversal of common sense economics, improving healthcare quality more often than not makes the delivery of healthcare *less* rather than more expensive.

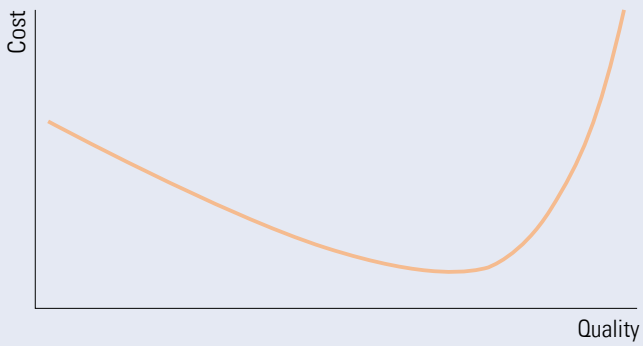
Quality and Costs

In the US, 4.5 percent of all hospitalized people develop an infection in the hospital, causing 99,000 deaths, requiring numerous extra hospital days and wasting US$30–40 billion annually. Implementing infection control programs could prevent many hospital infections (estimates range from 20 to 70 percent), save many lives and save between US$6–30 billion annually.[1]

There are many similar examples of the inverse relation between quality and costs in healthcare in developed countries. This can be conceptualized as in Figure 1: quality (including safety) improvements will generally reduce complications and avoidable care so that costs fall while quality goes up. At a certain point, of course: additional safety measures, dedicated services, the most qualified professionals and so forth will increase costs.

In most parts of healthcare, however, we are very far from that point. In countries with a very underdeveloped healthcare infrastructure, the curve will start out more traditionally, with higher quality requiring a basic layer of investments. Even in these markets, however, many instances can be found where improving quality significantly reduces costs.

Figure 1: The relationship of quality and cost

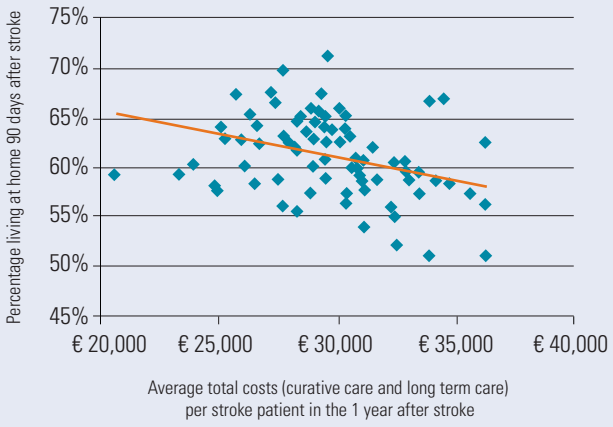


Source: Contracting Value, KPMG International, 2012.

An example of this relationship can be found in Figure 2, where the costs of stroke care (acute and long-term care, including nursing home and home care) within regions is mapped against the 90 day outcome of stroke. Functional outcome (from death via more or less disability to symptom-free) after one year is the ultimate outcome of stroke care, which is measured below as the percentage of people living at home, with or without home care. This is an internationally accepted proxy for measuring functional outcome as those not living at home are patients who are either dead after one year or who have to live in a nursing home.

In most analyses of this kind, significant differences are seen in both outcomes and costs between regions, and more often than not an inverse relationship is visible: better outcomes meaning lower costs. This is partly intuitive, because living in a nursing home is costly. Yet the total costs also include people who die in the hospital or shortly thereafter – and therefore incur no more costs. Nevertheless, saving more lives also saves money.

Figure 2: Total cost of care (1 yr) vs. long term outcome (1 yr)



Source: KPMG Plexus and Vektis, graph for illustrative purposes, modelled on actual data patterns. Definite results to be published by the Dutch Health Insurers Association.

[1] Klevens, R. M., et al. (2007). Estimating healthcare-associated infections and deaths in U.S. hospitals, 2002. *Public health reports, 122(2),* 160-6; Scott II, R. D. (2009). *The Direct Medical costs of Healthcare-Associated Infections in U.S. Hospitals and the Benefits of Prevention.* CDC

Given that we expect our healthcare systems to deliver high quality care, it is chilling to consider just how well we have managed to create incentives that fail to stimulate this, and in many cases stimulate the opposite. In most countries, partitions between the reimbursement systems for primary care, hospital care, nursing home and home care are an enormous challenge for providers who wish to optimally organize care for chronic conditions such as diabetes, COPD, and depression. Similarly, in most cases, the care for preventable complications that are a direct result of suboptimal care quality is simply reimbursed – which takes away an important additional trigger to prevent such complications.

Estimates of just how much money could be saved through wholesale improvement in quality are difficult to assess. Some experts estimate that up to 30 percent of US healthcare costs could be cut while maintaining or improving quality.[2] Whatever the precise figure, it is clear that the road to more sustainable healthcare systems lies primarily in delivering better care, not just more care.

Why is it that healthcare systems perform so unevenly? Why does it appear so difficult to cut costs by improving quality, which seems like the perfect route to take for everybody involved?

The reason is not that managers or professionals lack the desire or the know-how to deliver better outcomes. Nor is it a lack of innovative potential in the healthcare industry, or of best practices to emulate.

Put simply, the main reason outcomes are less than optimal is that we pay providers to deliver just that. Producing high quality healthcare efficiently is not rewarded by higher revenues for providers. At best, there is no direct relation between revenues and the quality and efficiency of care. All too often, there are substantial perverse incentives: in many cases, worse care generates more revenues for providers while efficient, high quality care generates fewer revenues.

In most instances, for example, improving chronic care reduces hospital re-admissions through proactive disease management in the primary care environment. This often leads to a virtual stalemate since hospitals have no incentive to lose patients (and income), and primary care providers have no incentive for pursuing the extra work without additional compensation. The list of examples is endless. Healthcare systems tend to pay for individual activities, or for the existence of a building or an organization; they pay individual providers that will each do their best on a small piece of the work around a patient's problem. They do not, however, pay for the integration of all these individuals' activities and efforts, nor do they pay for the results that all this work delivers. Indeed, in most instances, they do not even measure these results.

In short, our payment systems maintain the fragmentation that underlies our systems' failures. They pay for disjointed and non-coordinated inputs, not for integrated outcomes. "Every system is perfectly designed to achieve exactly the results it gets," Paul Batalden says. "Sadly, all too often that means suboptimal quality, waste, and frustrated professionals and patients."

[2] New England Healthcare Institute. (2008). *Waste and Inefficiency in the U.S. Healthcare System Clinical Care: A Comprehensive Analysis in Support of System-wide Improvements.*

The quest for the Holy Grail:

a health system that produces high quality, low cost care

Where we came from

Faced with these insights, policymakers and payers globally are rethinking payment mechanisms to instead reward *value*: high-quality, efficient care. Every payment system will do so partly: the classic *fee for service* mechanism stimulates productivity, timeliness and a focus on the patient as the client; the equally classic *block grant* or wholesale budget for a hospital, stimulates judicious use of resources, and prevents overuse.

Figure 3: Payment system redesign

Source: Contracting Value, KPMG International, 2012.

Yet these systems are so coarse and undifferentiated that they tend to destroy more value than they create.

In the fee for service model, information asymmetry between clients and providers inevitably results in overuse of health services. Since every individual activity is separately paid for, there is no drive to coordinate or innovate delivery processes so as to make them more value-adding from the perspective of the patient.

A block grant, on the other hand, almost ensures endless discussions on the parameters upon which the block grant is established – which, historically, have had very little to do with patient value. Indeed, block grants are deadly for productivity-enhancing innovation, since that will tend to result in more pressure on the system (more patients, a faster throughput) without added resources.

In practice, the situation is often worse than depicted here. DRG systems are frequently just used for inpatient hospital costs while physicians' fees are still often paid on a fee-for-service basis. This creates different drivers for these actors (with little incentive for physicians to cooperate with hospitals in shifting tasks smartly from physicians to nurses for example, or to implement 'lean' care pathways), making the quest for 'value' even more illusionary. In most of Canada, fee for service models for medical specialists are generally juxtaposed against the block-grant financing of hospitals, creating a set of opposing drivers in the organization that makes value-driven innovation (from the patients' perspective) an almost impossible endeavor.

In retrospect, the introduction of *capitated payment* for general practitioners in many European countries and *episode-based payment* through DRGs in the US in the previous century can be seen as the first rudimentary step in the effort to redesign payment systems towards delivering 'value'. The capitated GP payment (a fixed, risk-adjusted sum paid per patient regardless of actual use) underwrote the primary care focus towards a population- and prevention-oriented style of practice. By stimulating efficiency, it also emphasized that there was a responsibility for those patients *not* seen, which – when taken seriously – would add genuine value for the population served.

The DRG system (a fixed sum for an episode of hospital care based on a certain diagnosis, ideally including as many cost-components as possible) stimulated the efficient use of resources required for the care of a patient throughout the hospital. The DRG system puts the patient at center stage as the focus for the value that is either added or wasted as unnecessary tests or bed days now become a burden for the hospital as much as for the patient.

These payment innovations, however, still take the pre-existing providers and institutions as their starting point. While for elective interventions the relevant clinical processes often tend to begin and end at the hospital's boundaries, the same cannot be said for chronic or cancer care, for example. Equally, many simple conditions can be treated by GPs without the intervention of other professionals, yet this is often not the case for the increasing population of frail elderly.

These payment systems remain fully *input* based: hospitals get paid for treating a patient for a given condition, not for the results it achieves. As a result, increasing volume yields more income, regardless of the appropriateness or the preventability of that additional care. GPs will get their basic capitated payments whether they actually undertake the preventive activities expected of them or not. And since 'results' are not what counts, there is a similar perverse incentive to refer difficult patients to medical specialist care, whether medically necessary or not.

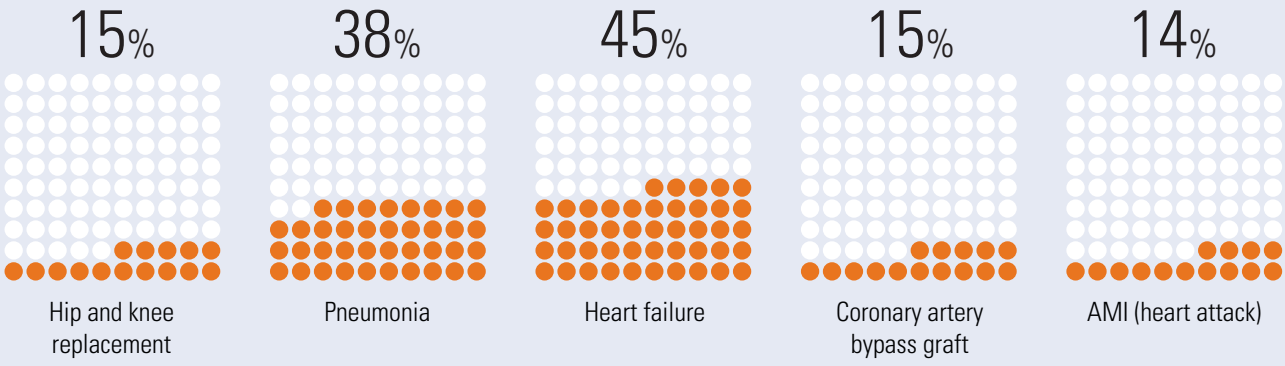
Pay for Performance

To move towards a more 'value-centered' model, many experiments and payment innovations have taken place that aim to link payment to quality measurements. In the US, the Centers for Medicare and Medicaid Services (CMS) are currently running several projects to investigate if and how paying for improved quality or efficiency will actually improve these outcomes; several other payers are following suit (see below, page 10: Alternative Quality Contract).

Premier Hospital Quality Incentive
Demonstration project

One of the first successful and well-known projects run by the CMS is the Premier Hospital Quality Incentive Demonstration project, which started in 2003. This project aims – as its name indicates – to 'demonstrate' the impact of giving financial bonuses to hospitals that show high absolute or relative performance. In the project, participating hospitals report quality information for several high-volume treatments on some 30 risk-adjusted measures reflecting both process of care and patient outcomes. Over the first 5 years of the project, incentive payments totalling US$48 million were awarded and, on average, quality scores for the five included treatments increased by an average of 18.3 percent (Figure 4). Over time the hospitals not in the study have caught up – possibly spurred by the public reporting of these data and the natural competitiveness of many providers.

Figure 4: Composite Quality Score (CQS) increase



Source: www.premierinc.com/p4p/hqi/results/index.jsp

Alternative Quality Contract

In January 2009, Blue Cross Blue Shield Massachusetts (BCBSM) started their Alternative Quality Contract (AQC), which attempts to align the incentives of hospital providers (both in- and outpatient) with primary care doctors. The goal of the AQC is to reduce the growth trend of overall medical expenditures by half over a 5 year contract term. Providers are therefore guaranteed a budget that steadily increases – albeit less steeply than it did over the last several years. Those providers that are able to increase efficiency and quality to the point that costs are actually lower than the planned budget, retain part of that margin with the specific share based on their quality and performance measure scores. Conversely, if they do not manage to do so, part of that risk is theirs as well.

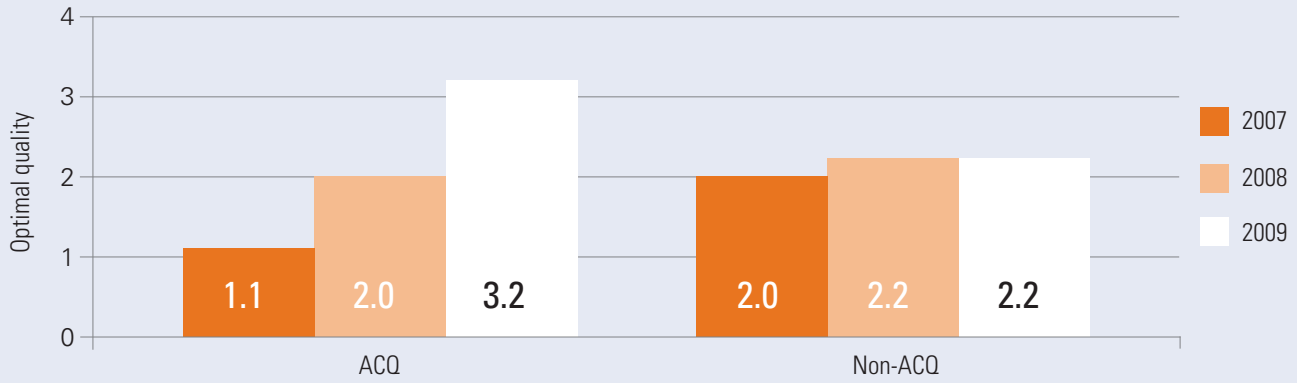
Throughout the AQC contract term, all member claims are reimbursed in the traditional way (largely as fee for service). At the end of each year, all of the services and costs (including inpatient, outpatient, pharmacy, behavioural health and others) that are associated with the AQC provider organizations' BCBSMA patients are then charged against the AQC global budget. This determines the individual provider's performance relative to the global budget.

In the first year of the project, all participating providers met their budgets, thereby producing surpluses that enabled them to invest in infrastructure to deliver more effective and efficient care. Contributing to these surpluses were quality improvements which led, for instance, to reduced readmission rates, which in turn saved US$1.8 million.

The results show that AQC contracted providers delivered annual quality improvements that were both greater than before and greater than non-AQC provider organizations. For example, the quality of chronic care management increased by 60 percent in 2009, while providers outside the AQC project failed to show similar progress.

Comparable results are found for the quality of ambulatory care and preventive screenings. Both in cost savings and quality improvements, the results show that AQC providers are on track to meet their 5 year goals.

Figure 5: Chronic Care Management Quality



Source: Song, Z. et al. (2011). Healthcare Spending and Quality in Year 1 of the Alternative Quality Contract. *New England Journal of Medicine,* 365: 909-918; http://www.bluecrossma.com/visitor/about-us/making-quality-health-care-affordable.html.

The UK GP contract is a similar, large scale initiative: GP practices are paid more when they realize higher scores on a series of almost 150 measures (see below: NHS: GP Contracts). Many similar programs now have bonuses for reporting quality data or for attaining certain scores; a growing number are also including financial penalties for those failing to meet these goals.

These pay for performance initiatives are an essential step forward, since they explicitly link quality of care to the payment of the provider. Here, payment is no longer solely tied to 'input', and providers that undo the negative effects of fragmentation can actually be rewarded.

Yet in most cases, pay for performance initiatives run into severe limitations, because the underlying payment structures remain unchanged. The institutional boundaries that tend to hamper overall quality rather than strengthen it remain untouched. In such cases, pay for performance initiatives put a sweet topping on an essentially sour base, driving improvement activity to those indicators that yield the most points to score rather than incentivizing providers to rethink the overall delivery process. In addition, pay for performance often rewards a level of process compliance which arguably should be part and parcel of standard practice anyway. And since the system is mostly based on process and structure measures (outcome measures are only gradually being introduced), there is also ample room for 'working to rule' without truly improving the outcomes.

NHS: GP Contracts

In the UK, the General Medical Services (GMS) contract came into force in 2004 and addresses the provision of primary care by privately run GP practices contracting with the NHS. Every practice is paid a fixed budget (the 'global sum') depending on the number of patients, the type of patients (as corrected for risk), local labor costs, the degree of rurality and local morbidity rates. Furthermore, a Quality and Outcomes Framework (QOF) has been developed to incentivize GPs to improve the quality of their practice. Based on 146 (government defined) process measures, practices can earn points that translate into additional income.

The effects of pay performance in the GMS are hotly debated. On the one hand, the scores on the measures have improved rapidly, but critics argue that the proportion of GP income determined by the QOF is too high, that the outcomes of the care have not improved comparably, and that gaming and selective attention to 'gathering points' actually undoes some of the possible positive consequences of the program.[3]

[3] Campbell, S. M. et al. (2009). Effects of pay for performance on the quality of primary care in England. *NEJM, 361*(4), 368-378.; Hutchison, B. (2008). Pay for Performance in Primary Care: Proceed with Caution, Pitfalls Ahead. *Healthcare policy*, 4(1), 10-22.)

Figure 6: Pay for Performance vs. Contracting Value

Pay for Performance (P4P)	Contracting Value
Add quality-based payments or fines to existing payment systems	Quality-based bundled payment (case-based or capitated)
Based on structure, process and sometimes outcome measures	Based on outcome or proxy-outcome measures
Unit of care for payment is usually different from unit of care for quality measurement	Unit of care of payment is the same as unit of care for quality measurement
Traditional healthcare payer-provider relationship: focus on improvement	*Normal contracting relationship: the payer contracts results*

Source: Contracting Value, KPMG International, 2012.

Contracting Value:
the building blocks that make it work

So what would a payment system that is built upon realizing value actually look like? How can payers (whether insurance companies or governments) pay for outcomes rather than for inputs? There are three core building blocks here that, when grasped fully in their synergy, bring this 'Holy Grail' surprisingly within reach.

The first is about delineating the care services that are paid for in a smarter way. Stop paying providers along the traditional dysfunctional lines, and start paying for care services or products that make sense from the patients and the clinical perspective. In other words, start paying for integrated care services or products. The second building block is to define and measure the core outcomes that patients and professionals aim to achieve by delivering the care. The third is contracting these outcomes in the right way.

This report will discuss each building block in turn, emphasizing how each might have seemed a mirage only a decade ago, but is currently within reach. As pressure builds in healthcare systems as a result of uncontrollable growth rates, demands for quality and an increasingly frustrated healthcare workforce, the perfect storm might be there to put these building blocks together.

Where value is created: the integrated care for a patient's problem

As noted, a core limitation of DRGs and capitated GP payment systems is the fact that they are segmented along traditional providers' lines which, in many cases, makes little sense from the perspective of the patient's problem. This critique is now rather well-known,[4] yet the question remains what it would mean in practice to put the patient's problem central in an alternative payment system? Given the broad scope of problems that patients may present with, it seems a baffling challenge to define what the proper 'beginnings' and 'ends' of patient care processes are.

Yet it only seems hopelessly complex because we are not used to thinking in this way. Our provider system is deep-rooted in payment and regulatory systems. Yet from the perspective of types of patient problems, it is actually not all that complicated. There is a reasonably simple way (without the pretense of being either exhaustive or definite) in which we can order the types of patient care so that they form meaningful wholes based on the nature of the patient's problem, the types of goals aimed for, and the nature and form of the care given (see as shown in Figure 7: Page 14).

For example, the care for chronic conditions (diabetes, rheumatoid arthritis, Parkinson's disease, cardiovascular risk management and so forth) shares some core characteristics such as the need for continuous, integrated, pro-active care; the importance of secondary prevention (preventing complications and exacerbations); and the focus on lifestyle.

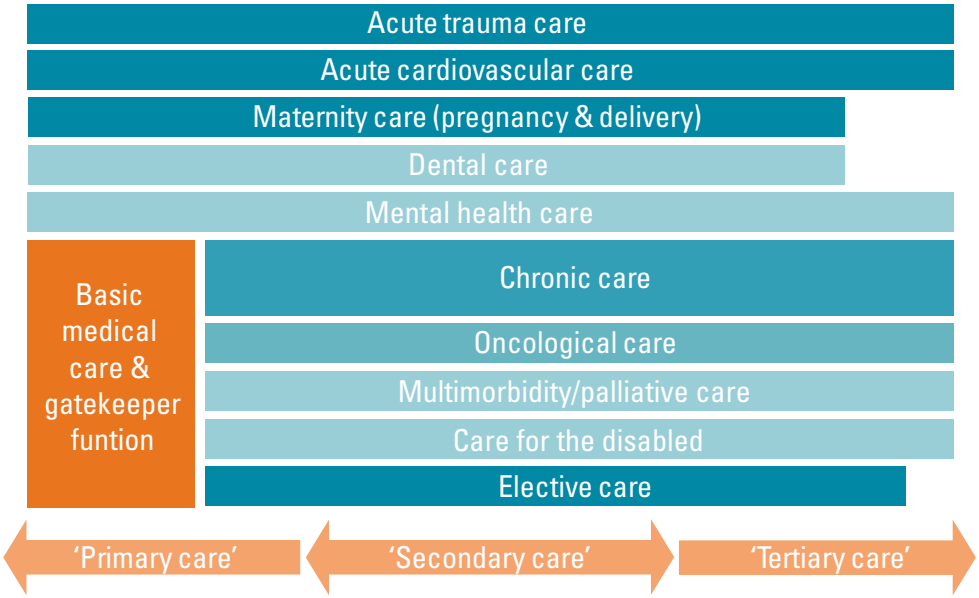
[4] Porter, M. E., & Teisberg, E. O. (2006). *Redefining Healthcare. Creating Value Based Competition on Results* (pp. 64-76). Boston: Harvard Business School Press.

Similarly, the care for acute cardiovascular patients revolves around proper handling of an acute event, optimal stabilization and intervention (PCI, cardiovascular surgery, thrombolysis in the case of stroke, acute aneurysm surgery), and optimal post-intervention care. This kind of care is non-continuous: after immediate follow up, the patient becomes a chronic cardiovascular risk patient.

Elective care (hip replacement, hernia repair, back surgery) is also non-continuous, as is acute trauma care. Care for people with a disability, on the other hand, is continuous, as it is largely focused on patient well-being and quality of life rather than cure.

The category 'basic medical care' is a bit of an outlier in the categorization, since it still seems rather provider focused: it is what is delivered by GPs and home nurses in many countries. Yet we include it here because it stands for a clear patients' need: it is essentially continuous, population-based care, which aims at preventing (the worsening of) conditions in the high-risk parts of the population, and the treatment, support and, where necessary (after adequate diagnosis where possible), referring of people to specialty care.

Figure 7: Unit of care*



Source: Contracting Value, KPMG International, 2012.

*The unit of care to be contracted should be an integrated care product or service. The categorization offered here is not intended to be definite, complete nor clear-cut beyond discussion. The nature of healthcare is such that it would be futile to attempt to make it so: at what point does 'multi-morbidity' or 'being frail' begin, exactly? Is acute cardiovascular care not just a part of chronic cardiovascular care or, if not, when does the acute phase stop and the chronic phase start? Yet practical answers to these questions are possible.

Finally, multi-morbidity or frail elderly care is a rapidly growing category where most healthcare systems fail dismally. For most people with chronic conditions, there comes a time when the *goal* of the care shifts from a focus on disease-specific treatment and secondary prevention to a primary focus on relieving symptoms and maintaining or improving quality of life (palliative care).[5] Secondary prevention is still crucial, but it becomes more about preventing falls, pressure sores, medication errors and so forth, rather than preventing long-term complications from diabetes, for example. This kind of care is essentially about *coordinating* the various needs of the patient in an integrated way; supporting the patient's family with the gradual reduction of cognitive abilities and loss of self-management that might co-occur, and so forth.

Figure 7 does not necessarily delineate new organizational boundaries. Yet the integrated care for the diabetic patient, for the hip replacement patient, for the pregnant patient or for the patient with breast cancer should be the 'unit' of payment. So while parts of the care can be delivered by different providers, it is critical that there is one clear point of responsibility identifiable by patients, (subcontracting) providers/professionals and payers. This has the potential to all but end fragmentation and the loss of effectiveness and safety problems that arise from this, and to stimulate the efficient use of resources along the patient's care trajectory. Just how this works out in the contracting of care will be addressed in the third building block. First we look at what should be contracted: outcomes.

[5] Contrary to what people sometimes think, the term palliative care does not necessarily imply the imminence of death – it rather points to the shift in the goal of care.

Define meaningful outcomes for these patient problems

The importance of measuring the quality of care delivered is clear to policymakers, providers, professionals and purchasers alike. Indeed, there are already thousands of quality indicators available in clearing houses, national indicator projects and so forth, covering a myriad of care domains and care sectors such as pharmacies, hospitals and individual doctors; ICUs, nursing homes and complete healthcare systems.

However, the usefulness, validity or reliability of many of the indicators are hotly contested. Just as it seemed baffling to define meaningful categorizations of care problems, the quest to define the measures that matter among the thousands of possible options seems equally daunting.

But once care problems are categorized in the way delineated in the previous subparagraph, we can start to cut a clear path through this complexity. For every type of care, after all, it is rather clear what types of quality measures are important. For maternity care, for example, the core outcomes are a healthy baby, a healthy mother, and a care process that is patient-centered and self-empowering. For chronic conditions, the outcomes are a high quality of life and freedom (as far as possible) from short- and long-term exacerbations and complications. Here as well, the experience of the care process is a crucial outcome measure. For elective care, the core outcomes are the alleviation of symptoms and the care process experience. And for basic medical care, high quality can be measured by appropriate and safe medication use, by the appropriateness of referrals, the relative absence of acute admissions, and – again – the patient's experience while in the provider's care. And so forth.

Adhering to the 80/20 principle, we can start with what is most important first: the largest patient groups, and the main outcomes that are feasible to assess per patient group. Several data sources are (and can be) used for these purposes such as administrative data, clinical registries and the so-called patient reported outcome measures (see page 17: Data sources for measuring outcomes). Especially in their combination these become highly relevant and reliable sources for measuring outcomes.

It is interesting to note, however, that due to the similarity in types of relevant outcomes, the different care categories outlined above each tend to gravitate towards a rather clear-cut and limited selection of the most relevant data sources. As a result, this will reduce the complexity of outcome measurement even further.

For acute cardiovascular care, the single most relevant outcome measure is the 90 days functionality score shown for stroke in Figure 2, page 5. That indicator can be further improved by drawing on patient reported outcome measures to establish the patient's outcome at 90 days, instead of using the proxy 'living at home or in a nursing home' that is now used. For chronic diseases such as Parkinson's, high quality outpatient care (including adequate mobilization) prevents hospitalizations and falls, and delays or altogether avoids nursing home admissions.

Adequately corrected for age, socio-economic status and co-morbidity, the incidence of falls leading to actual bone fractures and the rate at which Parkinson's patients are admitted to a nursing home become powerful outcome measures, especially when combined with patient reported outcome measures. Indeed, in a study of ParkinsonNet, a Dutch innovative approach to Parkinson's care, we found that the outcomes on these scores were significantly different, resulting in reduced hospital costs as well.[6]

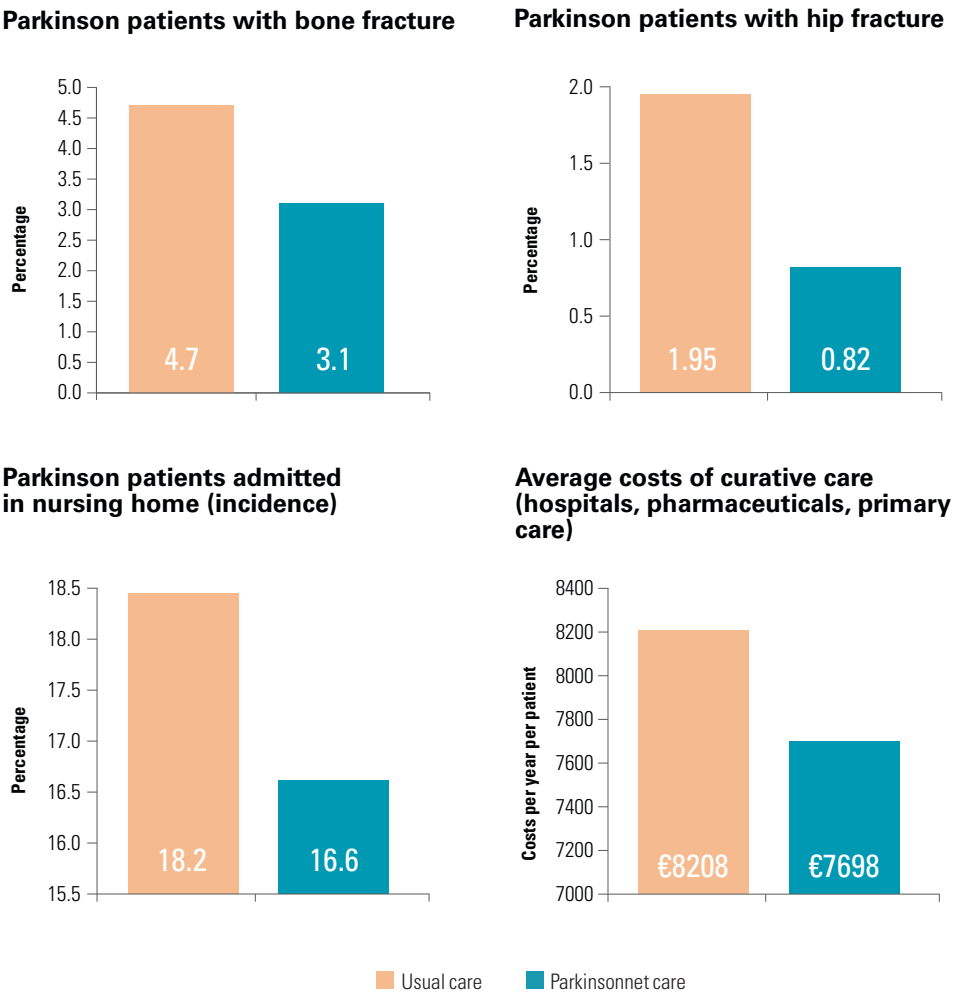
Data sources for measuring outcomes

There are at least four sources to be considered here:

- Administrative data (e.g. billing data), which can be linked with national or community statistics on social economic status, date of death, and so forth. Administrative data will often yield diagnostic and therapeutic information that, when combined smartly and risk-adjusted, can deliver (partial) insight into intermediate and long-term outcomes.
- Clinical registries (detailed data registered by professionals), widely used for measuring outcomes of ICU care, cardiothoracic surgery, or varying types of cancer.
- Patient questionnaires: patient satisfaction and the experience of the care process have been measured for decades, but historically, these measurements have focused primarily on the 'service' aspect of quality rather than the medical outcomes of care. However, the patient has recently been 'rediscovered' as a core source for this data as well. After all, it is the patient who is best able to report whether symptoms are alleviated after an elective surgery, or how well a chronic disease's symptoms are relieved. The design of instruments to do this is now well developed.
- Questionnaires for providers, which require providers to aggregate the information available in patient records (such as the percentage of myocardial infarction patients that leave the hospital on Beta-blockers). When this data is not registered specifically for a quality or monitoring purpose, the reliability tends to be poor while the retrospective gathering of this data often represents a significant administrative burden.

[6] e.g. Munneke, M., et al. (2010). Efficacy of community-based physiotherapy networks for patients with Parkinson's disease: a cluster-randomised trial. *The Lancet Neurology*, 9(1), 46-54.

Figure 8: Parkinson's care



Source: Dutch Association of Health Insurers 2011 (analysis by KPMG International and Vektis).

Contracting value

With these building blocks in place, it is now possible for the purchaser (whether an insurance company, a commissioning primary care trust or a government agency) to contract, per type of care, the delivery of a set of outcomes for a given population. For chronic care (say diabetes or Parkinson's), the payer can pay a fixed sum per patient per year (adjusted for relevant parameters such as average age and socio-economic status of the population) for which the provider delivers the outcomes agreed upon. When the complication rates drop even further than promised, the provider stands to gain financially; but when the number of exacerbations are too high, they are liable for the additional costs (see page 21: NHS Oldham Primary Care Trust).

The same principle holds for elective, maternity and acute care, where payment is not 'per year' but per episode. Here too, complications and unnecessary interventions would be incurred at the providers' expense, as would be the case in any industry. Stroke care, care for acute myocardial infarction or hip fracture can, for example, be contracted as a 90-day episode, starting at the admission to the hospital. It would thus include both the acute episode and the direct rehabilitation efforts where the main contracted patient outcomes would be mortality rate and functional status.

For maternity care (which should deliver optimal outcomes for both mother and infant, and an optimal patient experience during the care process) caesarean section rates and hospital admissions that trend above expectations would be incurred at the providers' expense. This would mean that the better the care around the pregnancy and delivery (including a smart redistribution of tasks amongst the medical specialists, midwifes or nurses involved), the better the outcomes and the lower the costs.

In elective care, interventions that do not add value to the patient should also receive no reimbursement (see sidebar: Geisinger's ProvenCare). This not only implies that re-interventions or complications are handled at the provider's expense, but also that the intervention was called for, and that the same results could not have been achieved through non-surgical treatment. This is particularly important when contracting care per episode to prevent non-value added interventions.[7] For cancer care, the best contracting method would probably be a mix of acute (episodic) and chronic (on a yearly basis) periods.

Geisinger's ProvenCare

Geisinger's first ProvenCare program ensured that patients undergoing an elective Percutaneous coronary intervention (PCI, or percutaneous angioplasty) would always receive optimal, evidence-based care, in which all of the essential steps are taken (unless, of course, clear contraindications apply). The promise Geisinger gives their patients and payers is that one bundled payment will encompass all of the care required for the PCI and its follow-up for 90 days. This includes potential complications, the cost of which will be borne by Geisinger. The introduction of this program has shown markedly improved outcomes such as reducing readmissions by 44 percent, for example. The ProvenCare concept is now also used for coronary artery bypass surgery (CABG), hip replacement, cataract surgery and other elective surgeries. In Stockholm County, a similar model is used for hip or 2 year guarantee on additional surgery to the joint, and a 5 year guarantee for post-operative wound infections.

Source: http://www.geisinger.org/provencare/; Porter, M. Harvard Business School http://www.isc.hbs.edu/pdf/2010-0617_Philips.pdf.

[7] Fisher, E. S., Bynum, J. P., & Skinner, J. S. (2009). Slowing the growth of health care costs–lessons from regional variation. *NEJM, 360*(9), 849-852.

Prometheus: episode based payment

Prometheus is an episode-based payment method which aims to optimally incentivize the provider for delivering high quality, low-cost care. It does so by allocating an 'evidence-informed case rate' (ECR) to a patient episode, which includes "all covered services related to the care of a single illness or condition, bundled across all providers". The Heart Failure ECR, for example, would include all healthcare activities (specialist contacts, medication, nursing activities, and so forth) that would together constitute 'evidence based heart failure care'.

The ECR is risk-adjusted, to account for the severity and complexity of the patient's condition: when a patient is in poorer overall health, the ECR is adjusted upwards. In addition, the ECR includes an allowance for potentially avoidable complications (exacerbations, infections and so forth) that could have been avoided by more optimal care. Finally, the ECR includes a negotiated basic margin for the provider(s).

To date, ECRs have been developed for 21 conditions, representing approximately 35 percent of a US commercial payer's total healthcare spend. The categorization used by Prometheus (chronic, acute medical, inpatient procedural, and outpatient procedural) can be easily translated in the categories used here.

Prometheus' price-setting ECR model is rather elaborate (too elaborate for some) due to the deliberate effort to separate 'insurance risk' from 'technical risk'. The former cannot be mitigated by providers (sicker or older patients will usually be more costly to care for), and should be carried by the insurance company; while the latter (preventing potentially avoidable complications and inefficiencies through operational excellence) is exactly what should be carried by the provider. This sets it apart from less refined models where risks are more integrally transferred to the provider, such as population-based capitated payment models.

Category	Condition
Acute cardiovascular care	Acute Myocardial Infarction, Stroke
Acute medical care[8]	Pneumonia
Maternity care	Pregnancy/Delivery
Chronic care	Asthma, Coronary Artery Disease (CAD), Chronic Heart Failure (CHF), Chronic Obstructive Pulmonary Disease (COPD), Diabetes, Gastroesophageal Reflux Disease (GERD), Hypertension
Elective (planned) care	Coronary Artery Bypass Surgery (CABG), Bariatric Surgery, Hip/Knee replacement, Cholecystectomy, Hysterectomy, PCI (angioplasty)

Source: www.hci3.org; de Brantes, F., Rosenthal, M. B., & Painter, M. (2009). Building a bridge from fragmentation to accountability–the Prometheus Payment model. *NEJM, 361*(11), 1033-36; Hussey, P. S., Ridgely, M. S., & Rosenthal, M. B. (2011). The PROMETHEUS Bundled Payment Experiment: Slow Start Shows Problems In Implementing New Payment Models. *Health affairs, 30*(11), 2116-24.[9]

[8] Non-surgical, non-cardiovascular is not included in category.

[9] Overview of conditions: http://www.hci3.org/sites/default/files/files/PROMETHEUS%20Payment%20Toolkit%20-%20Final.pdf; http://www.hci3.org/content/that-was-then-this-is-now.

For all these types of care, payment would be provided on a per-patient basis, with entitlement dependent on having a specific condition (having Parkinson's disease, being pregnant, and so forth). This is different for basic medical care where thresholds for eligibility cannot be defined in any feasible way and where providers are expected to primarily focus on keeping people healthy as much as possible. For such types of care, paying a population-based fee rather than a case-based fee makes more sense. While this is rather similar to the way UK and Dutch GPs are already being paid, it differs in ensuring that a much more direct link should be forged between the outcomes of the care and the payment received. Because of the nature of this care, true 'outcomes' may be harder to define and, depending on the scope of services bundled under this care, more population-based proxy-outcome measures such as vaccination levels, unplanned hospital admissions and appropriate referral measures may be used.

In a system based on these principles, competition between providers on value promises to unleash innovative forces that are rarely seen in most Western healthcare systems, but that international best practices show are possible: elective care without waiting times, acute care with minimized mortality and morbidity rates, diabetic patients with life expectancies equaling people without diabetes and with equal quality of life. The reduction in cost just by avoiding non-value added care are enormous; the additional savings from increased efficiency in the delivery of value-added care are equally large.

NHS Oldham Primary Care Trust

In the NHS Oldham Primary Care Trust region, a few General Practitioners realized that they could both increase quality and significantly reduce costs in the area of musculoskeletal disease (MSK): rheumatology and orthopedics. They have set up a service that handles all MSK GP referrals in the region, referring to hospitals only those patients that require clinical admission or surgery. Run by GPs and a specialized nurse, both rheumatology and orthopedic specialist expertise is available as well.

Emphasizing self-management, shared decision making, and steering away from low-value adding activities (such as unwarranted practice variation), they have already succeeded in reducing the number of hospital admissions by half. In addition, they have completely shifted rheumatology care into the community, admitting only eight rheumatology patients into acute trust care in 2011.

With overall MSK expenditure at approximately GBP23 million, the service's current value-based contract promises to reduce expenditures by 14 percent over 2 years while simultaneously increasing health gain (measured by patient reported outcome measures, amongst others). "Vital in achieving integrated care", Dr. Nye (one of the service's founders) says, "is establishing the role of the pathway co-ordinator, a clinical provider, whose role it is to performance manage and integrate care. The payment system should reward this rather than the multiple episodes of often disjointed care."

Source: http://www.pmskp.org; NHS Oldham Muskoskeletal Programme Budget 2010; personal communication Dr. Nye.

Payment: case-based or capitation?

Internationally, more and more examples of episode-based payment for elective care (including 'guarantees') and year-based payment for integrated chronic care are emerging. Similarly, paying primary care professionals a fixed sum per enrolled patient to cover the basic medical needs for that population (including, for example, basic acute care) is common practice in Europe.[10]

In general, case-based payment makes sense when a condition, the care required for that condition and the desired outcomes can be feasibly circumscribed, as is the case with most of the care being delivered 'downstream' in the value chains of healthcare. The advantage of this model of contracting is optimal transparency, and an optimal incentive for efficiency and productivity. The disadvantage is that by paying 'per case', the contracts may stimulate the volume of unwarranted elective interventions, and will require that care for multiple conditions includes clear allocation of costs to individual episodes of care.

Population based-payment (also called 'capitation') is the better choice for most 'upstream' care, where prevention and coordination are key and the patient's problem may not be easily categorized as a specific, clear-cut 'condition'. The advantage of population-based payment is its simplicity and (from the payers' perspective) the predictability of healthcare expenditures. Yet the potential disadvantage of capitation is that insurance risk is shifted to the provider, since payment is per capita, not per patient. When limited to basic medical care, the amount of insurance risk that is transferred to the provider is limited. Home care, ambulatory care for the elderly and basic acute care (24/7) can also be feasibly incorporated into such a model. The extent to which providers can take on full capitation risk including high cost care such as cancers is open to debate. Asking providers to carry insurance risk, as is the case in ACOs and other fully capitated models, may mean taking on risks which may be outside their control. Groups of over 150,000 population can generally contain most of these risks, others may need reinsurance. Alternatively these patients need to be excluded and case-based payment for these types of care can be used to prevent this from occurring, while also allowing for restricting non-value added (over-) production.[11]

[10] Anita Charlesworth, Davies, A., & Dixon, J. (2012). *Reforming payment for health care in Europe to achieve better value.* London.

[11] de Brantes, F., Rosenthal, M. B., & Painter, M. (2009). Building a bridge from fragmentation to accountability–the Prometheus Payment model. *NEJM, 361*(11), 1033-1036.

Pricing: fixed or negotiated?

In contracting *outcomes* in this way, healthcare systems can either opt for set prices, or opt for negotiation between the provider and the payer. There is ample evidence to show that when government bodies attempt to set meaningful prices for healthcare services, it often becomes a costly, time-consuming and ultimately hopeless affair. In the Netherlands, for example, (a country with a reputation of precise and meticulous regulatory institutions), laboratory and radiological examinations are priced as they were decades ago, corrected for inflation but not for the technological advances that have taken place since then.[12] Setting prices for integrated care products will not be a lesser challenge for regulators. Although, on the one hand, the scale of the overall task will become smaller (by reducing the large number of prices to be set for individual activities to the core integrated services to be contracted), the individual activities will still all have to be figured into the overall price, and the importance of adequate compensation for case-mix becomes greater.

Where competition is a feasible option, the practice of allowing prices to be set in negotiation is a more practical and ultimately more value-producing approach. Again, taking case-mix into account is essential, but those providers with the best quality/price ratio should win out, thereby driving innovation, reducing waste and increasing overall value. Where competition is more difficult to arrange (as is the case in rural areas or for certain high-cost and scarce resources such as acute cardiac surgery services, for example) tendering the care services is an excellent method to drive down costs while simultaneously ensuring high outcomes.

Price competition is not seen as a unequivocally good thing within healthcare: providers and policy makers are often worried that pressure on prices will drive providers to reduce quality. Indeed, when quality outcomes are not measured, this is a real risk. Also, the track record of negotiated pricing in healthcare is mixed: some good examples (driving down the cost of drugs through reference pricing, for example) are juxtaposed with the plethora of bad examples (real and imagined) where prices go up because of the (real or imagined) imbalance between providers and payers at the negotiating table. When outcomes are part of the equation, however, price competition becomes a much more attractive option.

More importantly, in the model outlined here, the product to be priced is meaningful, comparable and measurable. What is paid for is not activities but results, and that shifts the paradigm completely. Given the inverse cost-quality relation that still often exists in healthcare, providers will constantly push the outcomes frontier to achieve both higher outcomes and lower costs simultaneously, thus pushing the relative price-level further down.

[12] See also Falk, W., Mendelsohn, M., & Hjartarson, J. (2011). *Fiscal Sustainability & the Transformation of Canda's Healthcare System. Scenario.* Toronto.

Conclusion

Existing payment systems are by no means the only culprit standing in the way of sustainable, high quality healthcare systems. Yet the incentives that these systems generate are powerful and, if not properly addressed, we can expect little progress to be made.

Most importantly, we must now move away from searching for 'value' within the boundaries of traditional healthcare organizations. In an age where long-term, chronic disease and coordination of multiple conditions is the number one challenge, the 'acute hospital' as the epicenter of the healthcare system simply no longer fits. Indeed, high quality, low-cost healthcare can only be created by redesigning care from the patients' perspective, focusing on self-management and (secondary) prevention rather than intervening when the damage has already been done.

Although most of these programs do not properly address the limitations of their underlying payment systems, pay for performance programs are showing that it is possible to both reduce costs and improve quality. In the quest for 'bundled payments' that cross organizational boundaries and 'accountable care organizations', health systems are now looking for the next step forward: paying for *outcomes* rather than *activities;* paying for *value* rather than reimbursing costs.

The Holy Grail of contracting value is not as unreachable as was once thought. By taking a few core principles at heart, the seemingly insurmountable complexity of the issue is reduced considerably. A few core categories of care products or health services can be distinguished which capture most types of patients' problems, and for each category, it is rather clear what types of outcomes matter most. We can cost these pathways, and using smart combinations of administrative data, patient reported outcome measures, clinical registries and so forth, we can actually measure outcomes quite powerfully.

With these principles, contracting value is no longer just theory. More often than not, large steps can be made towards this goal, whatever current payment system or performance measures are currently in place. Ultimately, the choice is simple: if we do not embark on this road, the only way to prevent costs from exploding further is by reducing access, or blunt cost cutting. In both cases, health outcomes will suffer. The paradigm is already shifting.

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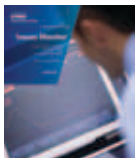

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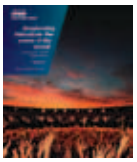

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Notes

Notes

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