

**Patient-Focused Funding and  
Pay-for-Performance:  
A Discussion of the Concepts and Experience**

**CMA Ad Hoc Working Group on  
Patient-Focused Funding**

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## Objective

The objective of this paper is to trace the origins of and set out the concepts associated with Patient-Focused Funding and Pay-for-Performance, and to highlight their applications in Canada and internationally. A glossary of the key terms is shown in Appendix A.

## Introduction

Over the past decade or so, most publicly funded health systems have been attempting to restructure the funding and remuneration of their health care institutions and providers. There have been several objectives of such restructuring, including cost control through improved efficiency, increased responsiveness to patient needs, and improved quality of care.

Changes in funding and remuneration have occurred around two broad themes. At the meso or institutional level there is an emerging concept of patient-focused funding (PFF). As it is evolving PFF is being defined by four characteristics. First, PFF has tried to target funding more directly at the patient-clinician interface by shifting hospitals away from a salaried (global budget) basis to an activity-funded basis. At the same time, cost efficiency has been promoted by prospectively determining a set of fees or tariffs that are linked to case complexity, (or case-mix), rather than paying per-diem or itemized charges on an open-ended basis. Second, as health systems have decentralized or regionalized PFF has taken on the added dimension of “funding follows the patient,” i.e., health budget envelopes are determined for defined populations and if patients receive treatment in a different region than where they live, funding is transferred from one region to another. Third, as care moves increasingly from the hospital to the community, the concept of PFF is being extended along the continuum of care. This is a particular challenge in the mental health field. Fourth, as governments try to provide equitable funding to regions based on their population health needs, PFF is now becoming embedded in complex population-based funding formulae.

One of the underlying motivations for PFF is to promote competition between health care institutions in publicly funded systems which has been termed the “internal market.” As will be outlined below this has been a key thrust of the reforms in the United Kingdom and is being adopted elsewhere.

The second broad theme is pay-for-performance (P4P). P4P is intended to provide incentives to promote quality of care. P4P can be directed at either institutions or physicians; for present purposes this paper will focus on physicians. P4P incentives essentially provide a bonus for achieving a measurable performance target for a specified threshold proportion of a patient population within a specified interval of time. Thus far P4P relates to processes of care in areas such as prevention screening and chronic disease management.

## Patient-focused Funding

### *Origins of PFF*

The foundation of PFF worldwide was the development of Diagnosis-Related Groups (DRGs) in the 1970s by Robert Fetter and John Thompson and colleagues at Yale University.<sup>1</sup> The purpose of developing DRGs was to identify a number of types of cases, each of which could expect to receive a similar amount of hospital services. In the early going some 383 DRGs were defined. Fetter and colleagues initially outlined a range of applications for DRGs, including utilization review, hospital budgeting and cost control, regional planning and hospital reimbursement.

In the area of reimbursement they noticed that the traditional method of hospital reimbursement in the U.S., namely retrospective reimbursement of reasonable and allowable costs, provided little incentive to hospitals to control costs. Hence DRGs could be used to establish a prospective rate of reimbursement. This would promote efficiency by encouraging hospitals to keep their cost per case under the prospective rate.

Prospective reimbursement using DRGs was adopted by the U.S. Medicare program in 1983. Today there are some 500 DRGs that are assigned on the basis of ICD diagnoses, procedures, age, sex and the presence of complications or comorbidities, and there are several different DRG systems in use in the U.S.<sup>2</sup>

Internationally, Schreyögg et al have reported that over the past 20 years, most European countries have adopted DRGs or some other grouping system as a means of hospital reimbursement and for a variety of purposes.<sup>3</sup> They note that countries with social health insurance systems use DRGs to promote competition between public and private hospitals, while tax-funded systems use them to set prices for contracted service providers; set reimbursement rates between different regions; and to increase efficiency within hospitals owned by the national health service.

DRGs are not without their criticisms, however. Busse et al have enumerated some potential perverse incentives from the standpoint of patient care:

- they may encourage treatment of patients whose expected costs are lower than the reimbursement, thereby raising issues of appropriateness;
- they may discourage treatment of patients whose expected costs are higher than the reimbursement;
- they may encourage more intensive treatment of patients if this leads to an upgrading of the DRG/level of reimbursement;
- there is a strong incentive to minimize costs or shift the cost of treatment to other parties; and
- on their own DRGs offer no incentive to promote quality of care.<sup>4</sup>

Over the past few years the Organization for Economic Cooperation and Development (OECD) has examined PFF and DRGs from three different perspectives. The first of these was a 20-country study on waiting lists that was carried out as part of a comprehensive study of high performing health systems that reported in 2004. Siciliani and Hurst examined 12 countries for which waiting times were a serious health policy issue and compared them to a second group of 8 countries for which waiting times did not appear to be a serious issue. Based on their comparison they observed that among the countries not reporting waiting times, hospital budgets have been in general more often related to the activity performed.<sup>5</sup> The final study report noted that activity-based payment systems can induce increased supply, “a positive outcome where there are waiting lists and unused productivity reserves that can be drawn upon”, although it also cautioned about the need to mitigate against perverse incentives such as early discharge, patient-selection, and upgrading patients into more complex diagnostic groups.<sup>6</sup> It also noted the potential for budget over-runs as a result of increased supply of services.

More recently the OECD has considered the issue of PFF in the context of a study of competition in the hospital sector among 15 of its member countries, plus Argentina, Brazil

and Taipei. The key conclusion from this study was that the introduction of “market-oriented mechanisms can help to reduce the cost of the provision of hospital services.” PFF was implicated in two of the essential pre-conditions for such market mechanisms:

- “financial support for a hospital is related to the number of patients treated and their treatments, so that hospitals have an incentive to seek to treat more patients;” and
- “sufficient information is collected to judge exactly what services are provided by hospitals, ideally, including indicators of quality of care.”<sup>7</sup>

Most recently the OECD has attempted to assess comparative hospital efficiency among 10 countries based on a comparison of unit costs for seven DRGs. The findings suggest that on average, for the seven clinical interventions covered, there could be potential cost savings of between 5% and 48% if unit costs were to be reduced to the level of the best performing country for each intervention.<sup>8</sup>

### ***Payment by Results – U.K.***

One of the most recent and extensively documented applications of PFF may be seen in the so-called “payment by results” (PbR) that has been introduced in the U.K.

Beginning with the Thatcher government’s 1989 white paper, *Working for Patients*,<sup>9</sup> the National Health Service in the U.K. has undergone a series of reforms along the broad themes of increasing efficiency and focusing on the patient. In 2002, the Department of Health introduced a proposal for PbR, the intent of which was to shift hospital funding from block contracts to prospective reimbursement through a national tariff that would be applied to Health Resource Groups (HRGs).<sup>10</sup> By introducing the national tariff and paying providers for the volume and type of work they do, PbR was intended to stimulate activity (and reduce waiting lists), reward efficiency and facilitate patient choice by allowing money to follow the patient. PbR is currently being phased in. In 2005-06, the national tariff covered all patients admitted for elective care. A wide range of activity was excluded in the initial launch such as non-elective care, mental health services and chemo/radiotherapy.<sup>11</sup>

In October 2005, the U.K. Audit Commission reported on early lessons from PbR. The Audit Commission enumerated four key findings:

- the early implementers were on balance positive about the change;
- PbR was a more complex, time-consuming and costly process than anticipated;
- three key factors influenced the relative ease/difficulty of implementing PbR: financial stability, complexity of the commissioning environment and degree of preparation; and
- PbR was exposing existing weakness in the NHS, in local health economies and in individual institutions, such as inadequate financial management and problems with data quality.<sup>12</sup>

In January 2006, the Department of Health circulated a comprehensive draft *Code of Conduct for Payment by Results* that sets out numerous principles to guide the conduct of commissioners, providers and other organizations participating in PbR. A revised version was released in March 2007.<sup>13</sup>

In November 2006, the Audit Commission issued an assurance framework for PbR that is intended to support the accuracy of payment and the underpinning data. Pilot tests

conducted with the development of the framework showed a relatively high level of clinical coding error (average 12%) resulting in inaccurate payments.<sup>14</sup>

In order to reduce errors the Audit Commission has recommended an external clinical coding audit programme and further development of benchmarking methodology and analytical tools.

Mental health was not included in the first round of PbR. In a 2004 review, Parsonage noted several challenges in applying PbR to mental health care. These included:

- patients frequently have other co-existing conditions;
- mental health problems are often long-term and episodic or intermittent;
- services are often provided by more than one agency and in different settings; and
- informal care is very important.<sup>15</sup>

Parsonage reviewed the experience of the U.S., Australia and New Zealand with regard to case-mix funding of mental health and made the general observation that no country in the world had a fully operational system of case-mix-based funding for mental health.

In 2006, the Department of Health commissioned the Case Mix Service to develop standard national groupings for mental health. Based on the results of a pilot study conducted in 2006, among 17 mental health trusts involving 55,000 patients and 1.2 million patient episodes, it has been concluded that it is possible to classify mental health services into 14 workable groups using the Mental Health Minimum Data set.<sup>16</sup>

In 2007, England's Health Minister Andy Burnham launched an extensive consultation on the future of PbR for 2008-09. Key elements of the consultation include strengthening the data that underpin PbR and extending it to some 17 additional service areas such as primary care "out of hours" services and community health services. In the area of adult mental health services, the consultation document acknowledges that a "national currency" (i.e., case-mix complexity weighting) for mental health services "is still some way off." One of the issues that is raised in the consultation is termed "unbundling the tariff for acute hospitals," and this involves the ability to release funds to provide care closer to home and improve the management of long-term conditions.<sup>17</sup> It would appear that the NHS is firmly committed to fully implementing PbR throughout the system.

It should be noted that "payment by results" is somewhat of a misnomer. O'Connor and Neumann have argued that PbR needs to go further to include measurement of patient outcomes (as did Codman some 100 years ago). In addition to the concerns about DRGs noted previously they also raise a concern that undergraduate and postgraduate clinical teaching might be affected and they suggest that by concentrating on services that are on the list of tariffs there will be no incentive for trusts to develop new services. They conclude by emphasizing the need for accurate and appropriate process, outcome and costing data, with a caution about the need to balance the requirement for expert staff against the policy of reducing administrative staff within the NHS.<sup>18</sup>

### ***The Canadian Context***

To date PFF has had limited application in Canada. DRGs were adapted for use in Ontario in the 1980s by the Hospital Medical Records Institute (Case-Mix Groups [CMGs]), and a

set of Resource Intensity Weights (RIWs) was developed as well. Beginning in the late 1980s, CMGs and RIWs were used essentially at the margin to provide equity adjustment payments to Ontario hospitals with low average costs per weighted case.<sup>19</sup> The Ontario Joint Policy and Planning Committee has further refined this methodology/formula, and used it in 2001 to allocate \$95 million of additional lump sum funding to hospitals.<sup>20</sup>

CMGs are now maintained by the Canadian Institute for Health Information (CIHI) and there are many examples across Canada of how they are applied to utilization management.<sup>21</sup> Nonetheless hospital funding in Canada is still allocated primarily by global budgets or population-based funding, and not related to the volume of service.

Much of the recent Canadian interest in PFF is due to two 2002 reports on the state of the health care system by the Standing Senate Committee on Social Affairs, Science and Technology, chaired by the Hon. Michael Kirby (Kirby study). The term service-based funding (SBF) is used in these reports. In its fifth volume the Kirby study put forward a series of principles to guide health system renewal. The eighth of these was; “in the first stage of health care reform, the method for remunerating hospitals should be changed from the current annual global budget to service-based funding.”<sup>22</sup>

As might be expected, Kirby’s principle #8 did not go uncommented on by the institutional sector. The Canadian Healthcare Association (CHA) responded by stating that its members fundamentally disagreed with the proposal to change global budgeting to SBF. A number of reasons were put forward, including:

- SBF would tend to focus incentives on “procedure-driven” health care rather than comprehensive and integrated care;
- targeted funding would be more appropriate than SBF for programs such as mental health and aboriginal health;
- SBF does not support a population needs-based approach;
- the complexity of developing costing data; and
- the difficulty in implementing SBF in rural and remote areas.<sup>23</sup>

For its part, the Association of Canadian Academic Health Organizations (ACAHO) representing teaching hospitals, highlighted the uniqueness of their three-fold mission of service, teaching and research. ACAHO noted that a competitive funding model would not be consistent with the fact that teaching centres were not generally in competition with other institutions and that a province-wide fee would act to the detriment of teaching centres on account of the fact that patients receiving care at teaching centres are typically presenting with severe and complex multiple systems illness.<sup>24</sup>

Nonetheless its sixth report, the Kirby study pointed out the limitations of the traditional global budgeting of hospitals and reviewed international experience in moving away from global budgets. The Committee enumerated one dozen potential advantages of SBF, suggesting it would promote:

- better information
- transparency and accountability
- equity in distribution of funding
- investment in capital
- independence from government
- reduction of provincial bureaucracy
- patient-oriented service delivery
- efficiency and performance
- potential for privately owned delivery
- flexibility in changing priorities
- competition to provide the best services
- centres of excellence

The Kirby study recommended that hospitals should be funded through a SBF scheme, and it outlined a four step process:

- sufficient number of hospitals to submit information on case rates and costing data to CIHI;
- CIHI to establish detailed case rates;
- federal government to provide funding to CIHI to collect data needed to establish SBF; and
- implement SBF over a five-year time-frame.<sup>25</sup>

In 2004, the Ontario Hospital Association (OHA) proposed the gradual phase-in of SBF for Ontario hospitals, drawing praise from Senator Kirby. It defined SBF as “a true ‘rate of volume’ approach in which hospitals are reimbursed for the services actually provided, in accordance with terms and conditions specified in an accountability agreement mutually negotiated between a hospital and government.” In its proposal the OHA stated that SBF would support the policy objectives of access, quality, cost-containment, operational efficiency, equity, stability and predictability.<sup>26</sup>

### ***Population Needs-based Funding***

Since the early 1990s, all provincial jurisdictions except Ontario have regionalized the planning and delivery of institutional services and Ontario is on the brink of empowering Local Health Integration Networks (LHINs) to do the same. Among them are at least two examples of an attempt to implement PFF on a population basis through the development of population needs-based funding formulae. British Columbia has devised a seven-step process for each of three sectors: acute care; home and community care residential services; and home and community care community services. The seven steps are as follows:

1. Divide the BC population into socio-economic (SES) groups by age and gender;
2. Measure BC per capita utilization by age, gender and SES.
3. Estimate expected utilization by applying provincial utilization rates to the corresponding age/gender/SES population in each of the five health authorities. Regional totals are adjusted for population growth.
4. Estimate net inter-regional patient flows.
5. Estimate each region’s expected work load by adjusting for net patient flows.
6. Adjust for differences in cost of delivering services. In the acute care model these included remoteness and complexity.
7. Calculate each health authority’s share of the sector’s funding pool (e.g., if a region is estimated to provide 10% of the workload in a sector, it would receive 10% of the funding envelope in that sector).

In the acute care model, a complexity adjustment factor was developed to adjust for the higher than average costs in large acute care facilities. This is based on the RIW that is attached to each CMG. In 2002-03, 8% of the acute care funding pool, or \$167 million was set aside to adjust for complexity.<sup>27</sup>

In 2006, the British Columbia Medical Association adopted a policy paper on reducing and managing wait times. The paper contains 29 recommendations and #29 called on the BC government to “increase the percentage of service-based funding to Health Authorities, as an incentive to reduce wait times.”<sup>28</sup>

Similarly Alberta has developed a multi-step approach to apply a population funding formula for the regional health authorities (RHAs):

1. Collect RHA patient data for acute hospital inpatient care, hospital-based ambulatory care, continuing care and home care.
2. Attach relative cost weights. CMG-RIWs are used for acute hospital inpatient care.
3. Scale expenditure weight data from Step 2 so that total expenditure equals the total pool size (expected expenditure) for that sector in the funding year.
4. Calculate expenditure (capitation) rates for 124 demographic groups.
5. Apply capitation rates to each region's projected population.
6. Allocate the health protection (public health) and community health services funding pool on the basis of age and SES.

Subsequently a cost adjustment factor is applied that is based on a northern allowance component and on a statistical measurement of RHA cost variations.<sup>29</sup> There is also further adjustment for the services that RHA's provide to residents of other regions, and there is province-wide services funding for some high cost services that are delivered in one or two regions to the population of the whole province (e.g. transplants).

Ontario is now moving in the direction of regionalization. LHINs were established on March 1, 2006. Fourteen LHINs will be essentially responsible for planning, funding and integrating the services provided by institutions and the community care sector, much as other regional authorities do.

Following on its 2004 proposal, the OHA has proposed to the government that the allocation of "funding from LHINs to hospitals should occur according to a new service-based funding approach in which funding is based on the volume of services provided and a rate paid per unit of service." For hospital services that can be classified into CMGs, an average base rate for an average case would be established so that each CMG with a different RIW would have its own rate.<sup>30</sup>

For the past few years Ontario has been using a form of SBF to carry out its Wait Time Strategy in the five priority areas of the 2004 First Ministers' Accord. The health ministry has been negotiating purchase service agreements with hospitals that have the capacity to perform additional procedures.

Hospitals are required to maintain the base volume funded through their global budgets and they are required to affirm that additional cases in the five priority areas will not result in a decrease in surgical volumes or diagnostic imaging in service areas outside the areas or any other hospital services. Ontario has recently added paediatric surgeries to its wait time strategy.<sup>31</sup>

### **Pay-for-Performance (P4P)**

More recently the U.S. and U.K. have both implemented large-scale P4P programs that are targeted at the physician population. In essence P4P provides compensation to physicians in relation to performance against benchmarks of quality and/or efficiency.

## *United States*

In the U.S. there has been considerable interest in P4P among managed care plans and by the federal Centers for Medicare and Medicaid Services (CMS). One example of a P4P plan is the California Pay For Performance program, which has been operated by the Integrated Healthcare Association for the past five years and which involves 225 physician organizations that represent 35,000 physicians and more than 6 million California patients.

This program measures performance in three domains:

- clinical-weighted at 50%;
- patient experience – weighted at 30%; and
- information technology – weighted at 20%

The clinical measures include things such as child health immunizations, cervical and breast cancer screening, blood pressure/cholesterol screening and control and Chlamydia screening. Patient experience measures include timely access to care, doctor-patient communication and care coordination. Information technology measures include the integration of data sets to support population management and support for clinical decision-making at point of care through electronic tools (e.g., prescribing, lab results). The indicators continue to evolve. Each of the participating health plans determines its own methods for incentive payment eligibility and amount of payment.<sup>32</sup>

In 2005, it was estimated that health plans, employers and government agencies were running more than 100 P4P programs across the U.S.<sup>33</sup> The CMS is currently sponsoring 10 demonstration projects across the U.S.<sup>34</sup> Four of these projects relate to chronic disease management, targeting conditions such as congestive heart failure, diabetes and end stage renal disease.

CMS is about to implement a voluntary Physician Quality Reporting Initiative, by which eligible professionals who report a designated set of 74 quality measures on claims from July 1 to December 31, 2007, may earn a bonus payment, subject to a cap, of 1.5% of total allowed charges for covered Medicare physician services.<sup>35</sup> The 74 indicators cover a wide range of primary and secondary prevention activities and chronic disease management.

The American Medical Association (AMA) has set out five principles for pay-for-performance programs:

1. Ensure quality of care.
2. Foster the patient/physician relationship.
3. Offer voluntary physician participation.
4. Use accurate data and fair reporting.
5. Provide fair and equitable program incentives.<sup>36</sup>

The AMA has also developed guidelines for how P4P programs should be implemented.<sup>37</sup> At the June 2007 meeting of its House of Delegates, the AMA adopted recommendations to the effect that it would collaborate in the development of quality initiatives that benefit patients and do not permit third party interference and that it would oppose any P4P program that did not meet its P4P policy principles.<sup>38</sup>

The Joint Commission on the Accreditation of Health Organizations has also set out 10 guiding principles of P4P programs, which are broadly similar to the AMA's principles/guidelines.<sup>39</sup>

The U.S. Institute of Medicine has issued a comprehensive report on rewarding provider performance in relation to the Medicare program. The report offers 10 recommendations as to how the U.S. Department of Health and Human Services should implement P4P plans. The recommendations look to a future of more team-based care – i.e., *Recommendation 8: CMS should design the Medicare pay-for-performance program to include components that promote, recognize and reward improved coordination of care across providers and through entire episodes of illness.* The report also urges assisting providers with the implementation of electronic data collection and reporting systems.<sup>40</sup>

In terms of evaluation, it is early days for most of these P4P programs. One evaluation of a natural experiment in the U.S. comparing a P4P program against a control group on measures of cancer screening and hemoglobin A1c testing has suggested that the use of common fixed performance targets will largely reward those with greater performance at baseline and that targets based on improvement should be considered instead.<sup>41</sup>

### ***United Kingdom***

P4P in the U.K. had its origin with the 1990 General Practitioner (GP) contract, which introduced “target payments” for pre-school immunization and cervical cancer screening. In the case of immunizations, a lower payment was made at 70% population coverage and a higher payment at 90% coverage; for cervical cancer screening the limits were 50% and 80% respectively. An assessment in the mid-1990s reported that the target payments had been successful.<sup>42</sup>

In 2004, the General Medical Services contract for GPs introduced a Quality and Outcomes Framework (QOF) which provides financial rewards to GPs for high quality care. The QOF measures achievement against a score card of 146 indicators, plus three measures of depth of care which total to a maximum of 1,050 points. The QOF covers four domains:

- clinical – 76 indicators in 11 areas (e.g., coronary heart disease, diabetes, cancer, mental health), worth up to 550 points;
- organizational – 56 indicators in 5 areas (e.g., patient records, education and training), worth up to 184 points;
- patient experience – four indicators in two areas: patient surveys and consultation length, worth up to 100 points; and
- additional services – 10 indicators in four areas of cervical screening, child health surveillance, maternity services and contraceptive services, worth up to 36 points.

“Breadth of care” is rewarded through holistic care payments (up to 100 points), quality practice payments (up to 30 points) and achievement against access standards (50 bonus points).<sup>43</sup>

Participation in the QOF is voluntary but almost all GP practices are taking part. In the first year of operation, the practices scored an average of 91% of the possible points and this has increased to 96% in 2005-06.<sup>44</sup> In 2005-06, practices earned an average of £125,000 through the scheme, most of which is reinvested in the practice.<sup>45</sup> Individual practice results are also posted on the Internet ([www.qof.lc.nhs.uk](http://www.qof.lc.nhs.uk)).

## Canada

To date there have been limited applications of P4P in Canada. Ontario physicians participating in most of the primary care reform models may receive Cumulative Preventive Care Bonuses for achieving specified thresholds of preventive care for their patients in five areas; influenza vaccine, pap smear, mammography, childhood immunizations and colorectal cancer screening. The scale of the bonuses for childhood immunizations (30-42 months) and colorectal cancer-screening (50-74) are shown below for illustration:<sup>46</sup>

	Achieved Compliance Rate	Fee Payable
Childhood Immunization	85%	\$440
	90%	\$1100
	95%	\$2200
Colorectal Cancer Screening	15%	\$220
	20%	\$440
	40%	\$1100
	50%	\$2200

The thresholds for childhood immunization reflect the level needed for adequate population immunity while those for colorectal screening reflect what is felt to be a realistic screening goal for that age group.

In 2006, British Columbia introduced a Full Service Family Practice Incentive Program. This includes an obstetrical care bonus payment and an expansion of the Full Service Family Practice Condition Payments that were introduced in 2003. The condition-based bonus payments are related to the monitoring patients course of care according to BC Clinical Guidelines for diabetes, congestive heart failure and hypertension.<sup>47</sup> Most recently, BC has announced a *Primary Health Care Charter* which sets out seven priorities for primary care.

These priorities are aimed at bringing about improvements/increases/enhancements in each of the following:

1. Access to primary health care
2. Access to primary maternity care
3. Chronic disease prevention
4. Management of chronic diseases
5. Coordination and management of co-morbidities
6. Care for the frail elderly
7. End-of-life care

Most, if not all of these priorities are amenable to P4P approaches. For example, in priority #3 the Charter notes that a prevention-incentive payment will be established for family physicians to conduct cardiovascular risk assessment and create action plans with patients aged 40-49 and female patients 50-59.<sup>48</sup>

Canada will likely follow the lead of other countries in increasing the focus on the outputs and outcomes of the health care system. The emergence of a national wait times agenda will certainly promote this. Pink et al have recently tried to synthesize the international experience with P4P and its implications for Canada. Based on this assessment they offer four key considerations:

1. P4P could potentially be used to target individual providers, provider groups/organizations, or health regions.
2. The selection of quality measures should consider provincial health goals and objectives, measures included in existing report cards, evidence and the ability to risk-adjust and the extent of provider acceptance.
3. Development of financial incentives should consider performance that is within the scope of control of providers, use of carrot over a stick and consider size/timing and perceived fairness of awards.
4. Program evaluation should consider the impact on patients and providers, quality measurement and how payments are used to improve quality.<sup>49</sup>

In addition, they cite the need to address enablers/barriers including information technology, consultation, implementation costs and resistance.

### **Looking Ahead**

Most of the PFF and P4P initiatives to date have focused on the processes of care. Looking further down the road Kindig has proposed a pay-for-population health performance system, revisiting an idea he first proposed in 1977.<sup>50</sup> This would link incentive payments for providers to improvements in aggregate population health status, as measured through a metric such as Disability Adjusted Life Years. One of the key challenges that Kindig identifies is that there is no consensus on how to measure population health and its improvement.<sup>51</sup> While this may seem far off on the horizon, there is evidence of movement in this direction. In the U.K. the private health provider British United Provident Association (BUPA) has been monitoring health outcomes for a number of treatments it provides using the internationally recognized Short-Form-36 and Visual Function-14 questionnaires.<sup>52</sup> Currently on its Web site it provides data on health outcomes of BUPA operations for selected procedures by showing a comparison of pre-treatment scores; 3 months post-surgery; and men of similar age in the U.K. population.<sup>53</sup>

In April 2007, the U.S. managed care firm Wellpoint, with 34 million members, announced that it would be linking an incentive in all employees' income to improvements on its Member Health Index (MHI). The MHI is comprised of 20 clinical areas that focus on prevention and screening, care management, clinical outcomes and patient safety. Wellpoint has used 2005 data to calculate a baseline measurement and has set a performance goal for 2010.<sup>54</sup>

Clearly there are major remaining data challenges in terms of concepts, measurement, collection and application, however there has been much progress on which to continue to build.

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