Financial Incentives: Innovative Payment for Health Information Technology

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Misaligned incentives and payment policies have long been considered a major barrier to widespread adoption and diffusion of information technology in the US health care system. Those who pay for health information technology (HIT) are often not the ones who directly benefit from the technology investment. For example, when a provider (physician/hospital) invests in HIT, the payer (health plan/employer) may be the most direct beneficiary, with savings from improvements in population health management, improvements in formulary compliance, decreased lost work days, and increased employee productivity. Consumers are also likely to benefit directly if HIT products deliver on promised improvements in patient safety and quality of care.

The purpose of this study is to identify a range of models intended to address misaligned financial incentives. Our research is based on a comprehensive literature review and interviews with individuals directly involved in HIT financial incentive programs or involved in the study of financial incentives. Our primary focus is on private sector models that address payment system issues. Based on this research we craft a structure for understanding these programs, with a focus on the decisions that communities face in experimenting with new HIT programs.

The use of financial incentives to promote HIT investment and adoption is an active area in health care and one that continues to evolve. New programs are emerging and a variety of incentive models are being tested including payment differentials, cost differentials, direct reimbursement, and shared withholds. It is still too early to know which models will have the greatest effect on the health care system, and which are preferable in any given environment.

The broader goal of these efforts is to discover successful and effective models that are both adaptable and replicable for communities to implement and achieve their goals. It is unlikely that a single financial incentive program model will emerge in the coming years that will be broadly applicable on a national basis. The health care market varies dramatically geographically. These variations including the role and presence of a large employer; the level of competition among health plans, hospitals, and/or providers; and the prevalence of a particular payment structure (e.g., capitation, per diem, fee for service) are important to the design of an HIT financial incentive program.

While it is too early to make definitive conclusions about the effect of these experimental programs, the present study is intended to characterize a range of options available and the design decisions that communities have made. Future research should focus on documenting potential quality improvement and cost savings, and identifying the appropriate role for the federal government and states in promoting HIT development.
Misaligned incentives and payment policies have long been considered a major barrier to widespread adoption and diffusion of information technology in the US health care system. Those who pay for health information technology (HIT) are often not the ones who directly benefit from the technology investment. For example, when a provider (physician/hospital) invests in HIT, the payer (health plan/employer) may be the most direct beneficiary, with savings from improvements in population health management, improvements in formulary compliance, decreased lost work days, and increased employee productivity. Consumers are also likely to benefit directly if HIT products deliver on promised improvements in patient safety and quality of care.

Project Purpose and Methods

The Health Strategies Consultancy, in partnership with the Foundation for the eHealth Initiative, studied a range of HIT payment and incentive models in use in the public and private sector with the following project goals:

- Examine a range of operational HIT payment and financial incentive models that promote technology investment and adoption.
- Consider incentive models that can be applied at the provider and/or community level to promote HIT adoption and improve quality.
- Identify advantages and disadvantages associated with various incentive approaches, as well as program characteristics critical for success.
- Provide a foundation of information for eHI’s “Connecting Communities” grantees interested in implementing HIT financial incentives programs.

To understand the landscape of existing financial incentive programs designed to promote HIT implementation, we conducted research using standard databases (e.g., Medline, Factiva) and mass media search engines (e.g., Google). We also developed an interview guide and conducted 14 interviews with individuals directly involved in developing, operating, or studying such initiatives. The interviews focused on the following areas: 1) motivation for program implementation, 2) advantages and disadvantages of the program, 3) drivers and barriers, 4) key lessons learned in the implementation process, and 5) future program and evaluation plans.

Overview of Literature

The Institute of Medicine’s 2001 report Crossing the Quality Chasm highlighted financial incentives as a major issue in health care, citing the need to realign payment policies to promote quality improvement. The IOM report concluded that “current policies are complex and contradictory” and “financial barriers embodied in current methods can create significant obstacles to higher quality healthcare.” The IOM made the following recommendations:

- Private and public purchasers should examine their current payment methods to remove barriers that currently impede quality improvement and to build in stronger incentives for quality.
- The Centers for Medicare and Medicaid Services (CMS) and the Agency for Healthcare Research and Quality (AHRQ) with input from private payors, health care organizations, and clinicians should develop a research agenda to identify, pilot test, and evaluate various options for better aligning current payment methods with quality improvement goals.

Since the report was released in 2001, little has changed. Policies are still complex and contradictory and often do not create incentives for or reward quality improvements such as reduced medical errors and increased patient safety—improvements that HIT adoption can facilitate.

A meaningful body of literature has emerged however, that is focused on health care quality in the US; a growing subset of this literature addresses the potential of HIT to reduce medical errors, improve patient safety, and improve the overall quality of care. Many health care stakeholders view HIT as an integral part of the quality movement in this country. While the industry has more thoroughly examined the opportunity

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for computer physician order entry (CPOE) systems to reduce medical errors, a number of research studies have also focused on the experience of specific organizations or providers in implementing other types of HIT (e.g., electronic health record (EHR), bar coding). Information on financial incentive programs to promote HIT implementation and utilization remains far more limited. The literature that is available on financial incentives for HIT is contained predominantly in the gray literature. These articles and reports typically profile specific programs and provide descriptions and characteristics of financial incentive programs that might be of interest to communities. Other existing publications including those published by the Integrated Healthcare Association, the American Medical Association (AMA), and the National Health Care Purchasing Institute also provide useful insight on the different types of financial incentive programs in operation. Some of these same organizations have attempted to provide toolkits and/or roadmaps to help organizations develop effective incentive programs and successfully adopt HIT.

The following themes emerged in the review of literature for this project.

The Use of Financial Incentives Programs to Promote HIT is Growing But Not Widespread

A variety of barriers to HIT adoption and quality improvements continue to persist in the health care system including high HIT implementation costs; physician resistance; technical and infrastructure obstacles (e.g., updating a facility’s infrastructure to meet the demands of more sophisticated technology); and technology that is unable to deliver on its vendor’s claims or is still viewed as unreliable. The existing fragmented provider system also makes it difficult to implement comprehensive quality improvements through the use of HIT. For example, over an extended period of time, patients may use multiple providers and/or health care facilities in a variety of geographic settings. Unless each provider or facility maintains compatible technologies, providers and patients are unable to benefit from health information exchange and the resultant improvements in safety, efficiency, and overall quality of care.

Health care stakeholders are becoming increasingly aware that financial incentive programs may help overcome some of these barriers to HIT adoption; health care organizations and physician’s offices are beginning to implement these types of programs. However, despite evidence that is beginning to show a positive correlation between the use of external incentives (e.g., bonus payments for improved quality outcomes, direct compensation for HIT investments) and technology uptake in physicians’ offices (e.g., disease registries, CPOE, electronic prescribing), adoption of HIT incentive programs is not yet widespread.

HIT Cost/Benefit Analyses are Valuable in Creating Financial Incentive Programs but Building the Strong Business Case Remains an Obstacle

Although most organizations interviewed identified quality and patient safety improvements as their primary program driver, they acknowledged the importance of a business case and a desire to achieve return on investment (ROI) for their financial incentive program and HIT investments.
BACKGROUND

An increasing number of studies measure the value and cost effectiveness of CPOE, EHR, bar coding, electronic prescribing and other types of HIT. These analyses tend to focus on patient safety improvements, financial benefits from quality and efficiency improvements, and the development of a business case for HIT. In particular, these types of studies can play an important role in supporting the adoption of financial incentives programs; they emphasize the misalignment of costs and benefits among individual stakeholders adopting technology (e.g., purchasers, providers) and provide actuarial analyses and evidence for development of a business case and ROI for HIT. These studies tend to be site specific; therefore applicability of the analyses may be limited because they will not address each community’s unique and individual issues.

A valid and specific business case for HIT adoption is important however, and will be necessary to support broader implementation of incentives programs that promote HIT adoption. This information will facilitate an organization’s understanding of the financial implications of these programs and HIT investments; it will also emphasize the direct impact of medical error reductions and improvements in patient safety and quality on their cost margins.

There are some tools that communities and providers can use in their efforts to create a business case. For example, The Leapfrog Group and National Committee on Quality Assurance (NCQA) offer the following tools at no charge to users:

- **Leapfrog’s Actuarial Model:** This tool is an actuarial model template intended to help users understand the costs and benefits of adopting Leapfrog standards (e.g., CPOE). Using Leapfrog estimates, user demographics, and other relevant information, the model calculates the costs and benefits of adopting Leapfrog standards and shows a best and worst case scenario.

- **Leapfrog’s Business Case Primer:** This primer outlines the process of developing a business case for implementing Leapfrog standards and presents the rationale and sources for potential savings. The primer highlights major attributes of successful incentive and rewards programs and offers examples of programs that used the business case to implement one or more of the standards. Both resources described above are available at [www.leapfroggroup.org](http://www.leapfroggroup.org).

- **NCQA Quality Dividend Calculator:** This tool, available at [www.ncqacalculator.com](http://www.ncqacalculator.com), allows employers to compare health plan data to make health care purchasing decisions. It looks at how workforce and staffing time is affected by patient safety and medical errors in relation to return to work statistics and helps users quantify the cost savings of quality care. However, this tool does not provide specific cost benefit analyses for HIT adoption.

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Here generally are four types of financial incentive models that health care organizations are using to promote the adoption of HIT directly or indirectly: payment differentials, cost differentials, direct reimbursement, and shared withholds. The prevalence of each model varies, as does the specific incentive and payment structure that programs employ (i.e., who pays for and who receives the incentive). Below is a description of research observations regarding each model, followed by profiles of a subset of the programs studied for this report. The section ends with a brief discussion of potential opportunities to create HIT adoption incentives outside of the payment system.

**Payment Differentials**

Payment differentials are bonuses or add-on payments that reward providers and/or delivery systems for adoption and diffusion of HIT directly or for improved quality, where HIT is a requisite tool and resource. This approach is often referred to as a ‘pay for performance’ model and is one of the more common models in use. Payment differential approaches are also playing a major role in the overall quality movement.

Various methodologies are used to determine the dollar bonus awarded under a payment differential model. A number of programs award bonuses based on a discrete dollar amount per member per year. (e.g., Bridges to Excellence, Taconic IPA). Other models base the bonus on a percentage of total claims (e.g., Empire), while other programs may use a tiered payment approach. Organizations interviewed for this project developed bonus structures based on their individual needs, priorities, and stakeholder mix while also working to ensure that the program was easily understandable and meaningful to participants.

The reimbursement mix (e.g., capitated versus fee for service (FFS) contracts) in a program can influence providers’ (hospital/physician) opportunity for savings and hence their participation in the incentives program. Under a capitated system for example, providers’ and payers/purchasers’ incentives are closely aligned. These groups share similar goals and share the cost savings benefits that result from HIT including reduced lengths of stay, reduced adverse drug reactions, and reduced duplication of services (e.g., labs, x-rays). Providers in a capitated environment may be more inclined to participate in and contribute to the success of a payment differential program for HIT adoption because it allows the provider to maximize both earnings potential through bonus payments as well as cost savings/margin increases from improved quality outcomes.

In a FFS or per diem system however, providers and payers/purchasers have different incentives. For example, in this payment environment, payers reimburse only for the services used; therefore, each day a patient is kept out of the hospital or an adverse drug reaction is avoided as a result of HIT, cost savings accrue directly to the payer and not to the provider. Under a payment differential model, providers benefit from bonus payments awarded under the incentive program.

The size of a program’s resources and infrastructure can also influence a program’s success. A number of interviewees reported that medical groups or large individual practice associations (IPAs) may fare better in these types of programs than small practices. Larger medical groups often possess a stronger infrastructure and greater staff support (both technical and administrative), and typically are more technologically connected, which can support broader HIT adoption.

<table>
<thead>
<tr>
<th>Payment Differentials Incentive Stream</th>
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<tbody>
<tr>
<td><strong>Health Plan</strong></td>
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<tr>
<td>Physician Groups</td>
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<tr>
<td>e.g., Integrated Healthcare Association</td>
</tr>
<tr>
<td><strong>Health Plan</strong></td>
</tr>
<tr>
<td>⇣</td>
</tr>
<tr>
<td>Hospitals</td>
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<tr>
<td>e.g., Empire Blue Cross Blue Shield</td>
</tr>
<tr>
<td><strong>Employer (large, self-insured)</strong></td>
</tr>
<tr>
<td>⇣</td>
</tr>
<tr>
<td>Physicians</td>
</tr>
<tr>
<td>e.g., Bridges to Excellence</td>
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</table>
FRAMEWORK: FINANCIAL INCENTIVES AND HIT

Type of Program | Payment Differentials
---|---
Goals | Improve continuity of care, communication (both in terms of regularity and efficiency), and connectivity between primary care providers (PCPs), specialists, labs, and hospitals through phased implementation of an EHR.
Incentive Stream | Health Plan ↔ Physicians
General Description | MVP Health Care (MVP) teamed with one exclusively contracted IPA, Taconic IPA (TIPA), which has strong provider group relationships and expertise in the local physician market. MVP and TIPA shared a common desire—to change the paradigm of care from an organization-centric model to a community-oriented model through improvements in continuity of care and connectivity across providers. They also believed that greater provider connectedness and communication would improve quality of care. Based on these shared goals, the two groups created MedAllies, a separate organization, which served as a convener, providing general technical assistance, training, and IT and local vendor support to physician groups to move towards the ultimate goal of a highly integrated community data exchange including physicians, labs, and hospitals.

In 2002, the first year of this program, TIPA and MVP covered the cost of high-speed Internet access in physician offices, inbox workflow software, and other office IT upgrades including Pentium level PCs. TIPA and MVP no longer pay for technology upgrades other than software, which they also plan to phase out over time. TIPA and MVP intend for the financial incentive bonuses to offset the costs for hardware and software upgrades.

Results/Evaluation | While there is no formal quantitive evaluation planned, success is predicated on the level of participation, which has been high and continues to grow. The number of participating TIPA practices nearly doubled between the program’s first and second years, even though MedAllies discontinued payment for most required technology upgrades in physician offices. Additionally, there is growing interest and participation in the program by the local community hospitals. TIPA is in phase two of its transition to full EHR adoption. Currently, lab results are delivered electronically to physicians and can also be managed electronically; phase three of the program is electronic prescribing.

Other Program Examples:
Excellus Blue Cross Blue Shield in Rochester, New York operates a program similar to MedAllies in that it brings together a coalition including the health plan, an IPA, and an independent community group to focus on improving quality through the use of bonus payments. Under this program, the coalition pays out incentive bonuses to individual providers for their performance in meeting community-wide clinical guidelines for chronic conditions including diabetes, asthma, and coronary artery disease.
### Framework: Financial Incentives and HIT

<table>
<thead>
<tr>
<th>Type of Program</th>
<th>Payment Differentials</th>
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<tbody>
<tr>
<td>Goals</td>
<td>Reduce errors and improve health care quality through the increased use of CPOE and other Leapfrog Group standards. Reward technical innovation and raise the standards for all hospitals in HIT adoption and health outcomes.</td>
</tr>
<tr>
<td>Incentive Stream</td>
<td>Health Plan ⇝ Hospitals</td>
</tr>
<tr>
<td>Type of Incentive</td>
<td>Empire awards bonus payments to hospitals that meet certain Leapfrog standards; bonuses are paid by the participating employers. Bonus payments equal a percentage of the hospital’s claims for employees of the participating companies which also includes Empire’s employees. The program design includes a decrease in bonus percentages with each year of the three year program—2002 bonuses: 4%, 2003 bonuses: 3%, and 2004 bonuses: 2%. Hospitals receive partial bonuses for achieving one of the two patient safety measures; 60% of the bonus is based on the ICU requirement and 40% is based on the CPOE requirement.</td>
</tr>
<tr>
<td>General Description</td>
<td>Empire Blue Cross Blue Shield of New York paired with four other major, self-funded employers who purchase health care services in the NY area (IBM; Verizon Communications; PepsiCo, Inc.; and Xerox Corporation) to reward hospitals that adhere to Leapfrog standards around CPOE adoption and intensive care unit (ICU) staffing. Higher percentage payments in the early program years were intended to encourage early adoption and reward facilities that are leaders in technology implementation; the program is now in its final year.</td>
</tr>
<tr>
<td>Results/Evaluation</td>
<td>Empire measures success thus far by the level of program participation. Current participation is approximately 50%, which represents 60-70% of all hospital bed days. While participant response has been largely positive, hospitals believe the incentives are too low and would like to see higher bonus payments. A formal evaluation to assess overall participation and the impact on improvements in quality of care and error avoidance is planned at the program’s conclusion. In the future, Empire may also consider the use of a cost differentials program.</td>
</tr>
</tbody>
</table>

**Other Program Examples:**

- Trigon, an Anthem affiliate health plan, operates a program similar to Empire’s in that the health plan rewards hospitals for adopting Leapfrog standards for safe practices. Rewards are tied to patient safety improvements in the individual hospitals.
- Blue Cross Blue Shield of Illinois, Blue Cross Blue Shield of Michigan, and Independence Blue Cross of Pennsylvania are examples of other health plans using Leapfrog standards to encourage patient safety improvements.
### FRAMEWORK: FINANCIAL INCENTIVES AND HIT

<table>
<thead>
<tr>
<th>Type of Program</th>
<th>Payment Differentials</th>
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<tbody>
<tr>
<td><strong>Goals</strong></td>
<td>Create a compelling set of incentives that will drive breakthrough improvements in clinical quality and the patient experience.</td>
</tr>
<tr>
<td><strong>Incentive Stream</strong></td>
<td>Health Plan $\rightarrow$ Physician Groups</td>
</tr>
<tr>
<td><strong>Type of Incentive</strong></td>
<td>Participating health plans award bonuses to physician groups based on aggregated, audited scores on clinical measures (50%), patient satisfaction (40%), and IT investment (10%). Bonus payments are awarded annually to physician groups with the first year of payments beginning in 2004 (based on 2003 measurements). The individual health plans establish the specific dollar award, however Integrated Healthcare Association (IHA) suggests a bonus amount that is 5-10% of the per member capitation payment. Once the payment is awarded, each provider group determines how the bonus dollars will be disseminated across the practice.</td>
</tr>
<tr>
<td><strong>General Description</strong></td>
<td>IHA, supported through funds from its members, a Robert Wood Johnson Foundation (RWJF) grant (for evaluation), and the California HealthCare Foundation (for implementation), convened California’s six leading health plans (Aetna, Blue Cross of California, Blue Shield of California, CIGNA HealthCare of California, Health Net, and PacifiCare with a seventh – Western Advantage – to join in 2004) to launch a program that ‘pays for performance’. The IT portion of the bonus is based on the groups’ ability to match multiple clinical data sets at the patient level and to deliver electronic data at the point of care (e.g., electronic lab results in the physician office, registries, EHRs). The IHA program leverages California’s capitated health care market, which increases providers’ incentives to improve quality of care and participate in the program. In California, approximately 85% of physicians are part of organized medical groups for negotiating health plan rates, and approximately 40% of the market is capitated. The first round of provider bonuses, estimated at $100 million, will be paid to 220 provider groups. In addition, the scores will be published in the State of California’s public scorecard that showcases individual physician group performance.</td>
</tr>
<tr>
<td><strong>Results/Evaluation</strong></td>
<td>IHA is a RWJF Rewarding Results grantee and as a condition of the grant, a formal evaluation is being planned. To date, anecdotal responses to the program are positive.</td>
</tr>
</tbody>
</table>
### FRAMEWORK: FINANCIAL INCENTIVES AND HIT

**BRIDGES to Excellence**

**Rewarding Quality across the Healthcare System**

<table>
<thead>
<tr>
<th>Type of Program</th>
<th>Payment Differentials</th>
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</thead>
<tbody>
<tr>
<td><strong>Goals</strong></td>
<td>Systematically improve care delivery by linking bonus payments to physician performance. Improve patient health outcomes through the direct use of HIT.</td>
</tr>
<tr>
<td><strong>Incentive Stream</strong></td>
<td>Health Plan ↦ Physicians; Employer ↦ Patients</td>
</tr>
<tr>
<td><strong>Type of Incentive</strong></td>
<td>Employers award an annual per patient per year bonus to physicians based on the program’s total annual savings. The bonus threshold is actuarially based and is determined through an ongoing dialogue with physicians. In some instances, patient participation is also rewarded.</td>
</tr>
<tr>
<td><strong>General Description</strong></td>
<td>Bridges to Excellence (BTE) is a coalition of physicians, health plans, and large employers (e.g., Verizon, GE, UPS) that launched a major initiative to create system-wide improvements in care delivery by linking physician payment and performance. The BTE program has three major modules. The first, Physician Office Link, which is currently employed in a number of sites, emphasizes the necessity and value of an HIT infrastructure (e.g., patient registries, electronic prescribing, electronic test ordering, and EHRs) in a physician’s office to promote error reduction and quality improvements. Physician rewards are based on their use of clinical information systems and evidence-based medicine; patient education and support; and care management. This operational model, defined as the technological infrastructure and financial incentive approach, is intended to provide a platform—the HIT infrastructure—and link this platform to improvements in the provision of more efficient and higher quality care.</td>
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</table>

The second module underway, Diabetes Care Link, tests the effectiveness and impact of the HIT infrastructure by using HEDIS® measures (e.g., HbA1c) for patients undergoing treatment with participating physicians. Using these proven measures, the program can assess the success of the operational model introduced in the Physician Office Link. In addition to physician rewards, patients participating in this module may earn financial bonuses for adherence to their prescribed care regimen (e.g., maintaining safe blood sugar levels). The final module, the Cardiac Care Link, will roll out in the second quarter of 2004 and is designed to improve health outcomes for cardiac patients and test the operational model using known cardiac health outcomes proxy measures.

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14The Health Plan Employer Data and Information Set (HEDIS®) is a standardized system of measures used by managed care organizations to measure health outcomes.
Other Program Examples:

Anthem Blue Cross Blue Shield of Maine administers a program that resembles the BTE model. The health plan’s program uses payment differentials and rewards specific physicians for improving health outcomes by implementing technology improvements. Highmark Blue Cross Blue Shield of Pennsylvania also operates a similar program which awards tiered bonuses based on performance and IT implementation for physicians in at least the 50th percentile. The CMS program described on the following page is also expected to use the BTE program as a model.

<table>
<thead>
<tr>
<th>Type of Program</th>
<th>Payment Differentials</th>
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<tbody>
<tr>
<td>Results/Evaluation</td>
<td>BTE is a RWJF Rewarding Results grantee and as a condition of the grant, a formal evaluation is being planned. Based on BTE’s preliminary data, savings are currently estimated at 13% of the average cost for treating an individual with diabetes. In the Diabetes Care Link module, the number of physicians rewarded under the program increased 20-fold from three to a total of 60. Thus far, physicians’ anecdotal response is positive.</td>
</tr>
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</table>
## FRAMEWORK: FINANCIAL INCENTIVES AND HIT

<table>
<thead>
<tr>
<th>Type of Program</th>
<th>Payment Differentials</th>
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</thead>
<tbody>
<tr>
<td><strong>Goals</strong></td>
<td>Support the adoption of HIT in small- to medium-sized physician offices to promote continuity of care, stabilization of medical conditions, prevention or minimization of chronic condition exacerbation, and reduction of adverse health outcomes for beneficiaries with chronic illnesses.</td>
</tr>
<tr>
<td><strong>Incentive Stream</strong></td>
<td>CMS/Health Plan ⇝ Physicians</td>
</tr>
<tr>
<td><strong>Type of Incentive</strong></td>
<td>CMS/Health Plans pay a per beneficiary bonus amount to each participating physician who meets or exceeds the specific performance standards. The program is still in the development stage and therefore specifics on the amount or type of bonus payment (e.g., percentage, specific dollar threshold) are unavailable. The program is expected to use the Bridges to Excellence program as a model.</td>
</tr>
<tr>
<td><strong>General Description</strong></td>
<td>Based on the Department of Health and Human Services (HHS) Secretary’s request and broad HHS support, the Doctor Office Quality-Information Technology (DOQ-IT) project was developed and is being led by Lumetra, formerly known as CMRI, California’s quality improvement organization (QIO). It includes a Medicare demonstration program (Care Management Performance demonstration), in which Medicare Advantage plans in four states assisted by the QIOs, will provide financial incentives to participating physician offices to adopt HIT and meet certain performance measures. Passed as a three year budget neutral demonstration program in the 2003 Medicare Modernization Act, DOQ-IT is designed to reward physicians who treat Medicare patients. To participate in the demonstration, physicians must treat a certain number of Medicare beneficiaries and meet specific systems and process requirements (e.g., adoption of IT, care management). Physicians must also agree to phase in over the three year timeframe, the use of HIT to manage clinical care and electronic reporting of clinical quality and outcomes measures data. The Secretary is required to consult with other private sector and non-profit groups (e.g., The Leapfrog Group, IHA) that have implemented similar activities to promote HIT and improvements in quality of care. QIOs are major participants in the DOQ-IT program as they are responsible for enrolling physicians in the program; evaluating the program, physician performance, and general IT adoption; and providing technical assistance and education to physicians around HIT, practice standards, and clinical outcomes and measures.</td>
</tr>
<tr>
<td><strong>Results/Evaluation</strong></td>
<td>The program has not yet been implemented although it is likely to roll out later in 2004. One year following the program’s completion, the Secretary of HHS must submit a report to Congress with recommendations for future activity.</td>
</tr>
</tbody>
</table>
Other Program Examples:

CMS recently launched a three year voluntary pay-for-performance program within the Premier hospital network, although it did not include a specific HIT component. Participating hospitals are eligible for increased payments from Medicare based on their performance in quality outcomes measures relative to other hospitals. In the program’s third year, hospitals that do not meet certain quality measures will be subject to reimbursement reductions.

Cost Differentials

This model employs consumer co-payments and/or deductibles for provider visits (physician or hospital) that vary based on predetermined quality measures. This approach is intended to steer consumers to providers that have adopted HIT or achieved certain quality outcomes through the use of HIT.

The cost differential approach is a patient/employee centric model, designed to target consumer behavior. Using reduced copayments or reduced or tiered deductibles, programs provide an incentive for consumers to seek care from providers who use HIT or meet certain quality thresholds. The resulting increase in provider volume and patient flow is intended to then motivate more providers to meet the HIT/quality criteria. Program success can in part depend on whether the incentive dollar amount is significant enough to facilitate a shift in behavior. For example, in the Hannaford program, the inpatient admission copayment of $250 may be waived, depending on the patient’s hospital choice.

Consumer education is also an important component of this model. Organizations must strive to provide their employees with a clear understanding of the program’s rationale and ensure that quality information is accessible. Consumers should understand the quality and health benefits – in addition to the financial benefits – of choosing one provider over another provider.

The cost differential approach is gaining greater attention and some interviewees emphasized its potential to drive real change in the health care marketplace. While some organizations are relying solely on cost differentials to motivate quality improvement, others have considered their inclusion in the suite of incentives being implemented. Little information is available to highlight the disadvantages of a cost differential approach; however, issues are likely to become more evident as formal evaluations are completed.

<table>
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<tr>
<th>Cost Differentials Incentive Stream</th>
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<tbody>
<tr>
<td>Employer</td>
<td>Employees/Consumers</td>
</tr>
<tr>
<td>Health Plan</td>
<td>Consumers</td>
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FRAMEWORK: FINANCIAL INCENTIVES AND HIT

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<tr>
<th>Type of Program</th>
<th>Cost Differentials</th>
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<tbody>
<tr>
<td>Goals</td>
<td>Improve overall health outcomes for employees by encouraging employees to choose care at hospitals that are safer, more efficient, and offer higher quality care.</td>
</tr>
<tr>
<td>Incentive Stream</td>
<td>Employer ⇄ Employees/Consumers</td>
</tr>
<tr>
<td>Type of Incentive</td>
<td>This program is designed to incentivize the consumer (e.g., the Hannaford employee) by waiving the $250 inpatient admission co-payment for employees who choose hospitals that meet high quality standards based on HealthGrades.com measures. (The quality measures were initially based on Leapfrog standards.)</td>
</tr>
<tr>
<td>General Description</td>
<td>Hannaford Bros. (Hannaford) has a history of patient advocacy and commitment to patient education and consumer-directed information. Hannaford teamed with other community stakeholders (e.g., provider groups, health plans, employers) to form a coalition that could develop a business case for quality and investment in HIT at the hospital level. Initial efforts failed to convince hospitals to implement HIT improvements and hospitals resisted requests to share data needed to develop quality measures. Hannaford ultimately looked to a third party organization to provide the quality measures. Hannaford initially used Leapfrog standards but later transitioned to HealthGrades.com, which were viewed as more accessible and understandable for their employees.</td>
</tr>
<tr>
<td>Results/Evaluation</td>
<td>A formal evaluation has not been conducted; however, Hannaford plans to study the impact of the program by comparing 2002 and 2003 health outcomes data. Anecdotally, employees have responded favorably and provided positive feedback on the program and the availability of hospital quality data. In addition, market pressures are causing new hospitals to express a desire to participate in the program.</td>
</tr>
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</table>

Other Program Examples:

Boeing offers a similar program, which eliminates the 5% beneficiary copayment for employees that patronize hospitals that meet Leapfrog standards. Blue Shield of California also created a cost differentials program that offers tiered patient cost sharing requirements based on the selected hospital.

This program is slightly different in that the incentives are created by the health plan for health plan members as opposed to the Hannaford and Boeing programs which are employer sponsored initiatives.
Direct Reimbursement

This model offers reimbursement for a new category of care or service that is directly related to the use of HIT. Direct reimbursement primarily focuses on the virtual provider-patient visit and is becoming more available in the private sector.

The AMA’s recent development and approval of a Category III Current Procedural Terminology (CPT) code for online visits acknowledges the value and potential of HIT. The CPT code covers the following services:

“An online medical evaluation is a type of Evaluation & Management [E&M] service provided by a physician or qualified health care professional, to a patient using Internet resources, in response to the patient’s online inquiry. Reportable services involve the physician’s personal timely response to the patient’s inquiry and must involve permanent storage (electronic or hard copy) of the encounter. This service should not be reported for patient contacts (e.g., telephone calls) considered to be pre-service or post-service work for other E&M or non E&M services.”

A CPT code will not ensure payment for these services, but the award of a Category III code could be a step forward in acknowledging the reimbursement potential for remote visits. Category III codes are tracking codes designed for data collection purposes to help the industry better understand how a code is being used. Many payers view Category III codes as designating services that are experimental and consequently most payers typically do not pay for such codes. For this reason, some providers may be reluctant to provide a service which is designated by a Category III CPT code. However, it is too early to know the specific implications of the Category III code on uptake of and reimbursement for online visits. Some private payers do currently pay for remote monitoring services, including online visits, and in those cases, availability of the code facilitates the billing process. Ideally, the new code will eventually move to a Category I code, the standard codes typically used for physician billing and included in most payers’ fee schedules.

Some research shows that online consultations appeal to select providers, patients, and purchasers. A recent study on Relay-Health, a prevalent online communication technology, reported positive results including high provider and patient satisfaction, fewer lost employee work days, and reduced costs for employers. Online visits can hold value for patients as basic care becomes more accessible and convenient. Chronic care populations in particular may benefit from greater convenience, greater physician oversight, improved quality of care, and more comprehensive disease management. Current online services are limited to low acuity and administrative issues.

Public payers such as Medicare that do not reimburse for asynchronous electronic communication may take notice of this type of technology, especially as the number of commercial payers covering online visits continues to increase.

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## FRAMEWORK: FINANCIAL INCENTIVES AND HIT

### Blue Shield of California

<table>
<thead>
<tr>
<th>Type of Program</th>
<th>Direct Reimbursement</th>
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<tbody>
<tr>
<td><strong>Goals</strong></td>
<td>Improve health outcomes and patient access to providers in order to reduce absenteeism and shorten back-to-work time. The short-term goal is to achieve a program participation rate of 5% among Blue Shield of California (BS-CA) HMO providers.</td>
</tr>
<tr>
<td><strong>Incentive Stream</strong></td>
<td>Health Plan → Physicians</td>
</tr>
</tbody>
</table>
| **Type of Incentive** | • Physicians: Reimbursement to physicians for an online ‘virtual visit’ is equivalent to the reimbursement rate for a low-acuity or administrative office visit, in the range of $25 per visit.  
• Consumers: The beneficiary online co-payment is capped at $10, which in some cases is lower than the co-payment for an in-person visit. |
| **General Description** | BS-CA forged a partnership with RelayHealth, an online communication technology, to provide secure asynchronous web-based visits that allow physicians to replace low-acuity and administrative office visits. The RelayHealth technology offers a number of time-saving features and functions such as treatment templates, messaging capabilities, e-prescribing, and scheduling. |
| **Results/Evaluation** | • Evaluation: A formal evaluation of program outcomes, access, and general participant satisfaction was completed in 2003 based on two years of data.  
• Results: Physicians and patients reported a high degree of satisfaction with the program. Physicians successfully integrated the program and online visits into their workdays. Preliminary results confirmed the physician workload reduction assumptions associated with the program and confirmed that employee absenteeism can be reduced to generate cost savings for employers. The initial goal for HMO physician participation was 5%, however, actual participation by BS-CA HMO physicians was closer to 1%. Medical groups continue to be interested, although the time required to fully implement the technology into a physician’s practice has been greater than anticipated. |

### Other Program Examples:

A number of health plans across the country including Blue Cross Blue Shield of Massachusetts, First Health (Downers Grove, IL), Horizon Blue Cross Blue Shield of New Jersey, and ConnectiCare use RelayHealth or similar technology and offer it as a covered benefit to their members.
FRAMEWORK: FINANCIAL INCENTIVES AND HIT

Medem, another example of an online communication technology, provides patients with a physician network and offers secure patient-physician messaging and clinical consultation services through a secure web site. The company was founded in 1999 by a group of professional medical societies and has more than 45 members including the American Academy of Ophthalmology; the American Academy of Pediatrics; and the AMA. Through Medem, providers can create a practice web site free of charge that connects them to a large network of physicians and patients; physicians can also access clinical information from participating professional societies. The secure messaging and online consultation features of Medem are fee based, however physicians may have an opportunity (through employer or health plan contracts and patient fees) to receive reimbursement for these services. Patient fees go directly to Medem although health plans and employers may cover the costs of these fees or reimburse Medem directly.

Shared Withholds

This model withholds a certain amount of provider (physician/hospital) fees (i.e., place a portion of provider reimbursement at risk) or delays provider payment rate increases and releases those fees contingent on providers’ technology implementation or quality improvements through the use of HIT.

The shared withhold model is the least common approach of the four studied and perhaps the least favorable from the provider’s perspective. Although information was limited, some interviewees explained that shared withholds are often received more negatively when compared to other incentive approaches. The withhold approach uses a ‘stick’ rather than a ‘carrot’ to influence behavior and thus providers/physicians tend to be less receptive. This approach is often used in conjunction with public disclosure and public reporting of physician performance. In general, it tends to be part of physician contracting negotiations making the methodology less transparent and accessible to those outside of the contract process.

Financial Incentives Outside of the Health Care Payment System

There may be opportunities to promote HIT adoption through incentives not directly tied to health care payment systems. For example, reduced medical malpractice insurance rates, collaborative IT vendor-provider relationships that minimize upfront HIT costs, state tax credits for HIT investments, and modifications to the Stark and Anti-kickback laws could prompt new HIT investments. While the scope of work for this project was limited to programs that modify existing payment systems to incentivize HIT adoption, a brief description of these alternative approaches is included below. Further study of these issues and their policy implications is necessary to better understand their potential impact on the HIT industry.

• **Medical Malpractice Insurance Discounts:**

This approach draws on the crisis of mounting malpractice insurance costs to encourage providers to improve their HIT systems. Improved patient safety outcomes through the use of HIT systems may help to reduce providers’ liability and thus their medical malpractice rates. As a result, insurance companies may be willing to offer rate discounts based on providers’ adoption of HIT. Public and private payers may be willing to subsidize physicians’ malpractice premiums in exchange for HIT implementation (e.g., CPOE, EHR). Rate discounts/subsidies for providers could also be used in conjunction with other patient safety initiatives such as risk management training.18

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Collaborative Relationships Between IT Vendor and Providers: Collaborative relationships between IT vendors and providers could help to reduce upfront HIT costs and thereby influence physicians’ adoption and investment in HIT. In November 2003, the American Academy of Family Physicians (AAFP) created the Partners for Patients program in cooperation with a large group of technology companies to support HIT that meets AAFP’s requirements (e.g., affordability, interoperability). As part of the program, participating vendors agree to provide significant price reductions and flexible payment plans on their HIT products for all AAFP members. The goal is that higher HIT utilization as a result of improved affordability and accessibility – especially among small to mid-sized family practice groups – will improve patient care, patient safety, and practice efficiency. Many suppliers are already participating in the Partners for Patients program including A4 Health Systems; DOCS, Inc.; GE Medical/Centricity; NextGen; Hewlett-Packard; MedPlus; and Siemens Medical Solutions.  

Tax Credits: Changes to state tax structures may provide another route for encouraging investment in HIT among providers. In Wisconsin, the Wisconsin Association of Health Plans, Wisconsin Hospital Association, Inc., and Wisconsin Manufacturers & Commerce have joined together in proposing state tax initiatives to help providers overcome the cost barriers to HIT adoption. The group formed a commission in January 2004, which identified HIT implementation as a priority step to improve patient safety and quality in the state’s health care system. The commissions’ specific tax proposals include tax benefits to increase the affordability of HIT for providers; low-cost financing for targeted IT purchases made by hospitals and other non-profit health care institutions; and state income tax exemption for bonds issued by the Wisconsin Health and Educational Facilities Authority for certain technology purchases or upgrades (e.g., EHRs and CPOE systems). The coalition’s final proposal would also require the state to guarantee targeted technology loans for small and rural non-profit health care institutions. These proposals have not yet been approved by the Wisconsin legislature.

Changes to Stark and Anti-Kickback laws: The federal Anti-Kickback and Stark Laws were created to minimize fraud and abuse in the health care system, particularly around the practice of medicine, competition, and business relationships between delivery systems and other providers of care. In general, Anti-Kickback laws prohibit payment, solicitation, or remuneration between certain stakeholders in exchange for referring another individual for a service, purchasing or leasing an item or service, or arranging for or recommending the purchase of an item or service. Stark Laws prohibit physicians from making a referral to an entity in which they have a financial relationship for ‘designated health services’ for which the Medicare or Medicaid program pays. Unfortunately, the Anti-Kickback and Stark laws currently serve as a barrier to HIT adoption and provide a distinct impediment to hospitals, physicians, and other providers interested in establishing mutually beneficial relationships around HIT investment and implementation. For example, under these laws, hospitals face significant legal obstacles to providing HIT for office based physicians (who are not hospital employees), even though the relationship could be mutually beneficial. By modifying the laws (e.g., loosening standards or expanding the definition of safe harbors) the federal government can create new incentives for physicians, hospitals, and other providers to establish beneficial relationships to promote investment in HIT.

Communities and organizations face an assortment of program design issues when developing and launching a new financial incentives program. The following sections present program features considered essential for success. They also raise the major questions and options an organization must consider during program design. Due to the lack of evaluation data, these decisions continue to be subjective, and represent philosophical choices for organizations as they weigh their priorities, stakeholder needs, and programmatic goals. In addition, while it is understandable for communities and organizations to seek ROI or a defensible business case for their HIT incentive program and investments, the majority of interviewees explained that the primary motivation to implement an incentive program for HIT was to improve patient safety and quality of care. In some cases, HIT adoption was also recognized as a competitive advantage (e.g., maintain/increase market share).

Commonalities
There are many commonalities and consensus areas across the different incentive models and programs studied. Interviewees consistently emphasized that these characteristics are essential to the success of any incentive program.

• **Clarity:** Stakeholders must understand the program’s goals, processes, and mechanisms. The payment policy and incentive structure must be clear and understandable for all relevant participants. Participants should know what to expect of the payer and understand how, when, and why they will get paid (e.g., for adopting specific HIT, achieving specific health outcomes).

• **Meaningful Threshold:** The level of the incentive payment must be significant in both its structure and amount. Payments that appear nominal to recipients will not be meaningful and consequently will not influence behavior.

• **Third Party Standards:** Third party standards (e.g., NCQA, The Leapfrog Group) should be used for performance/outcomes measures and incentives if at all possible. Use of external standards will lead to faster and wider acceptance by relevant stakeholders.

• **Communication:** Ongoing stakeholder communication, particularly with physicians and physician groups should be maintained. Greater communication results in greater understanding which will result in greater buy-in by all relevant parties.

• **Collaboration:** Collaboration by the relevant stakeholders (e.g., payers, purchasers, providers, and plans) in the development and implementation stages is critical to developing and achieving shared goals. Stakeholders must be involved and vested in both the development and implementation process and ongoing collaboration can promote this investment.

• **Convener:** The role and presence of a convener is a significant feature of the more successful programs. A convener can include an IPA, integrated delivery network (IDN), employer, or coalition and serves the critical role of catalyst, facilitator, and leader for the program. Given the resources, leadership, and influence of some large employers in a marketplace, the value of leveraging these groups to participate in the convening process cannot be overstated.

• **Technical assistance:** Implementation and adoption of HIT and quality/performance measures poses new obstacles. External or internal training and technical assistance help physicians and other relevant stakeholders develop greater competency in using HIT and efficiency in achieving these outcomes; it is important and highly valued.
IMPLICATIONS FOR COMMUNITIES

- **Volume:** The volume of program participation (whether patient, hospital, or health plan) is both a challenge and a goal for financial incentive programs. In most cases, bonuses are paid on a per patient basis (e.g., dollar amount per member per year) or per hospital basis (e.g., percentage amount for HIT adoption or percentage of patient claims). Therefore, greater aggregate volume (e.g., participation by patients, hospitals, or health plans) allows for higher bonus potential for individual participating providers and stronger incentives to promote HIT adoption and improved quality outcomes.

**Leaders/Innovators vs. Late Adopters**

- What groups (or behaviors) will an organization encourage and reward?

Technology adoption and diffusion can vary considerably depending on the individual(s) and the technology. Extensive research on the subject identifies ‘adopter’ categories along an S-shaped adoption curve where innovators and late adopters are on opposite ends. Incentives for both groups carry benefit—the decision for an organization is whether the new incentive structure will cater to one group or the other. For example, should health care stakeholders reward innovators/leaders (e.g., through higher reward payments in the early years of a program) if these groups may be inclined to adopt the technology without incentives? Or, should organizations concentrate on providing incentives to groups that would otherwise be late adopters and therefore need more assistance (e.g., provide incentive bonuses and technical assistance to providers to invest in HIT).

**Design Decisions**

While the available literature on financial incentive programs can serve as an important tool for communities and organizations considering new initiatives, its value is limited during the actual design process. Design decisions represent philosophical choices and the literature will not reflect each organization’s unique issues. The incentive programs discussed in this report were designed based on organizations’ answers to a series of questions related to specific priorities and stakeholder needs. The research and interviews emphasized that any organization implementing an incentive program must consider these questions and make their own subjective design decisions.

**Incentives for HIT, Quality, or Both**

- What will an organization incentivize or reward?

The use of HIT can improve patient safety, reduce medical errors, and improve quality of care—goals shared by most financial incentive programs examined in this research. Organizations differ, however, by what they incentivize to achieve these goals.

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Alignment of Incentives: Health Plan, Hospital, Provider, Patient, Employer

- Where will an organization direct rewards to realign incentives?

“We want to reward those that need help. We want quality bonuses to lead to more IT investment.”

Incentive Threshold

- How will an organization determine what is the ‘right’ amount?

The dollar bonus or threshold is the primary way for an organization to influence behavior in a financial incentive program. Although the bonus amounts must be meaningful, organizations use a variety of strategies to identify the appropriate threshold—few of which are particularly scientific. For example, many organizations developed these threshold targets through ongoing discussions with program stakeholders, while others relied on assumptions from program leadership. Actuarial analyses to determine incentive bonuses were surprisingly uncommon and used only by a minority of programs interviewed.

“Our recommended a bonus of 5 - 10% as additional revenue potential. It was a number we guessed would be high enough to generate change.”

“Dollar amounts came out of thin air, basically—not too big and not too small.”

“Doctors told us they could not be expected to do their job unless their patients had the same incentives, i.e., the patients needed to get some kind of reward for adhering to their care strategy.”

“Our determined bonuses through intensive actuarial analysis, but we were very sensitive to the fact that these bonuses had to actually be meaningful for the docs—anything less than $10,000 just wasn’t going to make a difference to them.”

Our pluralistic health care system has many inherent misalignments. Current payment policies may penalize providers for improving care and quality (e.g., improvements in patient safety and care quality from CPOE adoption can lead to shorter inpatient lengths of stay, which can result in reduced reimbursement for hospitals paid on a per diem basis.) But opportunities exist to fix this. Understanding such misalignments can be critical to designing a financial incentive program that creates greater equity across stakeholders when HIT is adopted.
CONCLUSIONS

The use of financial incentives to promote HIT investment and adoption is an active area in health care and one that continues to evolve. New programs are emerging and a variety of incentive models are being tested in both the public and private sectors. The broader goal of these efforts is to discover successful and effective models that are both adaptable and replicable for communities to implement and achieve their goals. Therefore, variation in the incentive approaches implemented may be essential for widespread community success. It is still too early to know which models will have the greatest effect on the health care system, and which are preferable in any given environment.

The present study is intended to characterize a range of options available and the design decisions that communities have made. It is unlikely however, that a single financial incentive program model will emerge in the coming years that will be broadly applicable on a national basis. The health care market varies dramatically geographically. These variations including the role and presence of a large employer; the level of competition among health plans, hospitals, and/or providers; and the prevalence of a particular payment structure (e.g., capitation, per diem, fee for service) are important to the design of an HIT financial incentive program. Future research should focus on documenting potential quality improvement and cost savings, and identifying the appropriate role for the federal government and states in promoting HIT development.

While the focus of this report has been on community efforts, it is important to acknowledge the potential role that the federal government as a health care payer can play. Through Medicare and Medicaid, CMS has an opportunity to develop and promote innovative incentive and payment policies that reward quality improvements. CMS could also potentially participate as a payer in private sector incentive programs, thereby promoting program volume (i.e., number of patients covered by the program, which can translate into higher payments to participating providers) and effectiveness. Additionally, CMS could work collaboratively with AHRQ to formally evaluate the programs and disseminate outcomes reports and broad scale recommendations for the health care industry.
# APPENDIX: PROJECT INTERVIEWS

The authors thank these individuals for participating in this project and for sharing their experiences and insights.

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<th>Organization/Program</th>
<th>Interviewee</th>
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<td>Blue Shield of California</td>
<td>Gifford Boyce-Smith, MD, Senior Medical Director, Quality Management</td>
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<td></td>
<td>Blue Shield Foundation of California</td>
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<td></td>
<td>Jeff Rideout, MD, Chief Medical Officer of Blue Shield of California</td>
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<tr>
<td>Bridges to Excellence</td>
<td>Francois de Brantes, Program Leader, Corporate Health Care Initiatives</td>
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<td>GE Corporate Health Care and Medical Services Programs</td>
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<td>ConnectiCare</td>
<td>Paul Bluestein, MD, Senior Vice President and Chief Medical Officer</td>
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<td>Centers for Medicare &amp; Medicaid Services (CMS)</td>
<td>Bill Rollow, MD, Deputy Director, Quality Improvement Group</td>
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<td>Empire Blue Cross Blue Shield</td>
<td>Deborah Bohren, Vice President of Public Affairs</td>
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<td>Group Health Cooperative</td>
<td>Ted Eytan, MD, MyGroupHealth Physician Lead, Medical Informatics Division</td>
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<td>Hannaford Bros.</td>
<td>Peter Hayes, Director of Health Strategy</td>
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<td>Harvard Pilgrim Health Care</td>
<td>Rick Weisblatt, MD, Medical Director, Behavioral Health and Pharmacy</td>
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<td>Integrated Healthcare Association,</td>
<td>Diane Stewart, Senior Manager</td>
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<td>Pacific Business Group on Health</td>
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<td>The Leapfrog Group</td>
<td>Paul Zurlo, Director, Incentives and Rewards</td>
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<tr>
<td>Medicare Payment Advisory Commission (MedPAC)</td>
<td>Karen Milgate, Research Director</td>
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<td>Partners HealthCare</td>
<td>Kelly Hall, Manager of Strategic Planning</td>
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<td>Taconic IPA, MVP Health Care</td>
<td>Jerry Salkowe, MD, MVP Senior Medical Director for Quality Improvement</td>
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<td></td>
<td>John Blair, MD, President &amp; CEO Taconic IPA, Inc.</td>
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The Health Strategies Consultancy:

Health Strategies is a Washington-based health policy think tank and strategic consulting firm that focuses on the commercialization of new medical technology. The firm’s diverse client base includes Fortune 500 health care technology companies, Federal Government agencies and major medical foundations. Its team includes health care specialists with unparalleled expertise in pharmaceutical and medical device policy, with collective experience spanning the White House, the U.S. Office of Management and Budget (OMB), the U.S. Department of Health and Human Services (HHS), and the U.S. Congress. Additional information about Health Strategies is available on our web site at: http://www.healthstrategies.net.

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