Recommendations of the Special Commission on the Health Care Payment System
July 16, 2009

Appendix C:

Memos on Basic Payment Models and Complementary Payment-Related Strategies

APPENDIX C.1

EPISODE-BASED PAYMENT

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Episode-Based Payment: Summary

Definition: Episode-based payments reimburse providers on the basis of expected costs for clinically-defined episodes of care. Episodes of care are typically defined on the basis of selected conditions or major procedures, and include clinically related services provided by various providers over a period of time. Episode-based payments may also be adjusted for severity of illness and quality performance.

Intended Effects: The primary goal of episode-based payment is to contain the cost of services delivered during clinical episodes of care, while encouraging delivery of recommended, high quality services and coordination of care across providers involved in care over the course of an episode.

Incentives for Providers: Episode-based payments include financial incentives to encourage providers to deliver quality care efficiently and in coordination with other providers involved in shared episodes of patient care.

Potential Problems: Episode-based payment approaches are in an early stage of development. Current approaches address only a fraction of all patient care. There are a number of design and operational issues to be resolved or considered, including varying definitions of episodes, methods for calculating and distributing per-episode payments, and data infrastructure needs.

Evidence: Evidence of the effects of episode-based payment approaches on cost and quality is scant, though there are examples of episode-based programs having positive influences on structure and process quality measures as well as being associated with decreased costs of care.

Episode-Based Payment

1. What is it?

Episode-based payments are an emerging payment approach that reimburses providers on the basis of clinically defined episodes of care, rather than fee-for-service basis or per-patient per-month (Christianson 2008; Gosfield 2008; Rosenthal 2008). Episodes of care for various conditions include a range of services from various providers in various settings, built around a particular condition or procedure, over a period of time. The payments may be adjusted for severity of illness and/or the extent to which evidence-based services are provided, clinical outcomes are achieved, or services are delivered efficiently.

Payment arrangements may use varying definitions for what constitutes a distinct episode of care. Typically, computer software programs are developed to identify and create episodes of care from claims and administrative data. Expected costs are calculated from the claims data for particular types of episodes, or are based on expected costs of best practices in caring for patients during episodes, in order to develop episode "case rates" (Gosfield 2007; Thomas 2006). Each episode may be analyzed to assess whether care provided during the episode met evidence-based standards and/or whether desired clinical outcomes were achieved. The base "case rate" may then be adjusted (reduced or increased) based on performance relative to evidence-based standards. For purposes of making payment, algorithms may be used to attribute each episode to a particular provider (or group of providers) deemed most responsible for the care of a patient during that episode.

Emerging episode-based payment models have some relationship to existing payment systems that bundle services around a clinical condition or service event. For example, DRGs bundle inpatient hospital services during a hospital stay for the purposes of prospective payment. The Medicare hospital outpatient prospective payment system also bundles many services provided during outpatient visits. However, these systems focus on care provided in single settings, while emerging models of episode-based payments attempt to capture the full range of services delivered in all or most settings during a clinical episode.

2. Intended effects

The primary goal of episode-based payments is to contain the cost of services delivered during clinical episodes of care, while encouraging delivery of recommended, high quality services and coordination of care across providers involved in care over the course of an episode. Outcomes include reducing unnecessary physician and ancillary services, compensating physicians for efficient and effective resource use, and reducing complications and readmissions (Mechanic and Altman 2009; MedPAC 2008).

3. Incentives for providers

Episode-based payment approaches encourage providers to deliver high-quality care efficiently and to coordinate care among all providers involved in caring for a patient during a clinical episode. Ideally, episode-based payment avoid the adverse incentives of either traditional capitation or fee-for-service payment approaches. Under episode-based payment approaches, providers are not placed at risk for the occurrence of one or more episodes, as they are under some capitation

arrangements. Moreover, unlike capitation payments, episode payments are more sensitive to providers' case mix of patients. Because separate case rates are developed for different conditions, providers are protected to some degree from adverse risk selection, reducing the stronger incentives for "cherry picking" under traditional capitation.[1] While more comprehensive risk-sharing approaches such as global capitation give providers stronger incentives to actively share responsibility for comprehensive patient care and to coordinate care effectively, episode-based approaches nevertheless encourage providers to do so within the course of an episode.

Unlike fee-for-service payments, fixed episode-based case rates covering the expected cost of all services during an episode encourage cost containment through provider risk sharing. Episode-based payments are intended to place providers at risk for clinical performance in treating an episode, but they do not entail "insurance" risk—that is, risk for the prevalence or onset of disease among their patients, or for the occurrence of an acute episode. To encourage quality improvement, case rates may be adjusted based on the delivery of evidence-based services or on patient outcomes.

4. Potential problems or drawbacks

The number of conditions and episodes for which episodes or case rates can be defined is currently small. Some episode-based payment models begin by analyzing only one episode type (Paulus, Davis, and Steele 2008). It is uncertain what portion of patient care could be ultimately addressed in episode-based payments, but it is unlikely that all patient care can be categorized into meaningful episode types for payment purposes. Even so, there are a number of design and operational questions and issues to be considered in developing episode-based payment approaches. For example:

- How should episodes be defined? What clinical criteria should be applied? What services (e.g. physician, hospital, drugs) should be covered in an episode? How are time periods for various episodes defined and measured? How should concurrent episodes for the same patient be handled?

- How can episodes be fairly and accurately attributed to individual providers or groups of providers? Administratively, how are payments to be disbursed to multiple providers involved in an episode of care?

- Even within well-defined episode types, severity of illness (and thus the costs of treatment) may vary significantly, and often for reasons beyond a provider's control. Consequently, it may be necessary to risk-adjust episode-based payments to avoid adverse selection or cherry picking.

- What data (e.g., claims and enrollment data, EMRs, or other data) and data infrastructure are necessary to implement episode-based payments, especially in multi-payer settings?

[1] Some payment approaches incorporate risk-adjustment methods so that providers are not discouraged from treating sicker and more complex patients. However, it is unclear which methods are effective (Thomas 2006) or whether providers perceive any specific method as valid.

5. Experience with implementation

Episode-based payments are in an early stage of development and use. Industry standards for design approaches are not well established, and while number of private insurers/payers have used episode grouping software to establish network tiers and to give providers performance feedback reports with peer comparisons (Rattray 2008), there are few examples of fully operational episode-based payment approaches. The following examples track the current state of development:

- From 1991 to mid-1996, CMS conducted a Medicare Heart Bypass Center Demonstration, paying a single global rate for each coronary artery bypass graft (CABG) surgery—including all inpatient hospital and physician services and related readmissions (Cromwell et al. 1998). By 1993, seven hospitals were participating in the demonstration. (Results from an evaluation of this demonstration are discussed further below.)

- This year CMS is implementing the Medicare Acute Care Episode (ACE) payment demonstration, bundling Part A and Part B payment for 28 cardiac and 9 orthopedic inpatient surgical services and procedures related to 6 procedures/episodes of care including hip or knee replacement and CABG (CMS 2008) CMS will track participating providers' performance on process and outcome quality measures. The demonstration allows gain-sharing—allowing physicians and hospitals to share financial rewards for implementing improvements in efficiency and quality, and better coordinating patient care. The ACE demonstration will provide an opportunity for Medicare also to share savings with beneficiaries who, based on quality and cost, choose to receive care from providers participating in the demonstration.

- The Geisinger health system, which serves northeastern and central Pennsylvania, has developed an episode-based payment model called the ProvenCare system. Initially developed for elective coronary artery bypass graft (CABG) surgery, the model has three core components: establishing implementable best practices (processes of care); developing risk-based pricing, including an upfront discount to the health plan or payer (in this case, the Geisinger Health Plan); and establishing patient engagement (via educational materials and a "patient compact" that both the patient and Geisinger sign). Episode payment rates cover preoperative evaluation and work up, all hospital and professional fees, all routine post acute care, and management of complications within 90 days of surgery. Geisinger has expanded the ProvenCare program to hip replacements, cataract surgeries, and percutaneous coronary interventions; expansions to bariatric surgery, lower back surgery, and perinatal care are underway (Paulus et al. 2008).

- A new episode of care payment design approach (called PROMETHEUS) was recently developed focusing on payment for clinical episodes associated with diabetes, chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), heart attack, coronary artery disease, and orthopedic procedures such as knee and hip replacement (PROMETHEUS, Inc. 2008.)[2] The PROMETHEUS model constructs Evidence-informed Case Rates (ECRs) for episodes of care relating to acute and chronic conditions, for

[2] PROMETHEUS Payment, Inc. is an organization funded by the Robert Wood Johnson Foundation (see: http://www.prometheuspayment.org/index.html).

inpatient and outpatient procedures (de Brantes and Camillus 2007). Currently, the ECRs are used to make supplemental payments to providers who meet quality measures while providing care for less than the ECR for a corresponding episode of care. The PROMETHEUS payment model is being implemented in three sites in 2009. In Rockford, Illinois, the Employers Coalition on Health is leading the implementation, working directly with local providers; in Minnesota, two health plans (Medica and HealthPartners) will lead implementation in several pilot sites; and in Philadelphia, the Crozer-Keystone Health System is working with a local orthopedic surgery network to implement PROMETHEUS ECRs for hip and knee replacements (PROMETHEUS Online Newsletter 2008).

6. Evidence

Evidence of the effects of episode-based payment approaches on cost and quality is scant, though there are some indications that episode-based payment may have positive effects. A study of the Medicare Participating Heart Bypass Center Demonstration demonstrated cost savings to both the Medicare program and beneficiaries (Cromwell et al. 1998). Three of the seven demonstration hospitals experienced statistically significant 10-to-40 percent reductions in direct intensive care unit and routine nursing expenses, while two hospitals had statistically significant 30-percent reductions in pharmacy costs per case. Improved patient outcomes also were demonstrated: the inpatient mortality rate among demonstration hospitals was significantly reduced (although these results may not be applicable to all hospitals: the seven demonstration hospitals had a much lower overall inpatient mortality rate prior to the study, compared with Medicare national rates).

An evaluation conducted by the Geisinger health system also showed positive effects on cost and quality of care provided to CABG patients in ProvenCare. Specifically, the percentage of CABG patients receiving all recommended processes of care increased from 59 percent at the start of the program to 100 percent by the end of the evaluation (Paulus et al. 2008). In addition, hospital length of stay for CABG patients dropped by 16 percent, mean hospital charges dropped 5.2 percent, and clinical outcomes following CABG improved—although only estimated effects on the likelihood of discharge to home (rather than being discharged to a post-acute care setting, for example) reached statistical significance (Casale et al. 2007).

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APPENDIX C.2

GLOBAL PAYMENT

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SUMMARY: GLOBAL PAYMENT

Definition. Global payments are fixed-dollar payments for the care that patients may receive in a given time period, such as a month or year. Global payments place providers at financial risk for both the occurrence of medical conditions and the management of those conditions.

Intended Effects. Global payments are intended to contain costs and reduce the use of unnecessary services, while encouraging integration and coordination of services. Global payment may include added incentives improve the quality of care.

Incentives for Providers. Providers have an incentive to constrain costs so as not to exceed the global payment amount and to integrate services in order to manage risk, especially when payment covers services in multiple settings. Health plans may limit the risk that global payments entail for contracting providers—addressing provider concerns about assuming financial risk, and reducing incentives to withhold necessary services or avoid potentially high-cost patients.

Potential Problems. Global payment arrangements might induce providers to "stint" on necessary care and to "cherry pick" less expensive patients. Global payments can entail significant administrative complexity, requiring a system of risk adjustment as well as (for providers) the technical infrastructure and personnel needed to manage clinical and financial risk. Small provider groups or solo practitioners may be unable to take on the risk associated with global payment. Regulatory issues around monitoring financial solvency of providers may arise when there is significant risk transfer.

Experience with Implementation. Global payment approaches are not new: they exist to some degree in many parts of the United States, primarily in the form of capitation payment arrangements. The prevalence, types, and extent of these risk-sharing arrangements vary across the country and by type of payer.

Impact. Studies have shown that payment approaches involving risk-sharing with providers are associated with lower service use and cost, when compared with fee-for-service arrangements. There is relatively little research on how global payment arrangements affect either provider integration or coordination of services across settings.

GLOBAL PAYMENT

1. What is it?

Global payments are fixed-dollar payments for the care that patients may receive during a given time period, such as a month or year. Global payments typically are paid on a per-patient basis; they do not vary with the actual amount of services the patient receives. Global payments may cover all or some costs of care—including physician, ancillary or hospital services, and prescription drugs (Kongstevdt 2001; Hurley et al. 2002; Commonwealth Fund 2009).

Global payments bundle services at the *patient* level, versus a service or episode level. They place providers at risk for both the occurrence of medical conditions (insurance risk) and management of those conditions (clinical risk). Consequently, they transfer significant risk from the health plan to contracting providers. Global payments may be based on the expected costs of the covered services over the contract period, usually estimated from past cost experience. They may be adjusted based on various risk factors such as the enrollee's age, sex, and the expected progression of a current medical condition.

To address provider concerns about assuming financial risk, health plans that use global payments may limit providers' financial exposure for costs beyond their control, associated with unusually high-cost patients (Kongstvedt 2001; Walker 2001). Global payment approaches also may include provider performance incentives such as bonus payments for meeting performance targets on various quality measures.

2. Intended effects

Global payments are intended to contain costs by reducing the delivery of unnecessary services and encouraging integration and coordination of services. Global payments may encourage improvements in the quality of care because contracting providers expect quality improvements to reduce the costs of care, or in response to specific incentives.

3. Incentives to providers

Because global payment places providers at risk for costs that exceed the expected total cost of all services patients may use during the contract period, providers have an incentive to constrain costs so as not to exceed the global payment amount. Global payment may provide incentives for providers to integrate services to improve efficiency, perhaps consolidating into larger organizations to cost-effectively coordinate services across the multiple settings that the global payment covers (Walker 2001). Larger organizations also benefit from the "law of large numbers" in managing financial risk: by taking on financial risk for more patients, larger organizations can reduce the potential impact of a few very sick patients on their total cost.

Health plans may limit risk that global payments entail for contracting providers, addressing provider concerns about assuming financial risk and reducing incentives for providers to either withhold necessary services or avoid potentially high-cost patients. Strategies to limit provider risk may include:

- *Stop loss*, which limits a provider's risk that a patient will require services costing more than a specific amount (called the attachment point). Stop loss limits contracting providers' "down side" risk, but allows them to keep payments that exceed patient cost.

- *Reinsurance*, which reduces provider risk above the attachment point, but typically holds providers responsible for a percentage of the cost of services above the attachment point.

- *Partial capitation*, which involves the use of global payments for services that are more predictable (such as primary care), but not all services that the patient may require.

- R*isk corridors*, which set upper and lower limits on contracting providers' financial risk per patient. While risk corridors limit the amount of losses a provider may sustain, they also limit provider profits (Kongstvedt 2007).

Global payments may be based on a blend of cost bases—including local, regional, or national cost experiences. Sometimes called blended capitation, this approach accounts for local cost variation and practice patterns but provides incentives for providers to achieve broader state or national standards for cost or utilization performance.

Global payment approaches may offer providers supplemental payments for performance relative to various quality measures. Intended to encourage evidence-based, high-quality care, such performance payments have been relatively common in capitated contracts between health plans and group medical practices, which pass practice-level performance incentive payments on to physicians (Reschovsky and Hadley 2007).

4. Potential problems or drawbacks

Potential problems or issues related to global payment involve concerns about access, quality, and equitable provider payment. Absent efforts to ensure the delivery of evidence-based care, global payment arrangements might induce providers to "stint" on necessary care and to "cherry pick" less expensive patients. This has long been a concern about the effects of various managed care products on provider behavior (Robinson 2001; Pauly and Nicholson 1999; Miller and Luft 1997*)*

In addition, global payments can entail significant administrative complexity. Because global payments place providers at significant financial risk, setting appropriate payments typically involves attention to risk-adjustment, limiting the impacts of high-cost "outlier" patients, and ensuring equitable payment to different types of providers. Global payments also require payers to assign patients to particular providers for the purpose of making payments; this can be challenging in a delivery system where patients receive care from many unrelated providers (Pham et al. 2007)

Finally, small provider groups or solo practitioners face significant challenges in managing financial risk. In a small practice, a few unusually high-cost patients can significantly increase average cost. Moreover, small practices may not have the administrative infrastructure needed to track and manage costs under global payments.

Recognizing the potential for extensive financial risk-sharing with providers in managed care organizations, a working group of the National Association of Insurance Commissioners (NAIC) issued guidance to states in 1995 regarding regulation of "down-stream risk." In a bulletin written for insurance commissioners, the NAIC working group advised that, "if a health care provider enters into an arrangement with an individual, employer or other group that results in the provider assuming all or part of the risk for health care expenses or service delivery, the provider is engaged in the business of insurance...[and] must obtain the appropriate license."[1] Because the states have regulatory authority over the business of insurance, regulators must consider the extent to which the financial status of medical groups under risk-sharing contracts may affect insurers' financial performance and solvency (Brown and Eagan 2004).

5. Experience with implementation

Global payment approaches are not new; they exist to some degree in many parts of the United States, primarily in the form of capitation payment arrangements. However, the prevalence, types, and extent of these risk-sharing arrangements vary across the country and by type of payer.

Risk-sharing with providers has been most common in markets with a history of large medical groups or integrated delivery systems—including metropolitan areas in California, Minnesota, and Massachusetts. While highly integrated group or staff model plans (such as Kaiser Permanente) have used global payments for decades, more recently many other types of health plans have developed risk-based payment arrangements with providers in their networks.

Nationally, in 1999, 61 percent of health plans offering HMO products used capitation payments to primary care physicians as their predominant payment method, and 13 percent paid capitation also to specialists (Lake et al. 2000; Gold et al. 2002). At that time, most plans (86 percent) had risk-based contracts with intermediate organizations such as physician-hospital organizations (PHOs) or independent practice associations (IPAs). About two-thirds of these plans (64 percent) had at least one global risk or capitation contract covering all services, including both hospital and physician services, while 52 percent reported professional service capitation contracts and 14 percent had capitation contracts solely for hospital services. However, in most of the plans surveyed, relatively few enrollees (often less than 20 percent) were covered under such contracting arrangements with intermediate entities.

Global payments (in the form of capitation payments) became more prevalent as enrollment in managed care products increased from the late 1980s to the early to mid-1990s, but declined by the late 1990s (Gold et al. 1995; Hurley et al. 2002). While 77 percent of primary care physicians received capitation in 1997, just 67 percent did in 2001 (Strunk and Reschovsky 2002). Capitation payments to specialists were less common in 1997, and these arrangements also declined.

The 1990s also saw an increase and subsequent decline in provider-sponsored risk-bearing entities. During this period, many IPAs, PHOs, physician practice management companies (PPMCs), and integrated delivery systems (IDS) sought out risk-based payments, and many of these

[1] See: www.netreach.net/~wmanning/naicrsk.htm.

companies failed (Brewster, Jackson, and Lesser 2000). Many surviving systems no longer accept global risk.

In Massachusetts, risk-sharing arrangements of various forms continue to exist, although there is not good information about their prevalence. Recently, BCBSMA has developed Alternative Quality Contracts with organizations such as the Mt. Auburn IPA, combining features of global payment with incentives for quality performance. Such contracts indicate ongoing interest in payment arrangements that share risk with providers and also reward them for delivering high-quality services.

6. Impact

Many studies have shown that payment approaches involving risk-sharing with providers are associated with lower service use and cost, compared with fee-for-service arrangements.[2] Most have focused on types of capitation arrangements implemented during the growth of managed care in the early 1990s. They study various types of services and use a wide range of data and methods, controlling differently for patient characteristics and the various features of the health care system that may affect use and cost of services. Not surprisingly, the estimated size of effects varies widely.

The research literature on how provider risk-sharing affects outcomes such as access to care, quality of care, and patient or provider satisfaction also is mixed (Davies et al. 1986; Udvarhelyi et al. 1991; Kao et al. 1998; Flocke et al. 1998; Rubin et al. 1993). While some studies show increased delivery of primary care or preventive services when providers receive capitation, others show reduced access to care or reduced patient trust in their physicians. Like the research literature on use and cost effects, many of the studies on access, quality, and satisfaction are relatively old, and they vary widely in their methods as well as the populations and practice settings that they studied.

There is relatively little research on how global payment arrangements affect longer term outcomes such as provider integration or coordination of services across settings. Study of this topic is challenged not only by the long timeline but also the difficulty of separating payment effects from effects of other market trends (such as changes in insurance product design and regulation). However, considerable anecdotal evidence suggests that many provider organizations that sought financial risk during in the 1990s were able to integrate financially but were unable to integrate delivery of clinical services across settings. Consequently, they were unable to manage care or contain costs under risk-sharing arrangements as they were designed at that time (Hurley et al. 2002; Brewster et al. 2000).

[2] Such studies extend back to the RAND Health Insurance Experiment in the 1970s, and continue through the 1990s to the current decade. See, for example: Buchanan 1992; Epstein et al. 1986; Pauly et al. 1990; Johnson et al. 1989; Greenfield et al. 1992; Bradbury 1991; and Reschovsky et al. 2006.

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APPENDIX C.3

PAY-FOR-PERFORMANCE

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SUMMARY: PAY-FOR-PERFORMANCE

Definition. Pay-for-performance ("P4P") is a term that describes complementary health care payment models that offer financial rewards to providers who achieve or exceed specified quality benchmarks. Most approaches adjust aggregate payments to physicians and hospitals on the basis of performance on a number of different quality measures. Payments may be made at the individual, group, or institutional level. Performance may be measured using benchmarks or relative comparisons. In general, three types of performance measures may be used: structure, process, and outcome.

Intended Effects. P4P programs are intended to increase the provision of quality care and decrease health care costs over the long term.

Incentives for Providers. Financial rewards (or penalties) for meeting (or failing to meet) predetermined quality measures are expected to lead to improved quality of care. Quality of care improvements may include increased provision of recommended services, upgrades to practice infrastructure, and/or improvements in health outcomes.

Potential Problems. Current P4P programs tends to have a narrow clinical focus, which can lead providers to focus on the aspects of care that correspond to quality measures and pay less attention to other aspects of care. In addition, P4P payments may represent too small a fraction of provider reimbursement to have a significant effect on behavior.

Experience with Implementation. P4P programs are widespread, and their prevalence is increasing. However, the programs differ, potentially diffusing incentives for provider behavior.

Evidence. There is some evidence that P4P programs can improve quality and facilitate cost savings, although unintended or negative effects are possible. The diversity of programs and lack of rigorous evaluation make it difficult to establish causality between the programs and changes in provider performance.

PAY-FOR-PERFORMANCE

1. What is it?

Spurred by studies showing significant problems with quality of care in the United States over the past decade (McGlynn et al. 2003; Institute of Medicine 2001), numerous "pay-for-performance" (P4P) programs have been launched by health plans and other payers (Christianson et al. 2008; Rosenthal et al. 2007; Petersen et al. 2006; Rosenthal et al. 2006).[1]

How are P4P payments structured? P4P approaches adjust aggregate payments to physicians and hospitals on the basis of performance, generally measured as: (1) performance on agreed-upon quality measures relative to the performance of other providers in a market; (2) absolute performance, i.e. attainment of predetermined quality targets; and/or (3) quality improvements over time, compared with relative or absolute quality improvement benchmarks. Performance payments based on selected quality measures (and in some cases the cost of care) may be disbursed in a number of ways: they may be made to hospitals, networks of physicians, medical group practices, or individual physicians; they may be made as a percentage of total provider fees for relevant care, or on a "per member" basis (per month or annually) for specific patients—for example, patients with specific diagnoses, whose care determines provider performance on selected measures. Payments may also be made to provider entities as a percentage of cost savings achieved relative to a benchmark. In some cases payers may reduce payment to providers for poor performance compared with peers or for not meeting performance goals.

What measures are used? In general, there are three types of quality measures, measuring structure, process, or outcome. Measures of structure include the use of resources that help improve care delivery (e.g., personnel such as diabetes educators or nutritionists, and infrastructure such as electronic medical record systems). Process measures include the delivery of clinical services that facilitate positive health outcomes—such as testing hemoglobin A1c levels in patients with diabetes, or prescribing aspirin to heart attack patients upon admission to a hospital.[2] Outcome measures typically include clinical outcomes such as whether diabetic or hypertensive patients have controlled blood pressure, or whether hospital patients are re-admitted for potentially avoidable conditions.[3]

Though not strictly a quality measure, cost efficiency is another domain that payers analyze when measuring provider performance. In some P4P programs, providers receive bonus payments when they meet specific performance criteria and also deliver care efficiently (usually compared with other providers' costs of care for patients with certain conditions).

All-payer versus individual-payer approaches. There have been some attempts to coordinate measurement and/or payment approaches across payers (for example, led by the Pacific

[1] Various Medicare quality initiatives are presented at: http://www.cms.hhs.gov/QualityInitiativesGenInfo/. Documentation of P4P programs in state Medicaid programs through mid-2006 is provided at: http://www.commonwealthfund.org/publications/publications_show.htm?doc_id=472891.

[2] Most payers track process measures in the Health Plan Employer Data and Information Set, or "HEDIS".

[3] Some P4P programs also track outcome measures such as patient satisfaction with care.

Business Group on Health and the Integrated Health Association in California). However, for the most part, P4P programs have been undertaken by individual payers, with little or no coordination of incentives across payers.

2. Intended effects

P4P programs are intended to improve health care quality and ultimately reduce health care costs by helping patients become and remain healthy for longer periods of time. Most P4P programs target patients with high-cost conditions—including chronic conditions (such as diabetes, asthma, coronary artery disease, or congestive heart failure) and acute conditions (such as heart attack and hip and knee replacements). They rely on the use of evidence-based guidelines, coupled with infrastructure such electronic medical records and computerized physician order entry systems to improve health outcomes. Some P4P programs also encourage more efficient coordination of care for more complex patients who require care from a number of different providers.

3. Incentives to providers

P4P programs use financial incentives to encourage improvements in the quality of care by rewarding providers that perform well on measures representing recommended services and practice modifications (e.g., implementing electronic medical records). In general, P4P programs that measure provider performance using outcome measures that could in part reflect patient behavior pose greater financial risk to providers than programs that measure performance only on structure or process measures.

4. Potential problems or drawbacks

The potential of P4P programs for improving the quality of care is limited by a number of issues, largely associated with narrow clinical focus, lack of coordination among programs and their being layered on payment models that themselves have problematic incentives, as described below:

- **Narrow clinical focus.** Most P4P programs rely on a narrow set of quality measures aimed at a limited number of services and patient groups. To the extent that P4P incentives are effective, some are concerned that providers might focus their attention to patients with conditions that relate to quality measures (i.e., "manage to the metric"), jeopardizing performance on quality dimensions that are not measured (Christianson et al. 2008; Rosenthal and Frank 2005).

- **Lack of coordination among payers.** Differences among payers in the quality measures that are used and how financial incentives are structured may produce diffuse and ineffective incentives. In addition, the lack of coordination across P4P programs and quality measures leads some to believe that current P4P programs fail may to encourage care coordination and communication among providers (Tynan and Draper 2008).

- **Incentives in the underlying payment system.** Most P4P programs supplement fee-for-service and capitation payment systems, and the funds available through P4P programs (while they have increased) still account for small percentages of provider reimbursement (Rosenthal et al. 2007). As a result, P4P programs as they now exist may not effectively

mitigate the volume and efficiency incentives inherent in fee-for-service and capitation payment.

- **Attribution, Risk Selection, and "Cherry Picking."** When P4P programs include health outcome performance measures, providers may be at risk not only for the quality of care they provide, but potentially also for patient behavior and for outcomes of care that other providers render to that patient. It can be difficult to determine which outcomes should be attributed to which providers in making P4P payments. In addition, providers may be concerned that outcomes-based P4P programs might penalize them for accepting sicker patients, encouraging "cherry picking" of the healthiest patients. While risk adjustment methods can be used to mitigate risk selection, methods to risk adjust at the provider level are not well developed.

- **Small Numbers and Statistical Precision.** Because P4P quality measures often focus on specific clinical conditions, the data for a particular provider may be based on a relatively small number of patients. This can make provider-level estimates imprecise or unstable, particularly when just one payer is implementing the P4P program. These issues may be addressed in a number of ways: by developing composite measures across clinical conditions, expanding the measurement time window, and/or developing multi-payer P4P programs.

5. Experience with implementation

Many private and public payers have developed P4P programs. A 2006 survey of commercial HMOs found such programs to be more prevalent in the eastern and western portions of the country (Rosenthal et al. 2006). Analysis of 27 P4P programs administered by major health plans (and a few payer/purchaser coalitions) in 2004 and 2007 indicates that most programs initially relied on structure and process measures, but that payers increasingly are measuring outcomes and cost efficiency as well (Rosenthal et al. 2004; Rosenthal et al. 2007). Most P4P programs have been directed to physicians, though a number of programs also include hospitals.

Most state Medicaid programs operate P4P programs. As of mid-2006, more than half of states were reported to be operating at least one P4P program, and 85 percent were expected to do so within the next five years (Kuhmerker and Hartman 2007). Most state Medicaid P4P programs operate in managed care or primary care case management environments, and include incentives to encourage delivery of primary care.

In addition, a number of Medicare demonstrations can be classified as P4P pilots. That is, they pay providers for performance on process or outcome measures, or offer payments and incentives for providers to modify their practice infrastructure to facilitate care improvement (e.g., by implementing electronic medical records).[4] For example:

[4] In addition to the demonstrations identified here, Medicare has sponsored pay-for-reporting efforts promote public reporting of performance measures to consumers, as well as financial incentive programs that have a performance measurement component—such as disease management programs and care coordination programs.

- **The Premier Hospital Quality Incentive Demonstration** focused on improving the quality of inpatient care. The Centers for Medicare and Medicaid Services (CMS) collected data on 34 quality measures relating to five clinical conditions. Hospitals that scored in the top 10 percent for a given set of quality measures were to receive a 2 percent bonus payment in addition to the standard diagnosis-related group (DRG) payment. Those that scored in the next decile were to receive a 1-percent bonus. In the third year of the demonstration (2008), hospitals that did not meet a predetermined threshold on quality measures were subject to reductions in payment.

- **The Physician Group Practice Demonstration** was the first Medicare P4P initiative directed to physicians. It rewarded physicians for coordinating between Part A (hospital) and Part B (physician ambulatory) services and for improving health outcomes, and also encouraged investment in administrative structure and process. Ten large group practices (each with at least 200 physicians) were to participate, with performance-based payments made if the practices achieved savings compared with a control group.

- **The Medicare Care Management Performance Demonstration** promotes the adoption and use of health information technology and also makes payments to physicians who meet or exceed performance standards, based on structure, process, and outcome measures. This demonstration is focused on small and medium-sized physician practices in four states.

Finally, a number of programs ongoing in Massachusetts incorporate P4P incentives. Massachusetts is one of the original Bridges to Excellence pilot markets, and a coalition of payers and purchasers currently participates in the Bridges to Excellence program.[5] In addition:

- In 2001, Partners Community HealthCare (PCHI) and local health plans began migrating to P4P contracts. In general, these contracts included some element of withhold, often approximately 10 percent of hospital and/or physician fees. Some included an opportunity for bonus payments beyond the agreed-upon fee schedule. PCHI's rewards are earned or forfeited at a network level, not at the level of individual practitioners (Levin-Scherz et al. 2006).

- Blue Cross Blue Shield of Massachusetts' Alternative Quality Contracts contain a significant P4P component.

6. Evidence

To date, there have been relatively few rigorous evaluations of the effects of P4P programs. Consequently, while there is evidence of an association between P4P and improved care and health outcomes, the evidence is not strong and it has been difficult to establish causality between P4P financial incentives and improved care and health outcomes.

[5] Bridges to Excellence is a non-profit organization which has as its mission recognizing and rewarding health care providers providing quality care. For more information on Bridges to Excellence, see http://bridgestoexcellence.org/.

Physician Programs

Recent reviews of P4P programs directed to physicians demonstrate the diversity of both the programs and evaluation methodologies that makes strong conclusions about P4P effects difficult (Christianson et al. 2008; Petersen et al. 2006).

One review (Christianson et al. 2008) considered nine physician programs, of which six focused on diabetes care. Seven offered some type of bonus payments for achieving quality benchmarks, while two returned a percentage of withheld funds. Just one program rewarded both improvement and meeting benchmarks. Most of the evaluation studies used before-after designs with no comparison groups, and in most there was strong potential for "volunteer bias"—potentially leading to false findings of improvement. Nevertheless, these evaluations found significant improvement on at least one quality measure in every program. At least two evaluations were based on a stronger, quasi-experimental evaluation designs: One of these evaluations found improvement in five of six diabetes process measures and two of three diabetes outcome measures. Another found that groups receiving performance payments improved on one process measure (cervical cancer screening) but not on others (provision of mammography and hemoglobin A1c testing) (Rosenthal et al. 2005).

A second review (Petersen et al. 2006) considered 17 evaluations of physician P4P programs. Nine of these evaluations studied the use of financial incentives directed to provider groups. Of these, seven studies found partial or positive effects on measures of quality (although some of these effects were quite small), and found statistically significant improvements in the measure of quality of care. However, the methodologically strong evaluations, using randomized trials evaluating group-level incentives for preventive health services, found no effect of incentives when compared with the control group. In addition, six studies considered programs that directed incentives to individual physicians (not physician groups). While five of these studies found partial or positive effects, one study showed evidence of a negative effect on access to care for the sickest patients.

Evaluations of three P4P programs aimed at hospitals demonstrate similar variability in the program design and evaluation methods (Christianson et al. 2008), again making it difficult to draw strong, generalizable conclusions about effects:

- One study evaluated an Australian program that provided bonus payments to 21 public emergency departments at the beginning of the year; they were required to return varying portions of the payments if they did not achieve targets relating to ambulance bypass and patient waiting times. The emergency departments improved on two of three measures and sustained their improvements for three years.

- Another study evaluated one health plan's P4P program in Hawaii, implemented for four years. This program made 17 hospitals eligible to receive performance payments based on structure, process, outcome, and patient satisfaction measures. The evaluation used no control group and also had a strong potential for volunteer bias; it found reduced rates of risk-adjusted surgical complications and reduced lengths of stay for several surgical procedures.

- A methodologically strong study of the Medicare Premier Hospital Quality Initiative found significant improvements attributable to the P4P incentives (2.6 to 4.1 percent) in composite

performance over two years (Lindenauer et al. 2007). This result was especially notable in that most of the bonus dollars went to hospitals with the highest performance at baseline.

Finally, a recent study of P4P programs in Massachusetts examined data from the Massachusetts Health Quality Partners organization on the performance of over 5,000 Massachusetts physicians (Pearson et al. 2008). The researchers considered performance on thirteen HEDIS measures, comparing physicians practicing under P4P contracts to those not practicing under P4P contracts, from 2001 to 2003. The researchers found improved performance on every HEDIS measure among physicians under P4P contracts as well as among physicians not under P4P contracts.

Concluding Remarks. While many private and public payers operate P4P programs, most are relatively new. Most P4P programs are narrowly focused on a few (but different) performance measures, and they offer different financial incentives to providers. There is little coordination across the programs, diffusing incentives to providers. While payers have increased funding to P4P programs, in general P4P payments account for a low proportion of revenues and are layered on existing payment systems. As a result, while there is potential for P4P programs to produce significant improvements in the quality and efficiency of care, their effects are likely to be marginal if the programs are not coordinated and the fundamental payment system is not also addressed.

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APPENDIX C.4

MEDICAL HOME MODELS

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Medical Home Models: Summary

Definition: A medical home is a complementary payment model that provides accessible, continuous, coordinated and comprehensive patient-centered care. A medical home is managed centrally by a primary care physician with the active involvement of non-physician practice staff.[1] Physician practices may be required to improve practice infrastructure and meet certain qualifications in order to be deemed a medical home and to receive supplemental payments to support operations expected of a medical home.

Intended Effects: Medical homes encourage a population-based, proactive, and planned approach to health care delivery. Medical homes coordinate care across various providers to facilitate the provision of recommended services, eliminate redundancies or unnecessary care, and engage patients and their families in their care regimen.

Incentives for Providers: Primary care physicians are encouraged to improve practice infrastructure to qualify as a medical home. A physician whose practice qualifies as a medical home is required by terms of the agreement to provide care coordination and receives supplementary payments for coordinating patient care.

Potential Problems: Standards for providers to qualify as medical homes vary across payers. Moreover, physicians serving as medical homes may have limited ability to coordinate care in some settings. Without aligned incentives, hospitals and specialists may resist cooperating with medical homes, impeding the model's success.

Evidence: Evidence of the effects of enhanced coordinated care on patient outcomes suggests that medical homes are a promising model for improving health outcomes and reducing cost. However, there is limited evidence about the effectiveness of medical homes as they currently are implemented.

[1] In the context of medical homes, "primary care providers" may include non-physician staff such as registered nurses, nurse practitioners, medical assistants, and office administrators and practice managers.

Medical Home Model

1. What is it?

A medical home is a complementary payment model designed to provide a single point of coordination for all health care—including primary and specialty care, hospital care, and post-acute and chronic care. The medical home model is premised on the belief that patient-centered care coordination can reduce fragmentation, improve patient outcomes and reduce costs (Bailit and Hughes 2008; O'Malley et al. 2008; Rosenthal 2008). A primary care physician facilitates and manages patient-centered primary care and coordinates all levels of care, including care provided by specialist physicians. In some models, patients choose providers who are willing and able to serve as their medical home; others assign patients to a medical home based on patients' patterns of service use.

Practices that qualify as medical homes receive supplemental payments to encourage providers to agree to serve as medical homes for their patients and to compensate them for the added care coordination services they provide. Such payments may include increased fee-for-service or per-patient monthly payments. Some medical home models provide additional payments to encourage enhancements to existing infrastructure (such as electronic medical records) and services. No standard implementation is recognized, and individual payers are experimenting with a variety of payment mechanisms. Therefore, no single description captures all models.

Programs to establish medical homes often rely on the National Committee for Quality Assurance (NCQA) guidelines defining criteria for a medical home—including:[2]

- Improved access and communication
- Use of data systems to enhance safety and reliability
- Care management
- Patient self-management support
- Electronic prescribing
- Test tracking
- Referral tracking
- Performance reporting and improvement
- Advanced electronic communications.

[2] See: http://www.ncqa.org/Portals/0/Programs/Recognition/RPtraining/PPCPCMH_Training.pdf. The medical home model is endorsed by the American College of Physicians, the American Academy of Family Practitioners, the American Academy of Pediatrics and the American Osteopathic Association.

As they are currently being piloted, medical homes may use any or all of these criteria. Some programs have tiered medical homes, with only the higher-ranked medical homes meeting all of the guidelines.

2. Intended effects

Medical homes are intended to improve patient care and reduce costs. By encouraging primary care providers to assume responsibility of all aspects of patient care, the model aims to achieve a population-based and planned approach to care, resulting in more effective, equitable, and efficient health care delivery.

Proponents of medical homes believe that care coordination and improved communication with patients facilitate the provision of recommended services, eliminate redundancies or unnecessary care, and encourage patient adherence to care regimens. Medical home models may complement (and modify the incentives of) any basic payment model—including fee for service, which allows fragmented care and ever-greater use of care.

The medical home model encourages physicians to better understand sometimes complex patient needs, eliminating unnecessary tests, hospital stays, and visits to specialists. Medical homes are expected to be especially beneficial to children, adolescents, and persons with chronic conditions who require an array of services and sometimes frequent monitoring. It is hoped that existing primary care practices might be able to scale up services relatively easily to achieve medical home standards, and that the model might encourage a greater number of medical students to choose primary practice as a career.

3. Incentives for providers

Providers receive supplemental payments when they qualify as a medical home. These payments offer a clear incentive to provide coordination services that meet the terms of their agreement with the payer. Providers are responsible for delivering and managing appropriate care, and they are at risk for maintaining costs within the supplemental payment amounts. Some models include additional practice transformation stipends to encourage the practice to scale up infrastructure, expand hours, or establish electronic record keeping with the intention of improving effectiveness and efficiency.

4. Potential problems or drawbacks

Several potential barriers may impede the success of medical homes. These include the following:

- **Varying qualifications and payment approaches can mitigate effects.** Despite available NCQA guidelines, payers establish varying criteria for practices to qualify as a medical home, and they use different payment approaches. When criteria and approaches vary among multiple efforts in local markets, participating physicians may confront competing incentives, mitigating the individual and collective effects of the model.

- Primary care physicians may have limited ability to coordinate care in some settings outside their scope of practice—for example, referrals among specialists. Furthermore, since medical home payments typically are targeted to primary care physicians, hospitals and specialists outside the medical home have no particular incentive to collaborate with the primary care physician (Fisher 2008).

5. Experience with implementation

Various payers and insurers have piloted medical home programs. In Massachusetts, the Massachusetts Coalition for Primary Care Reform has established a framework for medical homes, with payment methods including risk-adjusted per-patient-per-month payments as well as bonus payments for achieving desired outcomes in quality, patient experience, and cost-effectiveness (MACPR 2008).

In other states and nationally, a number of payers—including Aetna, Blue Cross and Blue Shield Association, CIGNA, Geisinger, United HealthCare, and the Centers for Medicare and Medicaid Services (CMS)—are developing or have implemented medical home pilots. Specific current or planned examples include the following:

- CIGNA and Dartmouth-Hitchcock launched a medical home pilot program in New Hampshire in June 2008. The program covers patients on the CIGNA plan receiving care from Dartmouth-Hitchcock primary care physicians practicing in family medicine, internal medicine, and pediatrics. The pilot currently covers approximately 19,000 patients. An evaluation is intended for the program once it has been operational for 12 months (CIGNA, 2008).

- Geisinger Health Care has piloted a medical home program in Pennsylvania. Components of the Geisinger model include round-the-clock primary and specialty care access, a nurse care coordinator in each practice site, virtual care management support, and a "personal care navigator" to respond to patients' inquiries (Paulus 2008). The Geisinger model focuses on proactive care to minimize hospitalizations and manage chronic diseases. A referral network is linked with the primary care practice. Electronic health records support internet-based reporting of lab results, clinical reminders, self-scheduling, prescription refills and other capabilities. Geisinger makes practice-based payments to participating physicians, as well as monthly "transformation stipends" to strengthen and expand infrastructure. Each medical home receives monthly performance reports of its quality and efficiency results.

- In January 2010, the Centers for Medicare and Medicaid Services (CMS) will initiate a medical home demonstration to improve quality of care, reduce costs, and improve health care coordination for Medicare beneficiaries with qualifying chronic conditions (Maxfield et al. 2008).[3] CMS uses a two-tier medical home model: Tier 1 medical homes

[3] A list of qualifying chronic conditions is available at: http://www.acponline.org/running_practice/pcmh/demonstrations/conditions.pdf.

must have 17 basic capabilities (including capacity to track referrals, tests, and provider follow-up). Tier 2 medical homes must satisfy all Tier 1 medical home qualifications and also have electronic medical record keeping, coordinate services following inpatient and outpatient care, and have three of nine optional capabilities. CMS plans an evaluation of the pilot that will start when the demonstration begins, and will continue for one year after the demonstration ends.

6. Evidence

Because medical homes are generally in an early stage of development, evidence of their effectiveness as currently implemented is limited. Nevertheless, some research evidence suggests that the medical home model's emphasis on primary care can improve health outcomes for at least some kinds of patients. For example, Starfield and Shi (2002) documented better health outcomes in early childhood and for some disease-specific patients when treated in a primary care setting. Other research evidence suggests that the core elements of medical homes, based on the chronic care model, can improve clinical outcomes and care processes for patients with chronic illness and also reduce health care costs (Tsai et al. 2005; Bodenheimer et al. 2002).

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APPENDIX C.5

GLOBAL BUDGETS FOR HEALTH CARE

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GLOBAL BUDGETS FOR HEALTH CARE

SUMMARY:

Definition. Global budgets are budgets or expenditure targets for health care spending. Specific definitions vary depending on the types of services covered and the systems to which the budgets are applied.

Intended Effects. Global budgets are intended to constrain both the level and rate of increase in health care cost by limiting them directly.

Incentives for Providers. Facilities or systems that face a global budget have clear incentives to control cost and operate efficiently. Providers who are paid under fee-for-service, such as physicians in Canada, will have no individual incentive to contain cost, unless some additional mechanism is built into the payment system.

Potential Problems. Providers who find themselves in danger of exceeding their budget may respond with "rationing by waiting," which in turn creates a potential for access problems. Moreover, political pressure may make global budgets difficult to enforce. For example, despite attempts to limit total Medicare physician payments, Congress has routinely passed legislation to override the payment formula.

Experience with Implementation. In the U.S., the Department of Veterans Affairs operates within a budget appropriation that is, effectively a global budget. However, veterans can and do receive care outside the VA system, which can reduce pressure on system managers. The Canadian health care system offers a good example of global budgeting at the provincial level.

Impact. No systematic studies have examined the effect of global budgets on cost and patient outcomes. Comparisons of the U.S. and Canada have suggested that global budgets can constrain the rate of cost growth with little or no effect on aggregate measures of health.

GLOBAL BUDGETS

1. What is it?

A global budget is a fixed maximum expenditure, typically set by government, for a defined set of health-care services. The size of the budget may be set by an assessment of projected health needs or determined relative to an objective metric (such as a proportion of gross domestic product). Institutional providers such as hospitals may be given individual budgets each year and be required to work within them. If other individual providers like physicians are paid fee-for-service, additional means may be needed to limit spending for those services.

As a complementary payment model, a global budget is compatible with any basic payment model—FFS, episode-based payments, or global payments. However, it implies an available enforcement mechanism—usually, regulation of provider payments and/or premiums, and the ability of providers to manage patient queues.

2. Intended effects

A global budget is intended to limit total expenditure for health care services. Its primary purpose is to contain overall cost. It also may help in guiding the planning and allocation of overall scarce resources, for example, when tradeoffs are otherwise unclear in systems not relying on private markets for this purpose. This was the aim of the global budget caps that were to be set by the National Health Board under the Clinton health-care reform plan in 1994.[1] While the caps were not necessarily intended to be absolute, there could be no guarantee of additional funding if they were exceeded.

3. Incentives to providers

Global budgets (even assuming effective enforcement) provide only blunt incentives to providers. Institutional providers such as hospitals that receive a fixed budget of their own (with no assurance of rescue if they exceed the budget) have a clear incentive to manage to that budget. More targeted incentives, if any, depend on the means used to enforce the budget limit. Studying physician payment in Canada, Hurley et al. (1997) distinguish between "hard caps" (under which physicians are financially liable for all expenditures in excess of the cap) and "soft caps" (under which physicians and payers share liability for the excess). They note that, so long as the liability is collective, individual physicians may have little incentive to restrain cost.

4. Potential problems or drawbacks

In the absence of countervailing incentives, providers subject to a fixed budget may have incentives to limit care inappropriately, or to "cherry pick" patients with lower expected cost in order to protect their budgets. To our knowledge, however, this behavior has not been documented. If a budget constraint becomes binding, providers may also slow the pace at which procedures are

[1] Under the proposed plan, "managed competition" also was expected to restrain health care spending.

performed leading to longer waiting times for patients. Delays in receiving care have been a source of complaint in Canada and among U.S. veterans receiving care through the VA system.

Global budgets are most readily implemented in single-payer systems such as those operating in Canadian provinces. Operating a global budget within a multi-payer system will require a means of monitoring spending trends for all payers with minimal lag time. At this point, no such monitoring system exists.

Perhaps the strongest criticism is that global budgets are difficult to enforce and are inevitably subject to strong political pressure. Experience with other cost-containment efforts demonstrates that legislators can be expected to alter and expand targets intended to constrain spending (Poterba 1994). For example, in every year since 2002, Congress has intervened to prevent the cuts to Medicare physician payments that otherwise would have been required by payment policy that Congress itself enacted in the Balanced Budget Act of 1997.

5. Experience with implementation

U.S. National Experience. The single largest global budget for health care services in the U.S. is that of the health-care system operated by the Department of Veterans Affairs. Each year, the system's budget is limited by its appropriation in the U.S. budget. The Department allocates budgets to local VA health systems, which are expected to operate within it. However, the VA is able to moderate demand if necessary by altering eligibility standards, an option not available in most implementations of global budgeting (Congressional Budget Office 2008).

While not a formal global budget, the Medicare physician fee schedule contains an annual update factor based on Sustainable Growth Rate (SGR) targets. The fee-schedule update is reduced if actual Medicare physician expenditures exceed the SGR target and increased if expenditures fall short of the target. As noted just above, however, Congress has consistently overridden reductions in the update required by the payment formula.

Other Experience. Between 1980 and 1988, hospitals in Rochester, New York voluntarily accepted and operated under individual and aggregate caps on hospital income from all payers, including Medicare and Medicaid. The caps led to a substantial reduction in the hospital component in community health care costs, while the financial position of the hospitals improved relative to the mean for New York State as a whole (Griner 1994). Notably, the global budgets for hospitals did not extend to physicians, so that physicians did not have incentives to improve efficiency in the same manner that hospitals did. The experiment ended with the termination of its Medicare waiver in 1988. The GAO noted Rochester's success in containing health-care cost during the 1980s, but did not ascribe this success solely to the global budget (GAO 1993).

Experience in Other Countries. Canada and most Western European countries have some form of top-down budgeting for health care. In Canada, the health-care delivery system is private, as in the U.S. Each provincial government acts as single payer for hospital and physician care provided within it. Provinces allocate annual budgets to each hospital and to negotiate physician fee schedules with medical associations. Some provinces have enforced caps on physician payment by requiring all physicians to contribute to repaying any excess of payments over the cap (Emery et al. 1999).

In the United Kingdom, the budget for the National Health Service (NHS) accounts for most health spending, but some private providers operate outside the NHS. Expenditures are therefore not fully limited by a budget in the same manner as in Canada.

6. Impact

Because the effect of global budget caps on health care spending and outcomes has not been studied, there is no general agreement about their impact. Nonetheless, comparison of outcomes in the U.S. and Canada is instructive because both systems involve private provision of health care, with differing means of finance (combined private and public financing in the U.S. and single-payer financing with global budgets in Canada).

A natural means of allocating excess demand under a fixed budget is to increase patients' waiting time for care. Indeed the most common complaint about health care in Canada is the long waiting lists for many procedures. A recent study noted that Canadians were substantially more likely to wait more than one month for non-emergency surgery than similar patients in the U.S. (Canadian Institute for Health Information, 2006).

Nevertheless, Canada performs as well as or better than the U.S. on standard measures of health status. Self-reported health status is about the same in the two countries, and Canadians' overall life expectancy is longer and infant mortality is lower. Yet during from 1992 to 2002, real health spending per capita grew at an annual rate of 2.2 percent in Canada and 3.3 percent in the U.S. (Anderson et al. 2005).

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APPENDIX C.6

BENEFIT DESIGN STRATEGIES FOR COST CONTAINMENT, TRANSPARENCY, AND EFFICIENCY: EVIDENCE-BASED PURCHASING AND TIERED PROVIDER NETWORKS

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BENEFIT DESIGN STRATEGIES FOR COST CONTAINMENT, TRANSPARENCY, AND EFFICIENCY: EVIDENCE-BASED PURCHASING AND TIERED PROVIDER NETWORKS

Section 44 of Chapter 305 of the Acts of 2008 charges the Special Commission with considering certain "payment methodologies and purchasing strategies." Previous briefing materials have focused on basic and complementary payment models. This briefing document describes selected benefit design strategies that, typically overlaid on fee-for-service payment, have been used in an effort to improve the quality and efficiency of care.

In the U.S., large purchasers—including health plans, employers, states, and the federal government—use benefit design to affect consumers' health care purchasing decisions. Benefit design elements that affect consumer decisions include covered (versus omitted) services, cost sharing (such as deductibles, coinsurance, and copayments) for covered services, and the provider network. When purchasers design health benefit packages, they attempt to balance affordability with design elements such as comprehensive benefits and low cost sharing that appeal to consumers but may encourage inefficient use of care. One way for purchasers to improve affordability while maintaining comprehensive benefits and relatively low cost sharing is to steer consumers toward higher quality and more cost-effective care. E*vidence-based purchasing* and *tiered provider networks* are benefit design strategies intended to do this.

Evidence-based purchasing is a benefit design strategy that seeks to apply the best available evidence about the effectiveness of alternative interventions. One well-known application of evidence-based purchasing is the Value-Based Insurance Design, which reduces consumer cost sharing for treatments or medications that have the highest demonstrated value.

Tiered provider networks are a benefit design strategy that reduces cost sharing when consumers choose health care providers that are known to deliver more efficient and/or high-quality care.

This briefing document describes how evidence-based purchasing and tiered provider networks can be incorporated in benefit design, experience with implementation, evidence of effectiveness, and potential problems and drawbacks. Note that both strategies have limited potential for improving the efficiency of care: evidence-based purchasing is limited by the volume and relevance of existing clinical and cost-effectiveness research, while provider tiering is limited by purchasers' ability to discern variation in cost effectiveness among providers.

EVIDENCE-BASED PURCHASING

1. Goals

The goal of evidence-based purchasing (EBP) is to increase the effectiveness of health care for the same or less cost (that is, to increase the value of health care), using benefit design to steer consumer decisions toward high-value care. EBP attempts to apply evidence culled from clinical, cost-effectiveness, and comparative effectiveness research to design coverage for specific services, procedures, pharmaceuticals, and technologies.[1] With respect to treatments where there is strong evidence of effectiveness, an EBP benefit design might cover only those treatments that are known to be effective or it might reduce cost sharing specifically for those treatments. For example, an insurer might use a drug formulary that excludes less effective drugs of greater or similar cost, compared with a more effective drug for the same diagnosis.

EBP offers no direct incentives to providers. Instead, EPB gives consumers strong incentives to choose evidence-based services when obtaining care, with the objective of increasing the use of cost-effective services and technologies and reducing the use of services and technologies that are less cost-effective. Because providers have strong financial incentives to deliver covered services, EBP may indirectly encourage providers to deliver more cost-effective care.

2. Experience with implementation

There is limited experience with EBP, in part due to practices in Medicare, the largest payer for health care services in the U.S. Because federal law prohibits Medicare from considering costs when making decisions regarding covered treatments, the program has made very limited use of information about relative clinical effectiveness.

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[1] In the U.S., a number of federal government agencies and state consortia support or conduct the comparative effectiveness research on which EBP relies. For example:

- The Department of Veterans Affairs (VA) has supported and conducted some of the most influential clinical trials over the past 30 years (Congressional Budget Office 2007).
- AHRQ, an agency of the Department of Health and Human Services, is charged with improving the quality and effectiveness of health care in the U.S. AHRQ has funded a number of evidence-based practice centers (EPCs) at universities and other organizations to develop evidence reports and technology assessments. EPCs focus on clinical, social science/behavioral, economic, and issues that drive high cost, high volume, or relate to the Medicare and Medicaid populations.
- The National Institutes of Health (NIH) performs clinical trials, and recently received substantially increased federal funding for comparative effectiveness research. Research on comparative effectiveness is limited and currently does not extend to most services delivered in the U.S. (Congressional Budget Office 2007). Most of the literature on EBP comes from other countries, which typically have single payer systems. In these countries, a single agency conducts research and establishes evidence on comparative effectiveness.
- The Medicaid Evidence-Based Decision Making Project (MED) is a consortium of state Medicaid agencies that uses clinical evidence to support benefit design and coverage decisions.
- The Drug Effectiveness Review Project (DERP), a consortium of 15 states and two nonprofit organizations, has conducted systematic reviews of selected classes of drugs since 2003. Evidence-Based Practice Centers at Oregon Health and Science University, the RAND Corporation, and the University of North Carolina conduct DERP reviews.

The recent economic stimulus legislation significantly increased Federal funding for comparative effectiveness research.

State Experience. The largest and longest-standing example of EBP in the U.S. is the Oregon Health Plan, which famously took on the task of expanding Medicaid eligibility while controlling costs by covering treatments based on clinical effectiveness and "net benefit." Evaluations of OHP's early performance were generally favorable. By no longer covering services deemed ineffective or marginally effective, Oregon extended Medicaid coverage to more than 100,000 newly eligible individuals each month (on average) from 1994 to 1998. In turn, expanded Medicaid enrollment helped reduce Oregon's rate of uninsured from 18 percent in 1992 to 11 percent by 1996, while avoiding any apparent negative consequences from rationing care in this way (Oberlander 2007).[2]

Since 2006, Washington State has graded Medicaid services based on the quality of evidence supporting their effectiveness, using a four letter grading scheme to manage prior approval for all services. Services are approved it randomized controlled trials or consistent observational studies have shown evidence of their effectiveness; services with less evidence of effectiveness are approved only after case-specific review (Bailit 2009; Porter 2006). More recently, a number of states—including Oregon and Washington—have developed collaborative efforts to share evidence and inform Medicaid purchasing.

Employer Experience. Among private employers, EBP is commonly called Value-Based Insurance Design (VBID). VBID programs increase cost sharing for services that are known to be less effective or similarly effective but more costly for patients with specific diagnoses. For example, a VBID program might reduce copayments for higher-value treatments such as statins and beta-blockers for patients with coronary artery disease (Fendrick and Chernew 2006).

However, even proponents of VBID concede some problems with this strategy in practice, including:

- Over-use of services, related to lower out-of-pocket cost
- The high cost of implementation and monitoring
- Insufficient research on comparative effectiveness for most diagnoses and services
- Low incidence of selected conditions and heterogeneity among patients
- Potential for privacy violation and fraud, and legal and regulatory barriers
- The opportunity and incentive for patients to choose plans that do not use VBID when VBID would constrain their choices.

Nevertheless, VBID benefit designs are becoming more common. For example:

[2] Subsequent efforts to further expand Medicaid eligibility and impose premiums under the federal Health Insurance Flexibility and Accountability (HIFA) initiative have foundered on the state's faltering economy and revenues, together with changes in the state legislature that have reduced political support for Medicaid. OHP currently covers both fewer services and fewer people. State officials argue that federal inflexibility has prevented their prioritized list from working as intended, but even if federal regulators had allowed Oregon to move up its prioritized list of treatment-condition pairs, there would not have been sufficient funds to save the program in the state's current economic and political environment (Oberlander 2007).

- Pitney Bowes has reduced copayments for all users of drugs commonly prescribed for diabetes, asthma, and hypertension.

- ActiveHealth Management (a care management company and independent subsidiary of Aetna) has reduced copayments for ACE inhibitors and angiotensin-receptor blockers (ARBs), beta-blockers, medications for glucose control, statins, and inhaled steroids (used largely to treat asthma) (Chernew, Rosen, and Fendrick 2007).

- The University of Michigan designed a benefit package for employees and dependents with diabetes that focuses on minimizing financial barriers to access for important services.

In addition, a number of vendors design and/or offer VBID plans. For example, Hewitt Associates, a large employee benefits consulting firm, designs VBID programs for clients (Chernew and Newhouse 2008). Aetna's Health Savings Account (HSA) benefit defines services that are important for chronic disease patients as preventive care and therefore eligible for first-dollar coverage (Chernew, Rosen, and Fendrick 2007; Robinson 2005).

Experience in Other Countries. A number of countries with single-payer systems use EBP. For example, in the United Kingdom, the National Institute for Health and Clinical Excellence (NICE) provides evidence-based "guidance" to the Centre for Evidence-based Purchasing (CEP), a procurement arm of NHS (Moon, Smith, and Gustafson 2008; Institute of Medicine 2007).[3]

France, Germany, Australia, and Canada also have agencies similar to NICE, although their funding and structural arrangements vary. For example, the Australian government's Department of Health and Ageing has a number of agencies that regulate and evaluate various interventions; its Medical Services Advisory Committee is charged with ensuring that new and existing medical procedures are supported by sound evidence of clinical and cost effectiveness. In France, an independent public body—the National Authority for Health—provides evidence to help the government establish reimbursement rates for medical products and services (Institute of Medicine 2007).

3. Evidence of effectiveness

While there is general agreement that EBP and comparative effectiveness research have great potential to improve health care purchasing decisions and the efficiency of health care delivery, the research literature includes no published evaluation of EBP impacts.

[3] Fully funded by the British government and administratively a unit of the National Health Service (NHS), NICE is an independent agency that performs research on the clinical effectiveness and cost-effectiveness of various procedures, pharmaceuticals, and technologies.

4. Potential problems and drawbacks

The U.S has no central clearinghouse for comparative effectiveness research and no single authoritative source of information on the effectiveness of treatments in specific clinical areas. Instead, EBP draws on the research literature developed under various agencies and efforts, both past and present. This situation presents a number of problems:

- **Most research does not compare treatments.** Most of research literature attempts to establish evidence of any clinical effectiveness or addresses patient safety. Rarely does it consider the relative effectiveness of alternative treatments.
- **It is difficult for research to keep pace with innovation**. Keeping pace with the rapid development and refinement of medical technologies poses an important challenge for medical effectiveness research. The evidence base for particular procedures, drugs, or services is sometimes established only after other treatments have already replaced them.
- **When research conflicts, there may be no means of resolution.** Researchers using different methods and data can reach different conclusions. When findings from multiple research efforts conflict, ambiguity and inaction often result.
- **The research is not easily accessible.** Even when strong research evidence exists, purchasers may have difficulty finding it.
- **Applying available research can be challenging**. Much comparative effectiveness research is highly specific and highly clinical. Consequently, for EBP systems attempting to provide consumers with access to services appropriate for their particular circumstance and condition, application can be challenging.

There is broad agreement that objectivity and credibility in conducting and reporting comparative effectiveness research are a necessary basis for it to be more widely used (Wilensky 2006). However, opinions differ about whether responsibility for conducting research and establishing the evidence base should be vested in a single organization. Such an organization would face considerable public pressure and scrutiny in conducting its activities, and balancing independence with avenues for stakeholder input would be complex.[4]

PROVIDER TIERING

1. Goals

Provider tiering models use benefit design to encourage enrollees to choose physicians and hospitals that score well on cost and quality measures (Draper et al. 2007; Fronstin 2003). In turn, by

[4] For example, during the mid-1990s, the Agency for Health Research and Quality (AHRQ) experienced a backlash from several quarters over its recommendations regarding the clinical effectiveness of spinal surgery. Subsequently, the controversy over AHRQ's findings and methods led to proposals for its elimination (Congressional Budget Office 2007). The recent addition of funds to the economic stimulus package for "comparative effectiveness analysis" also drew some backlash. See: http://economix.blogs.nytimes.com/2009/03/13/cost-effectiveness-analysis-and-us-health-care/, accessed April 20, 2009.

encouraging enrollees to select high-performing providers, tiering may motivate providers to improve efficiency and quality in order to compete successfully for patients (Draper et al., 2007).

Provider tiering offers consumers reduced cost sharing when they select providers in a higher performance tier. HMOs usually reduce copayments when enrollees select high-performing providers, while PPOs may alter coinsurance arrangements—offering a lower coinsurance rate when the consumer selects a provider in the "core" (high-performing) tier and increasing the coinsurance rate when the consumer selects a provider in a lower performance tier.

Each payer may use a different structure of tiers. For example, a plan using a two-tier structure might designate providers as (1) high-performing providers, or (2) other in-network providers; all other providers would be out-of-network (Draper et al. 2007). Moreover, each payer may use different criteria to tier providers. For example, to tier hospitals, health plans may use a variety of measures—including unit prices, average costs, structural hospital characteristics, and quality indicators (Robinson 2003). Most plans that tier physicians do so only for specialist physicians, so as not to disrupt patient relationships with their primary care physicians.

2. Experience with implementation

The prevalence of provider tiering is not well understood. However, many plans throughout the country appear to be experimenting with provider tiering. In Massachusetts, there are several prominent examples:

- **The Group Insurance Commission (GIC)** requires all contracted plans to classify high-performing physician networks using efficiency measures based on episode groupers and nearly 60 specified quality measures—including Health Plan Employer Data and Information Set (HEDIS) measures, measures based on AHRQ research, and specialty society best practices (Draper et al. 2007, Lake et al. 2007, Alteras and Silow-Carroll 2007). Six health plans that provide coverage to state employees participate in this effort.

- **Blue Shield of Massachusetts** launched a two-tier product in 2001 including higher co-payments at teaching hospitals (Mays et al. 2003).

- **Tufts Health Plan** introduced its tiered option in 2002 to encourage enrollees to choose community hospitals when possible (Robinson 2003). Community facilities are assigned to the "core" tier, and all other facilities are assigned to the "premium" tier. Subsequently, Tufts also has tiered physicians.

Other states also offer examples of provider tiering:

- **Blue Shield of California** (BSC) introduced hospital tiering in 2002 (Robinson 2003; Inglehart 2002). BSC designates tiers by comparing average costs across hospitals in regional and teaching status groups. Hospitals that exceed the average costs for their group are assigned to the "affiliate" tier; other hospitals are assigned to the "choice" tier—with small differences in consumer cost sharing between the two tiers (Robinson 2003). BSC also considers data on hospital quality when designating tiers, including publicly reported patient satisfaction (Mays et al. 2003).

- **Aetna of Seattle** offers tiered network products that separate specialists into two tiers based on quality and episode measures of cost. The financial incentives to use providers in one tier

versus another are small (for example, a copayment differential of $10 to $20) (Lake et al. 2007).

- **Blue Cross Blue Shield of Texas** offers a high-performing network product. A website supports the product, including both public measures of provider performance and feedback reports to physicians. Enrollment in this product has been low (Lake et al. 2007).

3. Evidence of effectiveness

There is little objective evidence of the impact on service use, costs and quality. Draper and colleagues (2007) found that employer adoption of the networks was limited, and enrollment was significant only when employers aggressively encouraged it.

4. Potential problems and drawbacks

As currently implemented, there are a number of problems associated with provider tiering:

- **No standard method exists for designating high-performing providers.** Thus, one plan might classify a hospital or physician as high performing, while another might classify the same provider in a lower performance tier. Furthermore, many of these performance designations consider only efficiency (based on cost data), and do not attempt to balance cost and quality (Draper et al. 2007).

- **Small differences in consumer savings between tiers may not change behavior.** Consumers who see little difference in cost sharing between performance tiers may not be motivated to select high-performing providers, perhaps particularly if they are relatively high users of care with established provider relationships. Moreover, if tiering affects only a small portion of a providers' total revenue, the potential loss of patients may be too small to induce any change in practice. Recent case studies of selected tiering efforts indicate that many physicians are unaware of their tier status for particular plans (Lake et al. 2007).

- **Geographic access to high-performing providers can affect impact.** Some enrollees may not have access to high-performing physicians and hospitals, especially in health plans that cover large geographic areas with dispersed provider networks.

- **Provider tiering might disadvantage academic medical centers and/or safety net providers.** These institutions provide large amounts of uncompensated care that state and local governments subsidize, but they may also finance uncompensated care with cross-subsidies from private- and public-paying patients. Most tiering models have placed these institutions in higher-cost tiers, discouraging consumers from using their services (Fronstin 2003).

- **Tiering programs are limited by the current state of performance measurement.** Current measures consist of recently developed efficiency measures and a limited set of quality measures that often emphasize the process of care over other areas of performance, such as outcomes of care or care coordination.

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Copies of this report are available from the Division of Health Care Finance and Policy, Office of Business Communications.

The report is available online at http://www.mass.gov/dhcfp/paymentcommission.

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