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Implementing Value-Based Payment Reform: A Conceptual Framework and Case Examples

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Abstract

This article develops a conceptual framework for implementation of value-based payment (VBP) reform and then draws on that framework to systematically examine six distinct multi-stakeholder coalition VBP initiatives in three different regions of the United States. The VBP initiatives deploy the following payment models: reference pricing, "shadow" primary care capitation, bundled payment, pay for performance, shared savings within accountable care organizations, and global payment. The conceptual framework synthesizes prior models of VBP implementation. It describes how context, project objectives, payment and care delivery strategies, and the barriers and facilitators to translating strategy into implementation affect VBP implementation and value for patients. We next apply the framework to six case examples of implementation, and conclude by discussing the implications of the case examples and the conceptual framework for future practice and research.

Keywords

value-based payment, implementation, conceptual framework

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Introduction

Health care purchasers, plans, and providers in the United States are positioning themselves to move from the dominant payment model of fee-for-service (FFS) to payment based on value. This evolution is being driven by a combination of forces. Purchasers (e.g., Medicare and Medicaid, employers, and union trusts) are seeking increased value in health plan benefits and in health care for their employees and members. Insurance plans are searching for payment models and aligned benefit designs that will lead to improved health and health care quality and patient experience at least cost. Provider organizations and individual providers are trying to build efficient organizational and care delivery infrastructure and to escape the "hamster wheel" of volume-driven scheduling and patient care to generate revenue; they are adopting payment models that promote clinical practice to improve health. Value-based payment (VBP) reform seeks to change the behavior of individual providers and provider organizations by aligning payment with value. VBP models assume a variety of forms, but are operationally defined as financial incentives that aim to improve clinical quality and outcomes for patients, while simultaneously containing (or better yet) reducing health care costs.

This article's objectives are the following:

1. To present a conceptual framework for evaluating the implementation of multi-stakeholder VBP initiatives, drawing primarily on previous models of VBP implementation (Damschroder et al., 2009; McHugh & Joshi, 2010) and secondarily on models attempting to explain the impact of VBP on cost, quality, and outcomes (Conrad & Christianson, 2004; Damberg et al., 2014; Dudley et al., 2004; Hussey, Mulcahy, Schnyer, & Schneider, 2012).
2. To apply the conceptual framework to VBP implementation in different environments.
3. To articulate a set of insights for practice and research, based on particular projects and VBP methods, and where possible to present a set of more general, cross-cutting lessons for implementing VBP reform.

The six VBP initiatives examined in this article were chosen from 11 pilots funded by the Robert Wood Johnson Foundation (RWJF) and evaluated by University of Washington researchers. We selected them purposefully to capture a broad array of VBP approaches: shared savings-based accountable care organizations (ACOs), bundled payment, pay-for-performance (P4P), reference pricing, "shadow primary care capitation," and global payment. RWJF chose to fund *multi-stakeholder* coalitions that submitted "bold" and "innovative" payment reform proposals and that made a strong, credible case for development, spread, and sustainability of VBP innovation. As evaluators we studied the implementation of each initiative in detail and documented the context, objectives, payment and delivery reform strategy, logic model, barriers and facilitators, progress and results, and lessons learned for each project. We intentionally did not label different efforts as "successes" or "failures," but sought to develop insights for practice and research from each project and (where possible) general lessons based on these multiple case studies.

New Contribution

This article's original contribution is twofold: (1) offer a conceptual framework for the implementation of VBP through a multi-stakeholder approach, synthesizing prior implementation research (cf. Damberg et al., 2014; Damschroder et al., 2009; McHugh & Joshi, 2010) and insights from empirical work on the impact of VBP; and (2) apply that framework to six recent initiatives in implementing VBP through a multi-stakeholder approach, rather than through single payer–provider innovation. The analysis stresses implementation—not impact—in light of the early development stage of our six case examples, the paucity of research on implementing VBP, and realizing that implementation is a precondition for such reform to affect the Triple Aim.

Conceptual Framework

Implementation. The results of payment reform implementation are not affected only by the type of payment, but are heavily influenced by characteristics of the organization and environment. A separate field of study, implementation science, has arisen to better understand the factors which moderate the path from program implementation to observed results. Theoretical models seek to explain the effectiveness of any change effort—based on individual- or organizational-level characteristics alone (Ajzen, 1991; Prochaska & Velicer, 1997; Rosenstock, Strecher, & Becker, 1988; Weiner, 2009), or a combination of internal and external environmental factors (McLaren & Hawe, 2005; Stokols, 1996).

To understand the full range of influences on effectiveness of change initiatives, recent meta-analyses and systematic reviews of constructs from empirical studies and conceptual models led to the development of the Consolidated Framework for Implementation Research (Damschroder et al., 2009; Durlak & DuPre, 2008). This framework identified several moderating factors that might influence observed results: structural, organizational, provider, and innovation attributes. Structural factors embody the larger social and political context of change initiatives, organizational factors relate to internal leadership and culture, and provider and innovation factors relate to interpersonal characteristics of individuals who carry out change. Application of these factors to explain the effects of health innovations seems to have been uneven. A recent systematic review of studies indicated that organization-, provider-, and individual-level measures are most often assessed, whereas structural and patient characteristics, which may have an equal if not greater influence on results, are less frequently examined (Chaudoir, Dugan, & Barr, 2013).

Specific to payment reform efforts in health care delivery systems, implementation factors are not consistently assessed or well understood for different models. For example, in reference pricing, the importance of health care consumer characteristics and regulatory agencies has been identified, but the exact influence of these factors on the design and results of reforms remains unclear (Robinson & MacPherson, 2012). A systematic review of P4P studies reports that the incentive performance measures, type of provider groups involved, level of incentive (provider vs. team), and type of

incentive all influenced reform effects. However, little evidence addressed the influence of patient characteristics, and structural factors were not examined in depth (Van Herck et al., 2010).

A nationwide survey of patient-centered medical home demonstration projects illustrated many of the local contextual factors that shaped implementation; however, the survey also noted that evaluation methods among participants were either not yet in place or were underdeveloped (Bitton, Martin, & Landon, 2010). Evaluations of the Multi-Payer Advanced Primary Care Practice Demonstration have illustrated a conceptual model, which outlines the expected chain of causation from implementation to results, with practice transformation leading to better access, experience, and quality of care subsequently leading to lower expenditures, hospitalizations, readmissions, and increased use of primary care services (RTI International, 2015). Early results are consistent with the conceptual model in pilot sites, but implementation is still progressing and some sites had large disruptions during implementation (e.g., specific site and payer dropouts, altered PMPM payments) that may have affected results in ways not yet fully understood.

The logic model of the Aligning Forces for Quality Initiative has been particularly instructive for framework development (Scanlon et al., 2012). Its emphasis on the importance of historical and environmental context, technical assistance, multi-stakeholder alliance development, refinement of vision and strategies, collaboration and engagement (especially with the four "Ps": in our terms, providers, payers, purchasers, and patients), and feedback on implementation and results has directly informed our framework.

In the next section, we present a conceptual framework that integrates many of the structural, organizational, provider, and innovation factors driving implementation of VBP reform (Fisher, Shortell, Kreindler, Van Citters, & Larson, 2012; Shields, Patel, Manning, & Sacks, 2011). Building on prior research, this article hopes to establish an organized synthesis of the factors which moderate implementation and effects of VBP.

The Framework. Figure 1 presents our conceptual framework of implementing VBP reform. Although the particular focus of this article is on multi-stakeholder initiatives, this framework is likely to apply to other projects that are driven by single parties.

The six VBP initiatives examined in this article may be viewed as "innovations" that depart from the dominant volume-based FFS payment model (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; Rogers, 2003). Diffusion theory posits that innovations, such as payment reform, do not sell themselves all at once but rather spread over time across health organizations through a predictable process with three distinct stages: readiness, adoption, and implementation. The relevance of diffusion theory for the present article is that—within a multi-stakeholder coalition—diffusion of payment innovation horizontally across stakeholders in the coalition is a crucial component of implementation, which also requires depth or vertical penetration of the payment innovation within key stakeholders.

System readiness is a preadoption stage when payers, health plans, health care organizations, and providers become aware of the payment reform model(s) and learn how the model works and about its potential consequences. Based on this knowledge,

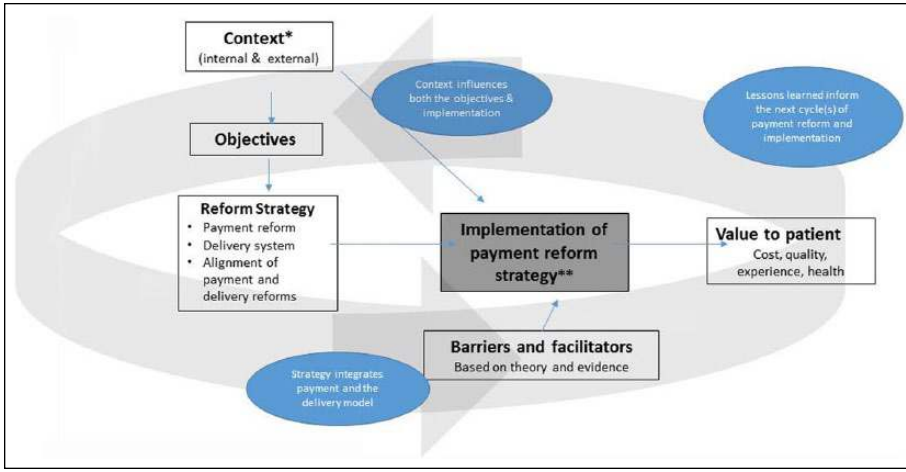

Figure 1. Implementation of value-based payment (VBP) reform: A conceptual framework.
Note. System readiness for implementation of VBP reform is determined by predisposing and enabling factors within the internal and external contexts.*Internal context: Factors associated with the multi-stakeholder coalitions. External context: all other factors (e.g., socioeconomic, legal, regulatory, market conditions). **Implementation includes changes in structure and processes to support the reform strategy, for example, measure sets, supporting processes, alterations in care delivery models.

health organizations may abandon payment reform or move toward a state of readiness for reform with buy-in from most stakeholders, widespread perceptions that FFS payment is not working, protected time and resources for reform, and capacity to evaluate its impacts. Greater readiness increases the likelihood of the health organization to adopt, implement, and sustain payment reform.

The conceptual frameworks of Hussey et al. (2012) and Dudley et al. (2004) capture the importance of system readiness in the form of "predisposing" and "enabling" factors, following the metaphor of Andersen's (1995) refinement of the behavioral model of access and utilization of medical care. The predisposing factors are a combination of external environmental influences (general financial environment and other incentives, market characteristics) and the internal organizations' charter and mission. Enabling factors operate mainly at the level of the organization: capabilities and goals, staffing, and patient influences.

Figure 1 posits that environmental context influences the objective(s) and implementation of the new payment method. "Context" refers to environmental factors that are external or internal to the organizations engaged in payment reform. External environmental factors may operate at the national, state, or local levels and may "push" health organizations toward payment reform or work in other ways (Greenhalgh et al., 2004). For instance, Patient Protection and Affordable Care Act (PPACA) and Centers for Medicare and Medicaid Services (CMS) are authorizing new payment and delivery models, such as ACOs, creating a push away from volume-based FFS toward VBP. This policy directive, in turn, may create perceptions at

the state and local levels that payment reform is inevitable and motivate organizations to increase their readiness for VBP reform(s) and try out alternative models.

Internal factors, such as the type and structure of the organization, also play a role. For instance, hospitals have less interest in primary care payment reform and instead move toward improving surgical and other hospital services through other VBP models. In the case of multi-stake holder coalitions engaged in payment reform, each member of the coalition has its own internal considerations. For example, a health plan within a coalition may have executive leadership supporting payment reform; a medical group member may have financial, clinical, and other factors that affect the member's role and participation in the coalition, such as the different types of payment in the medical group and the group's market share. Each member's relationships with other members of the coalition influence his or her choices of reform objectives and payment models.

Organizations consider context as they develop one or more objectives that define the specific expected outcomes of VBP reform, such as reducing costs and improving quality of care, patient experience, and health. The existence of multiple and potentially competing interests among the multiple stakeholders inevitably will shape the definition of objectives, strength of collaboration, and the pace and fidelity of implementation. The objective(s), in turn, directly affect the conceptual design of the VBP reform strategy. Payment design decisions include choices regarding the unit of payment (e.g., PMPM or per episode of care), the breadth and nature of services and care settings and providers subject to the VBP, the supporting health plan benefit design and patient incentives, and alignment of the payment incentives with delivery system design.

In the next step of the framework, the design and financial incentives of the payment reform shape the implementation of the strategy, stimulating changes in the design and implementation of patient care—a process shaped significantly by the project's internal and external environmental contexts. Implementation includes the redesign of new clinical care processes and information systems, measurement and reporting protocols, and other components of delivery and payment reform. Applying the concept of a "tipping point" (Gladwell, 2002), organizations and providers may change their care processes only if payment reform changes financial incentives for a sufficient percentage of their patients. Payment reform models that are adapted to fit the context and organizational needs are more likely to be implemented successfully (Greenhalgh et al., 2004; Rogers, 2003). The internal alignment of individual provider compensation with VBP by external payers is particularly important in moving incentives from value to volume (Conrad & Perry, 2009; Robinson et al., 2009).

An array of facilitating factors (e.g., strong internal coalition leadership, presence of an all-payer claims database linkable to an electronic health record system, and a favorable market and political environment) and barriers (e.g., deficiencies in data infrastructure, regulatory impediments to provider risk-bearing, and lack of competition in health plan and provider markets) influence implementation. In general, the fewer and less imposing the barriers, the more likely the payment and delivery reforms will be assimilated by the organization(s) (Greenhalgh et al., 2004; Rogers, 2003).

Implementation is inherently nonlinear, with setbacks and unexpected events, and in the end the reforms may or may not be successfully routinized (Greenhalgh et al., 2004; Rogers, 2003). Moreover, routinizing payment reform is no guarantee that the changes will be sustained over the long run (Rogers, 2003).

Successful implementation leads to achievement of improved value to patients—the ultimate goal of reform—as defined by the objectives which the organization(s) set out to accomplish. Finally, lessons learned from each payment reform experience inform the next cycle of reform strategy and implementation, as shown by the circular arrows in Figure 1, indicating that payment reform is an iterative process rather than a one-time activity.

Case Examples: Implementing Multi-Stakeholder Value-Based Payment Reform Models

We now offer case examples of six VBP initiatives to illustrate the conceptual framework's components and their relationships. The models are being implemented in two regions and five states of the United States, with the support of the RWJF: New England (Massachusetts and New Hampshire) and the West Coast (California, Oregon, and Washington).

Collectively, the projects illustrate the six types of VBP described earlier. Each of the projects is led by a coalition whose principal role is to act as a facilitating convener, honest broker among sometimes conflicting interests, and governing mechanism for a set of stakeholders joined in a common objective: VBP reform through independently owned and potentially competing organizations. The dates indicate the years of each project's RWJF grant. Each project is discussed in the following sections.

Implementation of the New Hampshire Accountable Care Project: Moving Toward Global Payment (2011-2013). The New Hampshire Citizens Health Initiative (CHI) has convened stakeholders around the development of accountable care organizations (ACOs) amid a sense of urgency about payment reform. It is a priority for New Hampshire because the state has one of the highest rates of health care expenditures in the country at more than 18% of gross state product. Employers are calling for cost containment, as more physician practices are consolidating and pushing for reimbursement increases. Four health plans cover virtually all commercially insured lives in the state, and about half of these covered lives belong to self-insured groups. The New Hampshire CHI stemmed from an earlier effort to develop a framework that would provide everyone in New Hampshire with access to high-quality, cost-effective health care. CHI, the Center for Medical Home Improvement, four health plans, and nine practice sites participated in the Multi-Payer Medical Home Pilot starting in 2008, which built momentum for the creation of the ACO Pilot Project. In late 2011, CHI received grant funding for cross-state work with Maine and Vermont.

The objective of the original ACO Pilot Project was to reduce cost and improve quality by testing new options for payment reform, clinical care, and system transformation. The original strategy was to implement a statewide, 5-year ACO pilot with

five provider organizations, four private commercial carriers, the New Hampshire Department of Health and Human Services, the New Hampshire Department of Insurance, and other stakeholder organizations; the membership has broadened substantially. There was an important internal change in 2012 when one of the three major payers declined to pursue the common financial model, and the project's emphasis shifted to agreeing on a common measurement framework and is now called the Accountable Care Project. Whereas the original project intent was to implement a common multi-payer global payment model with two-sided risk, the exit of a major payer from the payment component of the project precipitated the above change in direction.

The updated strategy has the following components:

- Build a common measurement system of claims- and electronic health record–based indicators, and provide reports at various levels.
- Continue data design, measurement, and analysis, leveraging cross-carrier data available through the legislatively mandated New Hampshire Comprehensive Healthcare Information System. Specifically, the next phase of the project focuses on identification of measures, creation of a suite of reports, and expansion of the learning community to support New Hampshire health systems in their individual transformation and payment reform efforts (New Hampshire CHI).
- The expanded New Hampshire Accountable Care Project collaborated to implement a public set of cost, utilization, and quality reports to support the many system transformation and payment reform initiatives of participating organizations, using data available in New Hampshire's All-Payer Claims Data system and through self-reporting of electronic medical record data.

As individual payers and provider organizations have gone in different directions regarding VBP and outside the auspices of the RWJF-funded project, stakeholders are pursuing Medicare shared savings and Medicare Pioneer ACOs with one- and two-sided risk; selected private carriers also are adopting ACO models and primary care VBP arrangements. A recent report to the New Hampshire Department of Insurance, based on survey responses from three of the five largest private insurers in New Hampshire, found that 12% of total payments were based on global payment with downside risk (to ACOs), 0.1% on bundled payment for acute (not chronic) conditions, and 20% of fee schedule or charge-based arrangements included pay-for-reporting incentives (University of Massachusetts Medical School and Freedman Health Care, 2013).

While the progress of VBP in New Hampshire has been modest, a variety of facilitators does support payment reform. Strong civic culture and small state size make working together somewhat easier, and there is an emerging consensus among stakeholders on the need to control health care spending. Availability of an all-payer claims database and partnership with the University of New Hampshire's Center for Health Analytics and other entities have considerably advanced price transparency. CHI's

leadership and expertise in facilitation have helped develop relationships and good will. Physician input and buy-in via the Clinical Subcommittee in the development of clinical quality, prevention, and utilization measures have sustained a strong foundation for system transformation, and the stakeholders have leveraged learning from the Multi-Stakeholder Medical Home Pilot. PPACA also has stimulated payment and delivery system reform, especially by encouraging development of regional Pioneer ACOs and other forms of Medicare ACO development.

There have been impediments to VBP. For example, New Hampshire providers have expressed some reluctance to adopt capitation or provider risk-bearing payment models due to mixed experience with capitation, especially in the 1990s. Employers' preference for payment based on actual claims, which document services received by members for the premiums paid, coupled with providers' familiarity with FFS payment, also have stymied VBP—especially among self-insured purchasers. Creating VBP arrangements between physicians and hospitals in areas where provider organizations typically are not part of integrated delivery systems is exceedingly difficult. Due to population and provider distribution in rural areas, it can be difficult to craft contractual arrangements between PCPs, specialists, and hospitals. Lack of significant competition in New Hampshire health insurance markets limits payment innovation; there is substantial control by hospitals in health systems, and few large medical groups practice independently. Finally, multiple, independent initiatives underway dilute the effort on any given initiative.

As the ACO pilot has advanced, there has been an unprecedented level of collaboration that has allowed compromise. The use of a trusted third party has advanced pilot development and provided the opportunity for crucial conversations and relationship building. The All-Payer Claims Data will be an important resource as the pilot ACOs move forward to implementation.

Oregon Primary Care PMPM Project: Fashioning "Shadow" Primary Care Capitation (2012-2014). The Oregon Healthcare Authority has recently begun a push to "bend the cost curve" for state health care spending, from a percentage increase of 4.4 in 2014 to a goal of 3.4 for FY14 and beyond. Several initiatives are underway to achieve this goal, including a $1.9 billion grant from CMS to establish coordinated care organizations (CCOs) within the state and an advanced care model based on the state's Patient-Centered Primary Care Home project. VBP for primary care in federally qualified health centers and community health centers (CHCs) is another important example of system reform in Oregon. The Oregon Primary Care Association (OPCA) serves as the sponsor for this value-based reform project. The alternative payment methodology (APM) offers an alternative to the encounter-based prospective payment system for Medicaid patients of three initial pilot CHC sites with PMPM payment. Momentum for the APM grew out of Oregon's participation in the earlier Safety Net Medical Home Initiative. To our knowledge, Oregon is the first state to implement a PMPM-based payment for Medicaid patients in CHCs.

The OPCA project potentially will fill some of the gaps in knowledge regarding implementation of integrated primary care delivery and VBP innovation and its

impacts on utilization, quality, and cost. Fewer than half the studies analyzed in a recent systematic review of the patient-centered medical home reported on payment models, for example, additional PMPM payments to practices or enhanced FFS (Jackson et al., 2013), and the authors concluded there was no evidence of overall cost savings. Friedberg, Rosenthal, Werner, Volpp, and Schneider (2015) report on a medical home and shared savings intervention on quality and health care use in the Pennsylvania Chronic Care Initiative, but present no data on cost impacts.

Several major stakeholders are driving the APM project. The Oregon Health Authority works directly with OPCA and with the CHCs on billing arrangements, rules, and regulations. OCHIN, a large health information network in Oregon, provides electronic health record and practice management support. OPCA contracted with an expert in financial modeling and different cost structures to help design the APM.

The APM is a global primary care PMPM payment with no downside risk for the clinics. In that sense, we term the payment model *shadow* primary care capitation. The objective is to improve value by focusing payment and care delivery on person-centered, comprehensive care, including nonmedical, health-enabling services. The APM includes only physical health; future inclusion of mental health and dental care is being considered. The APM is calculated by the state through examination of the prior year's prospective payment system payments and historical average patient health services utilization preimplementation of the APM for "active" patients, defined as those who have established contact with that CHC in the past year. For Medicaid patients enrolled in a managed care organization, the difference between that basic payment received from the managed care organization and the individual clinic rate calculated by the state is then converted into a "wraparound" PMPM payment to the CHC.

Care redesign is a central element of the reform and a critical delivery system foundation for the APM. The advanced care model of the CHCs involves changes in workflow, new templates for care, and use of a "touches tool" to document and track enabling (nonmedical) services that support patient-centered care. Individual clinics are pursuing several care delivery initiatives including employing outreach workers, integrating behavioral health, proactive patient engagement, and developing protocols to empower the care team to take work off the shoulders of the nurse or doctor.

Several facilitating factors support this initiative: strong leadership of OPCA, forward-looking policy support from the state, the decision to make clinic participation voluntary, linkage of the clinics to a common health information network (OCHIN), Medicaid expansion in Oregon, and substantial external grant resources. However, the APM payment reform and accompanying advanced care model for care delivery also face several implementation challenges: competition for the state's and clinics' attention in the face of several other top-priority initiatives, significant difficulties with Oregon's health insurance exchange portal, and disincentives to change an organization's internal systems to benefit only one segment of the population.

As of mid-2015, seven clinics have been receiving payment on schedule and at expected levels. Based on first year results for the first three (Phase 1) clinics, no reconciliation payments have been required, which implies that—as expected—face-to-face

visits have not increased. While it is too early to isolate changes in utilization or cost, the key informant interviews suggest that quality measures are improving or staying constant, and clinic response has been positive. While not confirming a causal relationship, monthly reports from the Oregon Health Authority have noted reductions in emergency department visits of 50% or more in some participating clinics, while hospitalization rates remain roughly the same.

Attempting Reference Pricing: Paying Equally for Equal (Expected) Outcomes (Boston, MA; 2011-2012). In 2006, Massachusetts enacted major health care reforms to increase access to health insurance. These efforts required a high level of collaboration between the state, insurers, and health care organizations in order to transition to the new system enacted under this law. Within this new set of market conditions, the opportunity arose for significant payment and delivery reforms.

The project objectives were to shift the treatment mix for low-risk prostate cancer toward higher value services and to generate overall savings. To achieve these objectives, the Institute for Comparative Effectiveness Research intended to use comparative effectiveness research to inform and carry out payment changes for low-risk prostate cancer treatment.

Specifically, the payment strategy involved a coding algorithm and reimbursement change that rewarded physicians for using lower cost treatments that are as effective as higher cost treatments. The project consisted of the following steps: identify CPT (Current Procedural Terminology) Category II F-codes to distinguish risk of recurrence (low risk, intermediate risk, high risk, and undetermined risk) for patients with localized prostate cancer, notify providers to use CPT category II F-codes on prostate cancer claims, work with providers to disseminate information about the F-code requirement and impending payment change, manage and maintain engagement of the Employers Action Coalition for Healthcare, and create a "roadmap" of lessons learned and barriers throughout the project.

Several factors facilitated the early phases of design: favorable market, social, legislative, and regulatory conditions for payment reform; strong governance and active support from a coalition of major purchasers, provider organizations, health plans, and consumer organizations; and a scientifically rigorous and clinically accepted evidence base establishing equal effectiveness of the alternative treatment regimens.

However, a number of impediments to implementation arose. First, after early high-level meetings within the stakeholder organizations, senior leadership became disconnected from the project. Competing priorities among health care providers and insurers hindered implementation of the project at the local level, with the former seeing the initiative primarily as a way to improve shared decision making with patients and the latter seeing it as a way to reduce costs. In addition, the clinical condition of low-risk prostate cancer has a relatively low occurrence for the targeted commercially insured population, further reducing the amount of effort that participating insurers were willing to expend on implementation. Finally, the payment method required differentiating risk level for those with prostate cancer via claims adjudication, something only one health plan was able to do. In autumn 2011, the stakeholders decided to terminate the project.

Choice of clinical condition is important for an "equal payment for equal outcome" project. Operational challenges, such as the ability to adjudicate claims with F-codes, may be difficult to overcome, especially without a strong business case to invest in change. Additionally, robust and sustained support from senior leadership of employers and other purchasers is necessary to maintain momentum. It may be more effective to produce "evidence statements" (rather than recommendations) that can be used by different stakeholders for their audiences.

Paying for Performance in RealTime (Salem, OR; 2011-2013). The Program Oriented Payment (POP) Demonstration Project, led by Physicians Choice Foundation, has been shaped by state, federal, and local health care system features in Marion and Polk counties. In 2009, House Bill 2009 created the Oregon Health Authority, which oversees the public health insurance plans for Medicaid enrollees, public and school district employees, and the state's high risk pool and premium subsidy programs. In 2011, House Bill 3650 authorized the creation of CCOs, which will purchase care for Oregonians with Oregon Health Authority insurance through global payment.

In the two counties there are more than 500 independent physicians in small offices, and there are no large, integrated systems. Although there is no shared electronic information system, half the physicians use one operated by WVP Health Authority. A local multi-stakeholder committee, Salem Area Community Health Information Exchange, is slowly developing a common information system. The birth of Salem's CCO may accelerate development of a community-wide data warehouse and electronic medical record.

The project's objective was to improve the quality and efficiency of health care in Marion and Polk counties by paying a virtual provider team when a minimum percentage of patients achieve all clinical targets for a specific condition. Physicians Choice Foundation is implementing the project mainly in collaboration with the local independent physicians association, WVP Health Authority and its subsidiary, Marion-Polk Community (Medicaid) Health Plan, and Performance Health Technology, which is leading design and development of payment strategy and provides claims administration for 60,000 persons receiving care through MVP.

POP has developed a payment reform approach that blends the concepts of P4P with value-based health insurance, or paying extra for health services that generate better clinical results based on scientific evidence, ultimately to improve quality and efficiency of care. POP focuses on conditions that have the highest costs and has three key features: accountability (reward providers when their patients have better outcomes at lower cost), programs (protocols for paying financial incentives for specific clinical conditions), and virtual provider teams (payment for results goes to all providers and clinics caring for the patient's condition).

POP has several components: identifying eligible patients with the condition, clinical targets that must be all met for that condition, and a minimum percentage of patients in a provider's practice must meet the goal before program payment starts. Each program defines eligible provider specialties, identifies a patient's providers through claims or referrals, computes program payment, and distributes payment to the virtual team. Program payments are projected to be budget neutral or potentially cost-saving.

Several factors are facilitating POP: the history of collaboration and innovation in Oregon and particularly in Salem; leadership of Physicians Choice Foundation, Performance Health Technology, and WVP Health Authority; the legislation's support of CCOs and its mandate to pay providers based on quality and reduction in cost growth; the contributions of local physicians and other providers to the program; and the substantial financial investments in developing the POP software and Performance Health Technology's systems for collecting claims data. However, significant barriers have emerged: competing priorities created with the Oregon legislature's and the federal government's authorization of CCOs, and other local health care reforms; turnover of a POP leader who was instrumental in building and maintaining cohesive relations between the independent practice association and the local medical society; inability of all providers to submit claims electronically; and POP's complexity and consequent difficulty in explaining the program to medical practices.

At the time of this writing, POP has not been implemented in the field. Ultimately, most lessons learned will be discovered during planned implementation; this may yield insights regarding legal requirements, provider buy-in, relationship with CCOs, actual payment incentives for special populations, and its overall success in reducing costs.

California Maternity Care Bundled Payment Project (2012-2015). The health care and health insurance marketplace within California varies significantly among regions, with highly concentrated provider markets in the Bay Area and San Diego regions, characterized by significant penetration of managed care and capitation payment in selected areas, and more small and midsized independent practices in other parts of the state (e.g., Central Valley, Orange County). Providers and insurers are shifting their focus toward high performance on cost and quality indicators. Coupled with a state government focused on improving quality of care through its recent state innovation model (SIM) submission to the Center for Medicare and Medicaid Innovation (CMMI), California has a health care landscape ripe for innovation. In spite of this, C-section delivery rates within the state rose dramatically, from 22% to 33% between 1998 and 2008, and were highly variable, with rates as high as 80% in some hospitals. In a sign of recent improvement, as of 2012 the statewide C-section rate had declined to 28%.

Ongoing efforts by the California Maternal Quality Care Collaborative (CMQCC) highlighted the rising incidence of C-section rates. CMQCC established a maternal data center to publicly report on and increase transparency regarding this issue. Spearheaded by CMQCC leadership, several quality improvement efforts have been undertaken within the state's health care organizations that have successfully demonstrated reductions in C-section rates to more medically appropriate levels. A focus on maternal care by the Pacific Business Group on Health (PBGH) and the innovative application of bundled payments within California by the Integrated Healthcare Association have led to a concerted effort to align payment incentives with appropriate C-section rates within the state.

The project objective is to encourage appropriate choice between the options of C-section and normal vaginal delivery for singleton, full-term uncomplicated births. Widespread implementation of the approach is aimed at decreasing both the rate and

variation in use of C-sections across health systems and hospitals, resulting in better health outcomes for patients and in lower costs. The core payment reform strategy is a type of bundled payment which combines two separate blended case rates: one for the hospital and a separate one for the physician organization. This general approach has been adopted by three insurers, and is being implemented in different forms by each hospital and affiliated OB/Gyn group. The project is providing quality improvement programs for the hospitals, medical groups, and nurses, and education and engagement for patients. CMQCC provides data to hospitals on key metrics, focusing on root causes of variation in C-sections and identifying opportunities for improvement; it has also developed a labor management toolkit.

Facilitators of this project are manifold: a favorable market environment for testing new payment models; the alignment of the maternity care bundled payment with the state's health care innovation strategy (within the state health care innovation plan submitted to the Center for Medicare and Medicaid Innovation); the credibility and sophistication of PBGH; Integrated Healthcare Association's role in defining episodes of care that underlie bundled payment; active project champions among physicians, nurses, and administrators; and an engaged and supportive employer community.

The principal barriers to implementation are the challenging logistics of assembling many players across California at the same table, the difficulty in implementing a unified hospital and physician bundled payment due to differing perspectives and the state prohibition of employment of physicians by hospitals, patient expectations of "the perfect baby" militating in favor of C-section delivery, competing time and energy demands on providers from rapid movement toward increased adoption of electronic health record systems, and the difficulty of scaling maternity care practice improvement, given competing demands on CMQCC leadership and the supporting clinical experts.

An operational definition of bundled payment has been developed. As of August 2015, two private insurers have blended case rate maternity care contracts with a total of four implementing hospitals and their OB/Gyn groups. A third health system representing four hospitals has agreed to participate, pending contracting agreements with health plans. The project has been integrated within the California State Health Care Innovation Plan, reinforcing statewide rollout of a bundled payment maternity care initiative within the innovation portfolio. The Cal-SIM Model Testing (Round 2) grant application—which would have funded California's State Health Care Innovation Plan and statewide rollout of the bundled payment maternity care initiative—was not funded. The PBGH efforts with individual insurers, hospitals, and OB/Gyn groups continue, but without the "boost" that Cal-SIM funding would have provided, especially in leveraging bundled payment for maternity care to Medi-Cal recipients.

Vermont Project: Moving to a Unified Payment in Pilots (Global Budgets, Bundled Payment, and Shared Savings; 2012-2015). Over the past decade Vermont's health care system has faced economic and access problems in a state with a small population of about 625,000 residents, a strong communitarian culture, and health markets with little competition. In 2011, Act 48 created the state's health insurance exchange (Vermont Health

Connect); expanded Green Mountain Care, the health insurance program sponsored by the state, funded mostly by Medicaid; and established the Green Mountain Care Board, an independent, five-member board with broad regulatory authority over Vermont's healthcare system and authorized by law to implement a wide range of statewide payment reforms. Act 48 also authorized the development of universal health insurance that would cover most Vermonters, if several conditions were met. Although Act 48 specified few details about what the universal plan would look like, a single-payer insurance plan had much support.

Three years later, the Vermont Health Connect is still not fully functional. This, along with the abandonment of the single-payer system on December 17, 2014, because Vermont could not afford its costs, has undermined public faith in the state's ability to implement major changes in the health care system. Attention has shifted to designing and implementing an all-payer statewide integrated health care system.

The Green Mountain Care Board was awarded a grant by RWJF in 2012 to design and implement its payment reform strategies, and the state was awarded an SIM grant from the CMS, which is supporting the state's VBP models and statewide system transformation.

The project's long-term objective is to have a statewide all-payer integrated health care delivery system supporting population-based payments for Vermont health care providers. This project aims to bridge the gap between the current health care system and this objective by implementing and evaluating diverse payment system reforms across the state—moving from current FFS payments toward VBPs that control costs and improve quality of care and population health.

The RWJF and SIM projects have developed a collaborative organizational structure that has engaged hundreds of health professionals and state residents in several work groups to advance health system reform, among them the Payment Models Work Group. After two regional payment reform pilots were implemented in 2012, statewide payment reform was launched in 2013 through an all-payer ACO shared savings program with all three types of payers (Medicare, Medicaid, and commercial). The Vermont Blueprint for Health continues to provide quality of care-based PMPM payments to primary care providers. Vermont is building a statewide integrated health care system by creating a unified (or "standardized") system of care management that will likely have all payers and most health care organizations across the state and a unified, statewide performance reporting and data infrastructure.

Several facilitators are promoting statewide payment and system reforms. RWJF and federal SIM grants have provided essential resources for the reforms. The passage of Act 48 has fostered a widespread belief that system reform is inevitable, and Vermont cannot go back to FFS payment, which has created a collective push to reach sustainability, guided by consistent and committed leadership from diverse sectors. Also, Vermont is a small geographic, rural state of about 625,000 residents with little market competition and a community-centric culture that promotes communication and allows everyone to "be at the table." Vermont's history of infrastructure development through the Blueprint and health information technology also supports payment reform.

However, Vermont also is facing several barriers to payment and delivery reforms. Tremendous statewide effort is required to overcome the sheer inertia of large systems, and fatigue is arising among stakeholders from the pace and scope of reform. Much uncertainty exists about federal waivers, and what the final payment model will look like. Furthermore, health care organizations and providers have little experience bearing financial risk and viewing a service as an expense (in population-based payment) rather than revenue (in FFS), which slows planning for payment reform. Fear of change and instances of lack of trust have inhibited collaboration among stakeholders. Finally, the achievement of Vermont's payment objectives will be influenced by whether CMS awards a federal waiver from federally set Medicare and Medicaid payment regulations.

Discussion

We have described six types of payment reform models and presented an example for each. The projects are quite diverse, and no two of them have identical objectives, payment strategies, and health care delivery reforms. Their common thread is that each attempts to move away from volume-based FFS in its own unique way. In this section, we apply the Figure 1 conceptual framework and the lessons from the six cases to suggest a set of observations and hypotheses regarding VBP reform.

First, the environmental context does not appear to limit the geographic scale of payment reform, at least within states. Three projects are launching statewide reforms (California, New Hampshire, and Vermont): one is a network of public clinics in several sites of a single state (Oregon/OPCA), and two target the local market (Boston, Massachusetts, and Salem, Oregon). No cross-state initiatives participated in the RWJ Foundation-funded projects, suggesting that federal policy, such as the PPACA, likely is required to push multiple states toward collaborating and implementing common objectives and strategies of payment reform. A federal mandate may increase motivation, but not necessarily the capacity to implement payment reform.

Whatever the geographic scale, federal, state, and local market contexts shape the projects' choices of payment reform objectives and models, but in different ways. In some cases, payment reform is undertaken to solve a quality of care or health problem, such as the high rates of C-sections in California. In others, payment reform competes for attention with other health system reforms partly driven by the PPACA, such as the CCOs in Oregon and the push toward a statewide all-payer integrated health care system in Vermont. In still other cases payment reform is undertaken as a control mechanism, as in New Hampshire.

Second, the six multi-stakeholder coalitions chose objectives of payment reform that are simultaneously similar to and different from each other. On one hand, all projects have objectives of VBP reform: Many cite the achievement of lower cost, better clinical outcomes, and improved patient experience (the Triple Aim) as a major guiding principle. On the other hand, scope and scale of the objectives vary tremendously. Three projects focus on specific medical conditions or procedures (C-sections in California, prostate cancer in Boston, and three chronic conditions in Salem). In

contrast, the payment reforms in Oregon/OPCA and Vermont target all of primary care. Furthermore, while Vermont's health system and payment reforms target the state's population, the other projects focus currently on the patients of specific health care organizations. VBP for *health* outcomes might be more effective when the objectives of payment reform are population-based, but health care organizations that invest to improve health on a population level might not reap the financial benefits, which undermines adopting a population-health focus (Moses et al., 2015; Shortell, 2013). Little evidence exists about whether the scope and scale of the objectives influence the success of implementing payment reform.

None of the six projects has implemented a multi-stakeholder payment reform strategy that eliminates volume-based FFS payment for most services and shifts financial risk to health care organizations and providers. The Oregon/OPCA project, which is implementing shadow primary care capitation, comes closest to this objective, but the clinics face no downside risk. Eliminating or substantially replacing volume-based FFS may be viewed as a "radical" or "disruptive innovation" (Hwang & Christensen, 2008; Pauly, 2008). Vermont's goal to replace FFS payment depends greatly on a federal waiver for Medicare and Medicaid payments. In general, the more disruptive the innovation, the greater the uncertainty the innovation generates, and the greater the difficulty in implementing the innovation (Rogers, 2003).

A key feature of all the VBP reform initiatives examined in this article is that each was convened and sponsored by a state or regional multi-stakeholder coalition. Accordingly, each initiative has facilitated efforts to develop shared data solutions, common performance metrics, and common VBP models. The potential advantages of such multi-stakeholder efforts are significant: (1) providing a trusted, convening structure for facilitating collaboration between multiple interests; (2) increasing the number of covered lives involved in a common payment method and set of performance metrics; (3) reducing provider organizations' costs of adjusting to different measures and payment incentives; (4) catalyzing parallel efforts by individual provider organizations and payers to adopt VBP; and (5) increasing the likelihood of payment reform "going to scale" and being implemented on a statewide or national level.

There are countervailing factors, however, that militate against effective multi-stakeholder collaboration: (1) transaction costs of achieving cooperation between competing providers, competing health plans, and between multiple providers and plans; (2) health plans' reluctance to share information that might provide a competitive advantage; and (3) the costs of establishing common measures and the administrative costs of developing common transaction systems. Of the six projects reviewed in this article, it is perhaps instructive that only the OPCA shadow primary care capitation payment model, the PBGH maternity care bundled payment, and Vermont's all-payer (Medicare, Medicaid, and commercial) ACO shared savings program actually have been implemented.

The authors hypothesize that a more radical objective (complete movement away from FFS) would require continued payment and delivery system reforms to take place. It also suggests that a more favorable environmental context, whether through greater local, state or federal support or greater market pressure to change, would need

to be in place for implementation to be successful. Clear and consistent communication about movement toward larger reforms is vital; the situation in Vermont illustrates the disruptive effect of policy uncertainty on reform. While the state as a whole is moving toward the long-term goal of an all-payer statewide integrated delivery system, health care providers and other stakeholders know little about exactly what payment and health care delivery would look like under this new system. In the short run, Vermont is following a stepwise approach to payment reform, where each payment reform informs the next cycle of payment and delivery reforms, as shown by the gray circular arrows in Figure 1, which might move the state toward its ultimate goals.

Replacing volume-based FFS carries great uncertainty for payers, health care organizations and other groups, particularly for those that would bear most of the financial risk under the new payment models. However, in Vermont most stakeholders agree that FFS payment is unsustainable and appear to be managing the uncertainty through a statewide approach to payment reform. Health care organizations in Vermont might support transformation because the future statewide population-based payment reforms will affect almost all patients in Vermont, creating system-wide incentives to reduce volume and, therefore, revenue, making the current FFS-system less viable. In contrast, the population-based payments for most Vermonters may generate revenue streams that are more predictable and dependable over time, reducing financial uncertainty and promoting sustainability.

In contrast, incremental payment reforms that do not disturb the dominant volume-based FFS revenue streams, such as reference pricing and P4P, have less uncertainty and might be more acceptable to smaller health care organizations. However, effects of VBP reforms on outcomes may be smaller when FFS remains dominant. Guterman, Davis, Schoenbaum, and Shih (2009) suggest that different payment models should be aligned with the level of organizational integration, with large integrated delivery systems best equipped to replace volume-based FFS with global payment per enrollee and its financial risks. Even so, the effects of payment reform on value-based outcomes are unclear when integrated delivery systems receive global payments but pay their providers through FFS.

Changes in care delivery stimulated by each type of payment reform are imperfectly understood, and more research is needed on aligning payment and care delivery. Our case studies indicate that multi-stakeholder coalitions with a history of collaboration offer a useful facilitating structure for payment reform but must overcome barriers such as incompatible information systems, technical difficulties and transaction costs of altering existing billing and payment systems, competing stakeholder priorities, insufficient scale to bear population health risk (particularly in rural areas), disincentives to change clinical processes only for payment reform patients rather than all patients, providers' limited experience with risk-bearing payment models, and the fear of change inherent with uncertainty of disruptive innovations. The fewer the barriers, the more likely that implementation will be successful (Greenhalgh et al., 2004).

We posit that, even in light of large barriers to implementation, success is more likely if reform objectives are strongly aligned with internal or external context The original multi-stakeholder objective of moving toward global payment in New Hampshire, arguably one of the most radical reforms examined in this article, was

modified when the largest payer (representing approximately 50% of privately insured lives) declined to go forward with a common payment model. Faced with continuing urgency for reform resulting from exceptionally high (18%) health care expenditures as a percentage of GDP, the project changed direction to develop common electronic medical record–based and claims-based performance measures. Supported by this common measurement structure, individual payer–provider organization ACO arrangements have driven increased global payment across the state. Even so, alignment may add additional challenges toward implementation; the Oregon POP project was highly aligned with the larger state effort to implement CCOs but their implementation took precedence over the POP in light of limited bandwidth for local practice reform.

Few studies have examined the development of system readiness (Greenhalgh et al., 2004). In this context, what interventions might improve the readiness of health systems for payment reform? Similarly, few studies have examined closely processes of implementing payment reform and the factors accounting for successful and sustained payment reform. In general, a dose–response relationship might exist between implementation success and value-based outcomes, assuming that the causal assumptions of payment reform are accurate. Future quantitative and qualitative studies are needed—ones that examine each link in the Figure 1 conceptual framework—in order to better understand in which types of organizations and under which circumstances VBP is most likely to arise and be sustained.

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References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*, 179-211.

Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior*, *36*, 1-10.

Bitton, A., Martin, C., & Landon, B. E. (2010). A nationwide survey of patient centered medical home demonstration projects. *Journal of General Internal Medicine*, *25*, 584-592.

Chaudoir, S. R., Dugan, A. G., & Barr, C. H. I. (2013). Measuring factors affecting implementation of health innovations: A systematic review of structural, organizational, provider, patient, and innovation level measures. *Implementation Science*, *8*, 22.

Conrad, D. A., & Christianson, J. B. (2004). Penetrating the "black box": Financial incentives for enhancing the quality of physician services. *Medical Care Research and Review*, *61*(3 Suppl.), 37S-68S.

Conrad, D. A., & Perry, L. (2009). Quality-based financial incentives in health care: can we improve quality by paying for it? *Annual Review of Public Health*, *30*, 357-371. doi:10.1146/annurev.publhealth.031308.100243

Damberg, C. L., Sorbero, M. E., Lovejoy, S. L., Marsolf, G. R., Raaen, L., & Mandel, D. (2014). *Measuring success in health care value-based purchasing programs*. Santa Monica, CA: Rand Corporation. Retrieved from http://www.rand.org/pubs/research_reports/RR306z1.html

Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science*, *4*, 50.

Dudley, R. A., Frolich, A., Robinowitz, D. L., Talavera, J. A., Broadhead, P., & Luft, H. S. (2004). *Strategies to support quality-based purchasing* (Technical Reviews, No. 10). Rockville, MD: Agency for Healthcare Research and Quality.

Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology*, *41*, 327-350.

Fisher, E. S., Shortell, S. M., Kreindler, S. A., Van Citters, A. D., & Larson, B. K. (2012). A framework for evaluating the formation, implementation, and performance of accountable care organizations. *Health Affairs*, *31*, 2368-2378.

Friedberg, M. W., Rosenthal, M. B., Werner, R. M., Volpp, K. G., & Schneider, E. C. 2015. Effects of a medical home and shared savings intervention on quality and utilization of care. *JAMA Internal Medicine*, *175*, 1362-1368.

Gladwell, M. (2002). *Tipping point: How little things can make a big difference*. New York, NY: Back Bay Books.

Greenhalgh, R., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of innovations in service organizations: Systematic review and recommendations. *Milbank Quarterly*, *82*, 581-629.

Guterman, S., Davis, K., Schoenbaum, S., & Shih, A. (2009). Using Medicare payment policy to transform the health system: A framework for improving performance. *Health Affairs*, *27*, w238-w250.

Hussey, P., Mulcahy, A., Schnyer, C., & Schneider, E. (2012). *Bundled payment: Effects on health care spending and quality*. Rockville, MAD: Agency for Healthcare Research and Quality. Retrieved from http://www.ahrq.gov/research/findings/evidence-based-reports/gapbundtp.html

Hwang, J., & Christensen, C. M. (2008). Disruptive innovation in health care delivery: A framework for business-model innovation. *Health Affairs*, *27*, 1329-1335.

Jackson, G. L., Powers, B. J., Chatterjee, R., Bettger, J. P., Kemper, A. R., Hasselblad, V., . . . Williams, J. W. (2013). The patient-centered medical home: A systematic review. *Annals of Internal Medicine*, *158*, 169-178.

McHugh, M., & Joshi, M. (2010). Improving evaluations of value-based purchasing programs. *Health Services Research*, *45*(5, Pt. 2), 1559-1569.

McLaren, L., & Hawe, P. (2005). Ecological perspectives in health research. *Journal of Epidemiology and Community Health*, *59*, 6-14.

Moses, H., Matheson, D. H., Cairns-Smith, S., George, B. P., Palisch, C., & Dorsey, E. R. (2015). The anatomy of medical research: US and international comparisons. *JAMA Journal of the American Medical Association*, *313*, 174-189.

Pauly, M. V. (2008). "We aren't quite as good, but we sure are cheap": Prospects for disruptive innovation in medical care and insurance markets. *Health Affairs*, *27*, 1349-1352.

Prochaska, J. O., & Velicer, W. F. (1997). The transtheoretical model of health behavior change. *American Journal of Health Promotion*, *12*, 38-48.

Robinson, J. C., & MacPherson, K. (2012). Payers test reference pricing and centers of excellence to steer patients to low-price and high-quality providers. *Health Affairs*, *31*, 2028-2036.

Robinson, J. C., Shortell, S. M., Rittenhouse, D. R., Fernandes-Taylor, S., Gillies, R. R., & Casalino, L. P. (2009). Quality-based payment for medical groups and individual physicians. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, *46*, 172-181.

Rogers, E. (2003). *Diffusion of innovations* (5th ed.). New York, NY: Free Press.

Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the health belief model. *Health Education & Behavior*, *15*, 175-183.

RTI International. (2015, January). *Evaluation of the Multi-Payer Advanced Primary Care Practice (MAPCP) demonstration*. Research Triangle Park, NC: Author. Retrieved from http://blueprintforhealth.vermont.gov/sites/blueprint/files/BlueprintPDF/MAPCP-EvalRpt1.pdf

Scanlon, D. P., Alexander, J. A., Beich, J., Christianson, J. B., Hasnain-Wynia, R., McHugh, M. C., . . . Bodenschatz, L. J. (2012). Evaluating a community-based program to improve healthcare quality: Research design for the Aligning Forces for Quality initiative. *American Journal of Managed Care*, *18*(6), eS165-eS176.

Shields, M. C., Patel, P. H., Manning, M., & Sacks, L. (2011). A model for integrating independent physicians into accountable care organizations. *Health Affairs*, *30*, 161-172.

Shortell, S. M. (2013). Bridging the divide between health and health care. *JAMA Journal of the American Medical Association*, *309*, 1121-1122.

Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion*, *10*, 282-298.

University of Massachusetts Medical School and Freedman Health Care. (2013, September 26). *New Hampshire's health insurance market & provider payment system: An analysis of stakeholder views*. Retrieved from http://www.nh.gov/insurance/consumers/documents/prov_pymt_pres.pdf

Van Herck, P., De Smedt, D., Annemans, L., Remmen, R., Rosenthal, M. B., & Sermeus, W. (2010). Systematic review: Effects, design choices, and context of pay-for-performance in health care. *BMC Health Services Research*, *10*, 247.

Weiner, B. J. (2009). A theory of organizational readiness for change. *Implementation Science*, *4*, 67.