Strategic Innovations for Affordable, Sustainable Health Care:

A Model for Health System Reform

Environmental Scan
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Accountable Care Organizations (ACO) are a set of providers and institutions, such as primary care physicians, specialists, and hospitals, which have joint responsibility for the quality and cost of care for a population. To encourage physicians and hospitals to establish these organizations requires a bonus payment structure (in addition to standard fee-for-service model) that rewards ACOs for reducing cost growth and meeting established quality of care targets. This organization model is intended to address the lack of coordinated care across delivery settings, particularly for physicians and hospitals, and for patients that would benefit from coordinated care such as those with diabetes, asthma, and congestive heart failure. Cost savings from this model would result primarily from reduced hospitalizations and readmissions.

Note: There is limited evidence, beyond the current Centers for Medicare and Medicaid Services (CMS) Physician Group Practice (PGP) demonstration, that this approach actually works to improve quality and reduce costs. In addition, there are a number of barriers that physician groups and hospitals would have to overcome for this type of arrangement to be successful, including substantial capital investment in technical infrastructure to share information across organizational settings and changing the physician and organizational culture toward a team-based approach.

Sources: 1, 2, 3, 4, 5, 6, 7

### Accountable Care Organizations

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| ACCOUNTABLE CARE ORGANIZATIONS       | There is lack of coordinated care across delivery settings, particularly for physicians and hospitals. This lack of coordination may lead to increased hospitalizations and readmissions for patients with chronic conditions such as congestive heart failure, asthma, or diabetes. | Similar models have shown promise in quality improvement (e.g., Physician Group Practice Demo). Cost savings are less clear. | • The model requires strong market collaboration among providers and may depend largely on the makeup of the market.  
• Success likely depends on a number of factors, including the participation of large physician groups that are part of an integrated delivery system. |
## Accountable Care Organizations

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<td>for quality and cost metrics, ACOs would be expected to improve the coordination of care and reduce duplication of services. Because ACOs would take responsibility for resource use, Medicare could constrain health care spending by using a system of bonuses and, in some cases, withholds. This system would be designed to counterbalance the incentives under FFS payment to increase volume.</td>
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<tr>
<td>Other Comments</td>
<td>Physicians and hospitals have joint responsibility for the quality and cost of care delivered.</td>
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<td><strong>Case Example 1:</strong> Physician Group Practice Demonstration (Medicare Demonstration)</td>
<td>Congress mandated in 2000 that CMS conduct the Physician Group Practice (PGP) demonstration to test a hybrid payment methodology that combines Medicare fee-for-service payments with new incentive payments. Though not referred to as an ACO model, the structure and aims of the demonstration are similar. The aims of the demonstration were to encourage the coordination of Part A and Part B services, promote efficiency through investment in administrative processes, and reward physicians for improving health outcomes.</td>
<td>Results have been mixed. In July 2007, CMS reported that in the first performance year, two participants earned a combined bonus of approximately $7.4 million, and all 10 achieved most of the quality targets related to diabetes. In Performance Year 3, five physician groups received performance payments totaling $25.3 million as part of their share of $32.3 million of savings generated for the Medicare Trust Funds. The U.S. Government Accountability Office (GAO) concluded in its evaluation of the results from the first performance year that evidence so far indicated that the care coordination programs initiated by the participants showed promise, but the wider applicability of the payment methodology used in the demonstration may be more limited.</td>
<td>Large physician groups that are part of integrated delivery systems. Physician groups with at least 200 physicians were eligible to apply, and 10 were selected by CMS. The 10 physician groups were Billings Clinic, Dartmouth-Hitchcock Clinic, The Everett Clinic, Geisinger Health System, Integrated Resources for the Middlesex Area, Marshfield Clinic, Novant Medical Group, and Park Nicolette Health Services. These groups, except for Marshfield Clinic, identified themselves as integrated clinics that, in addition to their physician group, included hospitals, surgical centers, or laboratories. Eight of the 10 were nonprofit, and most were in small cities or rural areas.</td>
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## Accountable Care Organizations

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| Other Comments                      | - Quality has improved in the four areas that CMS has monitored: diabetes, congestive heart failure, coronary artery disease, and preventive care.  
- Both GAO and MedPAC are less definitive in attributing cost savings from the PGP demonstration. Part of the “savings,” for example, could be better detection and coding of illness at the PGP sites relative to their comparison groups.  
- PGP design created several challenges, including lack of timely feedback and bonus payments.  
- Challenges exist on how best to set spending targets and how best to determine “savings” to Medicare. | | |
| Case Example 2: Brookings-Dartmouth ACO Collaborative | The ACO Learning Network is a joint initiative of the Brookings Institution and the Dartmouth Institute for Health Policy and Clinical Practice with the principal goal of engaging stakeholders in piloting the ACO model and producing a successful and replicable model that can be implemented nationwide (two case studies are described below).  
The ACO learning network provides four particular service activities:  
- Pilot sites: In-depth consultation, technical assistance, and data analysis for participating health systems and payers.  
- Learning network: Offers practical guidance and a forum for interested parties to learn from one another throughout the process of planning and implementation.  
- Community initiatives: Serve as strategic support for regions interested in piloting this at the community level.  
- Washington, DC, support: Serves as a resource for legislative and executive staff on delivery system reform specifically related to the ACO model. | | |
| Case Example 2A: Carilion Clinic, Roanoke, VA | Carilion is working to address the lack of coordination of care among primary care physicians and hospitals within the region.  
Organizational structure:  
- There is a tertiary academic medical center, a moderate regional community hospital, and three or four critical access hospitals.  
- There are 170 primary care providers across the region (50% in core areas). A medical home is in progress, as is the foundation of the Massachusetts’s health plan.  
- There 350 specialists, including those for an integrated care model and an | The model is still a work in progress. Activities to date include:  
- The formation of a planning workgroup, including the chief marketing officer, the chief financial officer, the chief information officer, the primary care chair, the vice president of medical affairs, and the health plan medical director;  
- Active conversation with all payers, including an overview, detailed follow-up, and a “straw man” gain share model;  
- Internal conversation with all clinical leadership, SMT, and boards with strong buy-in; and  
- Biweekly conference calls with Brookings and Dartmouth on population and methodology definitions, performance measurement, and payers. | Carilion’s model can be used in markets with a large, integrated physician practice with close hospital affiliations.  
Likely implementation challenges identified for Carillion Clinic follow:  
- Reliable, timely information provided in a quick turnaround sufficient to drive rapid-cycle improvements in care (e.g., registries, clinical outcomes, costs);  
- Balancing the need to reduce hospitalizations with managing hospitals (i.e., success means “parasitizing” yourself);  
- Managing the transition from FFS and inpatient focus to something else (i.e., the gain share may not offset the revenue loss); |
**ACCOUNTABLE CARE ORGANIZATIONS**

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| accountable physician group.       | Approximately 50% of primary care and specialist physicians are employed by Carilion; others are not organized and are in single-specialty small groups. | Payer commitment: high, though a bit uneven.                  | • Changing physician behavior, including being more patient centered, adopting new practice styles, and being accountable for waste and evidence-based care;  
  • A lack of large regional employers, making it hard to engage large groups of patients in the changes that they too need to make; and  
  • Communities and patients not being ready to accept changes. |
| Case Examples                       | No other multispecialty physician group in the area.  
  Carilion has approximately a 60% inpatient market share and a 40% outpatient market share. |                                                             | |

**Other Comments**

- There is modest support for the ACO concept among business leaders and boards, but they are unsure how to get there.
- Specific issues of interest includes:
  - Performance measurement,
  - Defining success amidst moving targets, and
  - How to rationalize hospital services while reducing utilization in the current payment environment.
- Some business leaders remain concerned about possible cost increases when hospitals, rather than physicians, provide the ACO base.
## ACCOUNTABLE CARE ORGANIZATIONS

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<td><strong>Case Example 2B</strong>&lt;br&gt;Aultman Health Foundation, Aultman Hospital, and AultCare Health Plans, Canton, OH</td>
<td>Aultman is working to address the lack of coordination of care among primary care physicians and hospitals within the region. This nonprofit, vertically integrated health system primarily serves a five-county market in northeastern Ohio. Aultman Hospital has a single managed care contract with AultCare, covering more than 200,000 enrollees (2,300 employers). Aultman is self-insured for health benefits, with 5,000 employees and 10,500 enrollees. Comprehensive post-acute care: residency programs, the College of Nursing, strong regional hospital partnerships, and an independent hospital network. Organizational structure: Independent physicians jointly venture to sponsor our health plan. Primary care is based mostly in private practices, and an increasing specialist base is employed by Aultman.</td>
<td>To be determined. The ACO team is in the due-diligence phase of the plan. The goal is to build on other strategies:  - Implementing a patient-centered medical home pilot this fall within the Medicare Advantage Plan;  - Utilization of current participation in performance measurement: CMS, Compare, Leapfrog, the Consumer Assessment of Healthcare Providers and Systems, the National Quality Forum, and CAQH;  - Value-based purchasing (P4P) programs between AultCare and physicians; and  - Adaptation of health IT implementation—computerized physician order entry, HER, the Aultman Patient Information Network (PIN), and the foundation of a Regional Health Information Organization.</td>
<td>The model can be used in markets with a large, integrated physician practice with close hospital affiliations. Likely implementation challenges identified follow:  - Capital to develop a technical infrastructure;  - Engagement of independent medical staff in the ACO process;  - The delivery system payment model changing from fee-for-service payment;  - Building models for ongoing sustainability; and  - Uncertainty regarding Medicare participation.</td>
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### Other Comments
The leadership of the foundation identified a number of reasons for their participation (beyond financial):  - The ACO Learning Network provides an opportunity to consider how best to implement payment and delivery reforms. Specific actions can be tailored to the organization.  - They can learn from other organizations committed to value improvement in other communities.  - They need to adapt to emerging policies for delivery and payments reform.  - They must identify innovative approaches.
SECTION 1  ENDNOTES


END SECTION 1
SECTION 2

DISEASE MANAGEMENT

Definition: Disease management has proliferated as a method to improve the health of patients with chronic disease. Disease management has been defined as a multidisciplinary approach to care for chronic diseases that coordinates comprehensive care along the disease continuum across health care delivery systems.1 Alternately, Epstein, et al. defined disease management as a population-based approach to health care that identifies patients at risk, intervenes with specific programs of care, and measures outcomes.2 More recently, Weingarten, et al. adopted the following definition of disease management: an intervention designed to manage or prevent a chronic condition using a systematic approach to care and potentially employing multiple treatment modalities.3 The focus and structure of disease management programs vary by patient and provider/sponsor needs. Financial or other incentives are sometimes used to help motivate patient behavior change and/or to reward providers for their efforts to promote participation and achieve improved patient health outcomes.

One innovative approach toward disseminating information about policy options for policy makers and other stakeholders related to health care interventions (including policy options for disease management interventions) is RAND COMPARE (Comprehensive Assessment of Reform Efforts). RAND COMPARE was developed to provide tools to help decision makers assess the effects of changes in health care policies on health care system performance (such as access, quality, and cost). COMPARE gives users a comprehensive framework for examining trade-offs across policies or across different dimensions of performance for a particular policy (e.g., a policy’s effect on spending compared to the effect on insurance coverage or on patient experience).

Few randomized controlled clinical trials have been conducted of these interventions, yet evidence indicates some degree of effectiveness for each.

### Disease/Risk Screening or Assessment

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<tr>
<th>Intervention Areas and Case Examples</th>
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<td>Disease screening programs and initiatives aim for early identification of a disease or its precursors. The population may be narrowly focused to a known high-risk group or broadly focused to the general community. The program may focus on a single disease or multiple conditions. The initiatives may incorporate physical exams, blood testing, questionnaires, or...</td>
<td>Disease screening programs aim to identify individuals at risk for or in the early stages of illness or disease. Once identified, these individuals can be referred to risk reduction and disease management programs, which may result in improved outcomes and reduced costs. The Centers for Disease Control and Prevention (CDC) and other organizations publish recommendations for disease screening initiatives. Common broadly targeted screening...</td>
<td>• Studies indicate that screening is effective for early detection of disease. Program evaluations typically assess the extent of disease identified, rating cost-effectiveness by cost per Quality Adjusted Life Years (QALY) gained. • A limited number of randomized controlled trials (RCTs) indicate mixed results; factors such as screening modality, target population participation, disease focus, screening location, and frequency of screening may affect results.</td>
<td>Programs are broadly applicable across populations, diseases/conditions, and geographic areas. Groups that use disease management include: • Health departments; • Schools; • Physician group practice; • Employers; • Community groups; • Insurance providers and health maintenance organizations; and...</td>
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## Disease Management

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| other screening tools.              | programs include: high cholesterol, high blood pressure, diabetes, cervical cancer, colon and rectal cancers, HIV, sexually transmitted diseases, obesity, and breast cancer. Use of risk profiling, prediction and economic modeling to identify high-risk members earlier might increase the efficacy of disease management programs, which can then intervene earlier with those individuals whose behavior can be changed. | ● Cost effectiveness and cost-savings vary according to disease, screening modality, and frequency.  
● Successful screening programs targeting broad community populations focus on common conditions, such as high cholesterol, diabetes, and high blood pressure. Some studies have found reduced disease prevalence following a screening program.  
● Screening programs focused on less pervasive conditions may identify at-risk individuals when narrowly focused on a high-risk population; such programs may require recruitment initiatives. Several screening programs demonstrate reasonable cost effectiveness.  
● Ingenix, Inc., a consulting firm specializing in predictive modeling, reports that its retrospective Episode Risk Group (ERG) model achieves a .53-.57 R² while the prospective ERG model realizes a .18-.30 R².  
● Some data mining techniques have been shown to have predictive power of >80% with certain conditions when large data sets are used. | Hospitals (e.g., acute, community, rural, urban, ambulatory care, long-term care). |

### Other Comments
- It is important to carefully consider program goals, focus, population, and recruitment methods before implementing a program due to the considerable variability in efficacy.
- Review current screening recommendations prior to implementing a screening program.
- Recruitment strategies to avoid low participation rates if necessary.
- Ingenix, Inc., MEDai, DxCG and TC3 among other companies, provide predictive modeling software and consulting services.
- In general, data mining and predictive modeling achieve greatest accuracy with large data sets.
### DISEASE MANAGEMENT

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<td><strong>Case Example 1:</strong></td>
<td>Predictive modeling allows BCBS to more accurately identify and characterize health plan members who are at risk for a catastrophic clinical event. Early identification and appropriate interventions for these members can lead to improved quality of life, positive health outcomes, and more effective population-based care management. Furthermore, the comprehensive clinical profiles will allow BCBSMA to develop more meaningful collaborations with their key partners - including employers and providers - to improve member health.</td>
<td>BCBS of Rhode Island reported a 10% increase in the accuracy of its underwriting and high-risk case and disease management models four months after implementing predictive modeling software. BCBSRI deployed ACG Rx-PM, which relies on retail pharmacy claims to identify high-risk cases in real time.</td>
<td>BCBS has a diverse and large membership across the U.S.</td>
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<td><strong>Blue Cross Blue Shield (BCBS)</strong></td>
<td>Predictive Modeling analysis is conducted on a weekly basis to identify members who have an increased probability of incurring high cost medical expenses in the future. These members are then recruited into any one of a number of disease management programs.</td>
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<td><strong>Other Comments</strong></td>
<td>For increased accuracy in prediction, most analysts recommend use of large, more comprehensive data sets, which may be developed in data warehouses. Several statistical software options are available focused on predictive modeling approaches.</td>
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<td><strong>Case Example 2:</strong></td>
<td>KP aims to improve patient health and reduce medical crises through predictive modeling. The Archimedes Model used predictive modeling to forecast that “bundled” cardioprotective medications would reduce the risk of heart attack and stroke in a high-risk population by 71%. A study of the effectiveness of this approach found that a disease management program providing 68,560 patients – identified as high risk via the predictive modeling - with diabetes or heart disease with a bundling of two generic, low-cost drugs (a cholesterol-lowering statin and a blood pressure-lowering drug) prevented 1,271 heart attacks and strokes.</td>
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<td><strong>Kaiser Permanente (KP)</strong></td>
<td>Kaiser Permanente uses predictive modeling with its electronic health record data, KP HealthConnect, to identify those at risk for heart attacks and stroke. KP’s Archimedes Model simulated the pathophysiology, treatments, and outcomes of coronary artery disease and diabetes and its complications at the individual level and aggregated the results to project population-level effects.</td>
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**STRATEGIC INNOVATIONS FOR AFFORDABLE, SUSTAINABLE HEALTH CARE:** A Model for Health System Reform: *Environmental Scan*  
ALTARUM INSTITUTE January 2011

**SECTION 2 ● DISEASE MANAGEMENT:**
## Disease Management

### Electronic (EDSS) or Computerized Clinical Decision Support Systems (CDSS), Physician Reminders

Computer-based information systems integrate clinical and patient information to support decision-making in patient care. Disease risk estimation algorithms, clinical guidelines, and risk-based patient care advice are programmed into a software package. The software may reside on individual desktops, PDAs, internal servers, or be Web-based. The software may accompany or be separate from Electronic Medical Records (EMR) systems.

These tools aim to provide physicians and other health care providers with easy-to-access, disease-specific clinical information; algorithms; and evidence-based clinical treatment guidelines. The functionality of these tools, in a practice setting, is enhanced by increased disease-specificity capabilities of the software. Ease-of-access of these software packages may increase their use, which may promote increased standardization of care and adherence to clinical guidelines, thus improving the quality of patient care. These tools are appropriate for acute patient care as well as chronic disease management.

### Patient Education/Self-Management Programs/Patient Action Plans/Goal Setting

Patient education and self-management programs and patient action plans aim to improve patient health outcomes, lower health care costs, and increase patient autonomy over day-to-day health care decisions. These programs and tools are based on the belief that increased education will lead to more appropriate decision-making and self-care behaviors. Specifically, these education programs and tools aim to increase patient knowledge about a specific condition so that they have improved

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| **Electronic (EDSS) or Computerized Clinical Decision Support Systems (CDSS), Physician Reminders** | These tools aim to provide physicians and other health care providers with easy-to-access, disease-specific clinical information; algorithms; and evidence-based clinical treatment guidelines. The functionality of these tools, in a practice setting, is enhanced by increased disease-specificity capabilities of the software. Ease-of-access of these software packages may increase their use, which may promote increased standardization of care and adherence to clinical guidelines, thus improving the quality of patient care. These tools are appropriate for acute patient care as well as chronic disease management. | ● Improved patient outcomes associated with use of EDSS/CDSS have been found for the following areas:
   - Drug dose calculations, titration, and weaning;
   - Preventive care disease management;
   - Patient outcomes;
   - Standardization of patient care; and
   - Disease risk communication.
   - CDSS up-take and impact studies show generalized acceptance, use, and applicability across countries, medical specialties, and practice settings.
   - Technological capacity, user IT familiarity, and/or Internet availability may affect use.
   - Quality of the information, automatic up-dating, and specificity to clinical practices may affect up-take.
   - Some studies have found differences in the level of CDSS impact by patient care setting, with greater benefits realized in acute care settings than chronic (primary care). 
| EDSS and CDSS are not market specific applications.

Users include:
- Health departments;
- Physician group practices; and
- Hospitals (e.g., acute, community, rural, urban, ambulatory care, long-term care). |

| **Patient Education/Self-Management Programs/Patient Action Plans/Goal Setting** | Patient education and self-management programs and patient action plans aim to improve patient health outcomes, lower health care costs, and increase patient autonomy over day-to-day health care decisions. These programs and tools are based on the belief that increased education will lead to more appropriate decision-making and self-care behaviors. Specifically, these education programs and tools aim to increase patient knowledge about a specific condition so that they have improved | Patient action plans can improve health outcomes for patients with a variety of chronic conditions.
- Statistically significant results have been obtained following patient education programs in the following areas:
  - Better adherence to medical regimen,
  - Better adherence to pharmaceutical regimen,
  - Increased knowledge of medical terms,
  - Improvements in patient disease control,
  - Increased disease-specific knowledge,
  - Lower systolic blood pressure (in a | These programs are very broadly applicable across populations, diseases/conditions, age groups, and geographic areas, including countries.

Users include:
- Health departments;
- Community groups;
- Insurance providers and health maintenance organizations;
- Employers;
- Physician group practices; and
- Hospitals (e.g., acute, community, rural, urban, ambulatory care, long-term care). |
### Interventions Areas and Case Examples

**Decision-making and problem-solving skills.**

Patient education and self-management training may be offered via written materials, visuals, and one-on-one or group training sessions. Patient action plans are disease-specific written or computerized tools focused on assisting patients to quickly detect and treat exacerbations. These tools facilitate patient self-management. They may also provide some education in interventions to improve health status.

### Disease Management

**Remote Monitoring and Patient Support**

These approaches include:
- Telemonitoring,
- Telehealth,
- Telephone Reminders, and
- Postal Reminders.

Remote monitoring interventions may be used across disciplines for patients with chronic illness and in primary care practices. They may utilize

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<td>adherence to treatment and medication regimens, and make more informed decisions regarding when to seek physician or emergency room treatment.</td>
<td>population of hypertensive patients who received disease specific education), o Fewer re-hospitalizations and death in chronic heart failure patients, o Improved adherence to diet restrictions, and o Reduced physician visits. ● Studies of patient self-management programs report statistically significant results in: o Proper medication use, o Reduced exacerbations in COPD patients, and o Self-efficacy in disease management. ● Other studies have found non-statistically significant improvements in the following: o Diabetic glycemic control, o Days off from work, o Reduced physician visits, and o Reduced emergency department visits. Studies evaluating efficacy of program by modality have found that Internet, self-paced programs more effective than physician-provided education.</td>
<td>urban, ambulatory care, long-term care).</td>
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Remote monitoring aims to support patient care and self-management to improve patient health outcomes and lower health care costs by providing patients with continued support after hospital discharge or between physician appointments. Remote monitoring and support may identify and/or prevent illness-related complications and maintain patient compliance with treatment and medication regimens, outcomes related to reduced health care costs, and improved patient outcomes.

- Telemonitoring has been found to:
  - Reduce hospital length of stay,
  - Reduce mortality,
  - Reduce the number of hospitalizations,
  - Improve health status measures,
  - Lower health care costs,
  - Reduce the number of emergency room visits,
  - Increase patient compliance with treatment regimen, and
  - Improve symptom control.

- Telehealth has been found to:
  - Reduce hospital length of stay,

These programs are applicable across populations, diseases/conditions, and geographic areas, including countries.

- Users include:
  - Health departments;
  - Health maintenance organizations;
  - Larger physician practice groups;
  - Prisons;
  - Pre-hospital emergency services; and
  - Hospitals (e.g., acute, community, rural, urban, ambulatory care, long-term care).
## DISEASE MANAGEMENT

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<td>Internet, telephone, or other remote modality. They may be used to monitor patient physical status or symptoms, review patient self-care efforts, answer patient questions, make changes to patient treatment regimes, provide patient education, and remind patients of appointments. Telemonitoring devices transmit health information to monitoring centers via telephone or Internet. May be combined with telehealth. Telehealth services are generally provided by nurses or allied health providers via telephone or Internet.</td>
<td>o Improve symptom control, o Reduce mortality, and o Improve adherence to medication regimen. Patient reminders have been found to increase compliance with appointments and with treatment regimen.</td>
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| Other Comments | With pre-intervention education, these programs may be implemented successfully in individuals with no computer or previous remote monitoring experience.  
Remote monitoring may be particularly useful for patients in remote settings or who have difficulty accessing patient care centers.  
Regions with limited telephone or Internet connectivity may have difficulty implementing these programs effectively. |  |

### PEER, SOCIAL, OR COMMUNITY SUPPORT PROGRAMS

Support programs offer group or one-to-one support for patients with chronic or long-term illness. They provide a structured setting in which patients and/or family members receive social support, guidance, and education about their disease or condition.  
These programs may be conducted in health care or community settings, though the Internet is an increasingly popular venue. Groups may be facilitated by a nurse or other health care provider. Peer-to-peer and lay-led programs are also common.  
These programs aim to increase patient autonomy over day-to-day health care decisions and improve their ability to cope with disease exacerbations. Specifically, these programs provide a forum for sharing knowledge and support using peer and social support networks.  
Although support groups have been associated with certain improvements, limited studies of them have been conducted; no cost-effectiveness analysis of U.S.-based support programs could be found. Some studies have found no improvement in measured outcomes.  
These programs are applicable across populations and geographic areas. Smaller geographic regions may have increased difficulty attaining goal participation rates.
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<td><strong>Behavior and Lifestyle Modification Programs</strong></td>
<td>These programs aim to reduce occurrence of unhealthy behaviors, improve patient health status, and improve patient health outcomes.</td>
<td>● Studies show mixed results, dependent on program details and participant motivation. Financial and other incentives are sometimes used to help motivate participants. ● Internet-based behavior modification programs may be less effective than in-person sessions.16 ● No cost-effectiveness analysis of U.S.-based support programs was identified.</td>
<td>● These programs are applicable across populations and geographic areas, including cities. ● Smaller geographic regions may have increased difficulty attaining goal participation rates. ● Users include: ○ Health departments; ○ Health maintenance organizations; ○ Physician practice groups; ○ Community organizations; ○ Disease-specific non-profit organizations; ○ Employers; ○ Prisons; and ○ Hospitals (e.g., acute, community, rural, urban, ambulatory care, long-term care).</td>
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**Other Comments**

- Efficacy will vary dependent on program focus, structure, recruitment, implementation, and other factors.
- Programs should be based on recommended guidelines and provide evidence-based information.

### (Chronic) Disease Management Registries

Computerized disease registries track and manage disease-specific information for individual patients and populations. A registry supports care management, outreach, quality improvement, and outcome research.17 These registries offer several different report options, such as patient-specific reports on disease status and events, exception reports to identify patients over-due for exams or other health care needs, and aggregate reports on efficacy of patient care teams or organizations in disease-specific population care. Registries may be locally developed, purchased, or exchanged.

Registry programs seek to assist health care providers to more systematically provide and monitor the health care for and status of patients with chronic disease. Systematic management and tracking of patients may lead to patients receiving recommended care at increased rates. More consistent provision of health care and evidence-based treatments improves health outcomes, lowers overall health care use, and lowers health care costs.

Registry use has been associated with:

- Increased disease indicator monitoring.
- Provision of tobacco advice.
- Increased frequency of exams for co-morbid conditions.
- Increased provision of self-management support.
- Greater provider adherence to clinical guideline recommendations, and
- Improvement in certain disease-specific health indicators.

Registries are suitable for diverse market conditions, and are applicable across populations and geographic areas. Users include:

- Health Departments;
- Health maintenance organizations;
- Physician practice groups;
- Community organizations;
- Disease-specific non-profit organizations;
- Employers; and
- Hospitals (e.g., acute, community, rural, urban, ambulatory care, long-term care).
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<td>publically available software. A registry may reside on a PC or on a local, vendor, or other server and accessed via Internet. The registry may handle a single or multiple diseases. It may be a stand-alone program or incorporated into an Electronic Medical Record (EMR). Patient information may be entered manually or be downloaded from sources, such as claims, disease or pharmacy systems, or EMRs.</td>
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<td>Basic Uses:</td>
<td>Advanced planning of patient care, based on evidence-based protocols.</td>
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<td>• Providing ‘opportunistic’ care – that is, take every opportunity to provide care, even if it is not the reason for the visit.</td>
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<td>• Monitoring quality indicators to evaluate effectiveness of process improvements.</td>
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<td>• Identifying gaps in performance.</td>
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<td>Advanced Uses:</td>
<td>Stratify patients by severity in order to target planned care.</td>
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<td>• Provide patient-specific outreach reminders.</td>
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<td>• Create individual patient care plans with goals, track patient progress against the plan, and identify subgroups of patients based on plan progress.</td>
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<td>• Identify subpopulations (by gender, age, geographic area) to differentiate process improvement interventions.</td>
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<td>• Identify subpopulations with special needs.</td>
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<td>• Provide performance feedback to providers and staff.</td>
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<td>• Identify ‘non-compliant’ patients to diagnose causes and target interventions.</td>
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<td>• Organize, coordinate, and schedule ancillary and community-based services.</td>
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<td>• Create and manage provider panels.</td>
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<td>• Deliver transparent provider-specific feedback.</td>
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<td>• Identify patients for clinical trials.</td>
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<td>• Distribute a newsletter to patients including current performance data.</td>
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<td>• Summarize utilization improvement and cost savings for negotiations with payers and networks, and to obtain grant funding.</td>
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| **Case Example 1:** Holyoke Health Center Chronic Disease Registry | Asthma registry: Data entry form includes a short version of asthma guidelines to help guide severity assessment and medication management. Providers receive individual data regarding asthma patients. The asthma case manager independently follows patients entered into the registry—a new intervention as previously all patients had to be referred by a physician. Depression registry is currently being validated. Diabetes registry is used to print out individual provider’s outcomes and combined provider data. Physician champion discusses outcome data with providers on a monthly basis. Registry data are used to identify patients newly diagnosed with diabetes. All data are reviewed and analyzed monthly. Approximately 1,188 patients registered. HIV registry: utilized to print out individual provider’s outcomes and combined provider data. Physician champion discusses outcome data with providers monthly. Registry is used to identify and follow-up with patients who have not been seen by their providers in the last four months. Registry data are used to identify patients newly diagnosed with HIV. | • The proportion of diabetic patients who had been seen within the previous three years, but who had not had an appointment within the previous year decreased from 28.2% in January 2003, to 6.5% by January 2006.  
• The average A1C for all patients with diabetes was 8.4% in January 2003. By January 2006, that figure was 7.5%.  
• In January 2003, the proportion of patients with A1C levels > 10% was 18.2%. By January 2006, it had declined to 10.8%.  
• HHC implemented several initiatives concurrently with the diabetes registry. However, only an estimated 50% of patients participated in other activities. This suggests a positive effect of improved management and tracking on patient outcomes.  
• Other CHCs employing diabetes disease registries have reported similar findings.  
• Data are not available on the other registry disease focus areas. | • Registries are suitable for diverse market conditions.  
• Registry up-take shows generalized acceptance and use by the staff of a community health center.  
• Practices and providers with larger numbers of patients with chronic disease may realize most benefit from these programs. |
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<td><strong>Clinical Guideline Creation and/OR Execution Engines</strong></td>
<td>These tools aim to provide physicians and other health care providers with the ability to store, analyze, create, and disseminate clinical treatment guidelines. The functionality of these tools, in a practice setting, is enhanced with increased disease-specificity capabilities of the software and use of common software platforms. Increased use of clinical treatment guidelines will promote increased standardization of care and adherence to clinical guidelines, thus improving the quality of patient care. These tools are appropriate for acute patient care as well as chronic disease management.</td>
<td>Clinical guidelines are intended to shape practice patterns, which may differ across market areas.</td>
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| **Other Comments** | Examples of creation and execution engines include:  
- Digital Electronic Guidelines Library (DeGeL), a web-based, modular and distributed architecture;  
- GuideLine Acquisition, Representation and Execution (GLARE), a system to acquire and execute clinical guidelines;  
- GLIF3 Guideline Execution Engine (GLEE), a tool for executing guidelines;  
- Health Care Services release 2 (HeCaSe2), an agent-based platform that offers health care services to users;  
- NewGuide, a framework for modeling and executing clinical practice guidelines;  
- Standards-based Sharable Active Guideline Environment (SAGE), the result of collaboration among research groups at six institutions; and  
- Specification Execution and Management Plan (SpEM), a framework for supporting the management of clinical guidelines. |  |  |
| **Provider Incentives/Pay-for-Performance** | Fee-for-service payments fail to promote and may even discourage guideline-based treatment. An effective disease management program may lead to lower revenues for providers under fee-for-service, since quality improvement activities are not billable and acute care visits decrease with improved care.  
• This review did not identify RCTs evaluating the impact of pay-for-performance incentives. Most studies incorporated a pre-/post-analysis of patient outcomes and visits.  
• Incentives may contribute to improved patient outcomes and reduced health care utilization and costs.  
• Non-financial incentives that will promote the | Pay-for-performance incentives are suitable for diverse market conditions. Programs may be tailored to meet local capabilities and health situations.  
• Up-take of incentive programs has been found to be significantly associated with region, with HMOs in the northeast and west much more likely to offer these. |  |
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<td>rewards or undesirable consequences. Pay-for-performance incentives are becoming an increasingly popular tool in quality improvement, disease management, and wellness promotion strategies. Pay-for-performance incentives award physicians, providers, medical practices, or hospitals an incentive bonus for good patient outcomes. Pay-for-performance historically has been focused on patient outcomes, but increasingly focuses on quality. Improvements may be structural, clinical process, satisfaction, quality focused, or a combination. Popular clinical indicators include high compliance with the desired frequency of immunizations, Pap smears, mammographic and colonoscopy screening, and the use of hemoglobin A1c for screening and management of diabetes. Pay-for-Performance structures include: • Competitive and non-competitive awards to providers meeting a set target, • Competitive and non-competitive awards to providers who improve, and • Reward and penalty systems to reward high compliance or patient outcomes and to penalize low compliance.</td>
<td>Pay-for-performance programs attempt to compensate for this discrepancy in focus by rewarding physicians, hospitals, and others for initiatives undertaken to improve patient care and care processes. The goal is to improve patient outcomes by rewarding physicians for achieving those outcomes. Improved patient outcomes will lead to lower health care costs.</td>
<td>participant in either patient or peer groups might be equally effective. • Pay-for-performance is associated with greater adherence to clinical treatment guidelines, though findings are mixed. • Incentives may have more impact on physicians and smaller practices than larger groups or facilities unless the reward reaches a proportionate value of revenue from smaller unit/entity to larger entity. • Incentive structures focused on administrative improvements may indirectly result in worsened patient outcomes. • This review identified one study examining cost-effectiveness of a hospital incentive program. Results indicated cost-effectiveness of the program in terms of Quality of Life Years. • Cost-effectiveness analyses of pay-for-performance programs are sparse.</td>
<td>programs, and those in the south much less likely.</td>
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</table>

Other Comments

- The Centers for Medicare & Medicaid Services (CMS) uses many pay-for-performance strategies.
- Many state Medicaid programs have implemented some form of pay-for-performance program.
- Providers or hospitals with large high-risk or chronically ill populations may be disproportionately penalized. Risk adjusted payments for patient mix differences may resolve this problem.
- Strict adherence to clinical treatment guidelines in all patients may not be appropriate. Some discretion should be allowed providers to exercise their clinical judgment.
- Pay-for-performance incentives may reward those providers with higher performance at baseline.
SECTION 2 • ENDNOTES


END SECTION 2
Electronic Medical Records (EMR) – An EMR is a computer-based patient medical record. An EMR facilitates access to patient data by clinical staff at any given location; accurate and complete claims processing by insurance companies; building automated checks for drug and allergy interactions; clinical notes; prescriptions; scheduling; sending to and viewing by labs. The term has become expanded to include systems which keep track of other relevant medical information. The practice management system is the medical office functions which support and surround the electronic medical record.¹

Note: The 2009 economic stimulus package (HITECH Act) aims at incenting more physicians to adopt EHR. The American Recovery and Reinvestment Act of 2009 (ARRA) promises incentive payments to those who adopt and use "certified EHRs" and, eventually, reduces Medicare payments to those who do not use an EHR. The research evidence on the overall merits of EHR implementation to support care delivery is strong (e.g., improved decision making, reduced medical efforts). However, evidence to support EMRs as a cost savings strategy is mixed. There are several landmark studies and reports (e.g., The New England Journal of Medicine, Medical Group Management Association (MGMA), Congress, Blue Cross, and National Research Council) that have clearly refuted the claims of EMR as a cost saving strategy.² ³ ⁴ ⁵ ⁶ ⁷ ⁸

### Electronic Medical Records

<table>
<thead>
<tr>
<th>INTERVENTION AREAS AND Case Examples</th>
<th>What does the intervention intend to address?</th>
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<tr>
<td><strong>APPLICATION SERVICE PROVIDER (ASP)</strong></td>
<td>In contrast to the traditional client/server model, the ASP strategy allows providers to save on the upfront costs and hardware requirements of a client/server architecture, and instead make smaller payments over time.</td>
<td>• A review of several provider organizations that adopted the ASP model indicates that the approach does allow for reduced start up costs for EMR hardware, software, network connectivity, and labor.⁹</td>
<td>• Model appears viable for most geographical markets.</td>
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<td><strong>HOSTING STRATEGY</strong></td>
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<td>• The ASP model also allows practices to access new features almost immediately upon release instead vs. increased costs for enhancements as seen in the client/server model. This may become an increasingly important driver as health information exchange (HIE) requirements continue to evolve.</td>
<td>• Model appears suitable for diverse market conditions.</td>
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<td>• ASP model also allows providers to start off with a hosted service (less cost and risk), then move to an in-house solution over time.¹⁰</td>
<td>• Greatest concern has been in areas where internet connectivity is not strong (e.g., rural markets).¹¹</td>
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<td>• Key concerns cited for organizations adopting a ASP approach include: vendor stability, reliance on internet</td>
<td>• Dominant purchasers identified include, but may not be limited to:</td>
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<td></td>
<td>o Independent Physician Associations (IPAs); and</td>
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<td>o Small to mid-size provider organizations (physicians, small healthcare groups, etc.).¹²</td>
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<td></td>
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<td></td>
<td>• Other:</td>
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<td>o Relevance to Business Coalitions –</td>
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<td>o Ability to negotiate vendor-provided service level agreement (SLA);</td>
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<td>o Ability to minimize the capital investment in EMR;</td>
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### Electronic Medical Records

**Intervention Areas and Case Examples**

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| Internet, through a web browser or specialized client software (e.g., VPN). | - Connectivity, security, and data conversion capabilities.  
- Stronger arguments in favor of ASP approach vs. client server strategy: (1) Higher upfront cost of ownership as a server and software must be purchased upfront; (2) Manual product updates are usually required (not in all cases); (3) Online backup must be purchased as add-on 3rd party software which increases overall IT spend; and (4) Remote access to EMR is limited in functionality and is more complex. | o Ability to spread the cost of software, hardware and support over a monthly operating budget; and  
o Minimizing the need for expensive internal IT personal to maintain a complex EMR system. |

**Other Comments**

- A key consideration for ASP implementation will be whether the EMR is certified by the Certification Commission for Health Information Technology (CCHIT), which will determine incentives or penalties for EMR “Meaningful Use” by providers.
- ASP Vendors: eClinicalWorks (eCW), Allscripts, and NextGen.
- Other:  
  - Ability to spread the cost of software, hardware and support over a monthly operating budget; and  
  - Minimizing the need for expensive internal IT personal to maintain a complex EMR system.

**EMR Facilitated Process Redesign – Six Sigma**

- Optimization of the value of EMR implementation by focusing on staffing and workflow changes associated with new technology implementation (e.g., patient charting, clinical decision support, document and image management, reporting).
- Primary focus is on patient access, workflow efficiency, communication, decision support use, and financial performance.

** EMR and IT-driven clinical transformations to maximize value realization for providers and patients through business process optimization and effective organization change management.**

- In general, most of the research evidence consists of before-and-after comparisons of key outcomes measures (e.g., patient wait times, medical errors).
- In 2005, one study estimated industry savings of $81 billion annually, with that number possibly doubling once the data captured by EMRs is fully used in the prevention and management of chronic disease.  
- A survey of 819 users of electronic medical records (EMRs) by the Medical Records Institute found that almost 50% of healthcare organizations were driven to EMRs because they recognized the need to improve clinical processes and workflow efficiency.
- Reported results include:  
  - Reduced clinical costs,  
  - Enhanced quality and access,  
  - Reduced hospitalizations,  
  - Reduced adverse events,  
  - Reduced administrative costs,  

- No data were found to suggest that approach would be limited to specific geographic markets.
- Model appears suitable for diverse market conditions.
- The majority of case examples identified focused on larger hospital systems where there is a greater need to integrate all aspects of the care delivery system — from ambulatory care to the emergency department, to the inpatient setting, to post-acute care providers.
- Dominant purchasers identified include, but may not be limited to:  
  - Physician Group Practices, and  
  - Hospitals (e.g., Acute, Community, Rural, Urban, Ambulatory Care, Long Term Care).
- Other:  
  - One group identified was a multispecialty group practice with more than 750 physicians and 6,000 staff serving more than 360,000 patients at 41 ambulatory care sites.

**Strategic Innovations for Affordable, Sustainable Health Care: A Model for Health System Reform: Environmental Scan**

**Section 3 • Electronic Medical Records**

[www.altarum.org](http://www.altarum.org)
### Electronic Medical Records

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<td></td>
<td>What does the intervention intend to address?</td>
<td>Improved care management and coordination of care, Expansion of services, and Modification of practice patterns and behavior.</td>
<td>Relevance to Business Coalitions - Serves as ancillary strategy to maximize EMR investment and contribute to overall cost reductions.</td>
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<td>Revised to appropriate impact of intervention.</td>
<td>Several organizations that had implemented EMRs were also engaged in other concurrent transformational programs (e.g., Six Sigma, culture change, physician engagement, Baldrige Review, and ongoing initiatives around quality, patient safety, and cost-effectiveness). It is important to note that industry experts forecast that as many as 100,000 physicians and IPAs will be making decisions on EMR in the next 24 months, as the market reaches the so-called “Tipping Point.” This is largely due to the EMR adoption mandates outlined in the ARRA.</td>
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<td>Other Comments: Two large health systems — Sutter Health in Northern California and Presbyterian Healthcare Services in Albuquerque, New Mexico — are taking this approach, using Lean Six Sigma design tools. They are first redesigning processes and workflows to eliminate waste, redundancy, and variation, and then automating these newly improved processes with EMR technology. The Marshfield Clinic (Wisconsin) has long used information systems to facilitate care process redesign for patients with chronic illnesses, and the organization expanded its efforts after becoming a participant in the Centers for Medicare and Medicaid Services (CMS) Physician Group Practice Demonstration Project. As a result of these expanded efforts, Marshfield Clinic reports enhanced quality and access to care; reduced hospitalizations, adverse events, and clinical and administrative costs; and earned performance bonuses in both years of the demonstration project.</td>
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<td>Hospital Sponsored Incentives to Drive Physician EMR Adoption</td>
<td>Previously, the Stark Law enacted under the Omnibus Budget Reconciliation Act of 1989 prevented hospitals from purchasing EMR software and other equipment for private practice physicians in an effort to attract referrals. In 2007, HHS and IRS related the Stark Law and now allow hospitals to bear up to 85% of the cost of EMR implementation.</td>
<td>Research suggests that there are a number of strategies taken by hospitals to help encourage EMR adoption by physician group practices. Factors driving hospital interest in supporting physician EMR adoption include: (1) improving the quality and efficiency of care, and (2) increasing alignment between physicians hospital. Hospitals varied in the level and structure of the subsidies and/or IT support services, such as training.</td>
<td>Greatest presence seen in the U.S. Northeast Region - where several hospitals were identified to have initiated small-scale, phased rollouts of subsidized EMRs (e.g., Beth Israel Deaconess Physicians Organization, Children's Hospital Boston, Caritas, Mt. Auburn Hospital, New England Baptist Hospital, Partners Healthcare System, Winchester Hospital). Model appears suitable for diverse market conditions. Data also suggest that larger metropolitan communities</td>
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### Electronic Medical Records

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<td>physician level to include direct financial subsidies, extension of EMR vendor discounts and technical support by hospital IT staff.</td>
<td>for physician offices. The revised regulations are scheduled to sunset on Dec. 31, 2013, when physicians must assume any ongoing EMR costs.</td>
<td>technical support, data storage, and enhanced clinical data exchange between hospital IT systems and physician EMRs.</td>
<td>might expect to see small-scale, phased rollouts of EMR programs by larger hospitals.</td>
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<td>• Hospital information technology projects, budget availability and physician interest are among the factors influencing hospital decisions regarding adoption.</td>
<td>• Dominant purchasers identified include, but may not be limited to:</td>
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<td>• Most hospitals are picking ONE system for their employed physicians and then they are going to offer to pay 85% If independent physicians use this ONE system.</td>
<td>o Medium - Large hospitals, and</td>
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<td>• Hospitals reported that they anticipate physicians will be more likely to maintain, and even expand, their relationship with the hospital because of the improved efficiency from interoperability with hospital’s EMR system.</td>
<td>o Hospital Systems.</td>
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<td>• According to findings from the Center for Studying Health System Change’s (HSC) 2007 Metropolitan Community site visit, a significant number of hospitals are evaluating strategies to help physicians purchase EMRs but many are proceeding cautiously.</td>
<td>• Other:</td>
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<td>• Data from the National Study of Physician Organizations conducted in 2007 revealed that physicians under capitated payments are more likely to adopt EMRs than otherwise similar organizations receiving payment on a fee-for-service (FFS) basis. However, groups with a high percentage of patients enrolled in HMOs are less likely to adopt EMRs than organizations whose patients are mostly enrolled in non-HMO insurance plans.</td>
<td>o A key incentive for hospitals adopting this strategy is the ability to drive deeper volume discounts if all their doctors are on one EMR system (similar to pharmaceutical/PBM industry).</td>
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<td>o Relevance to Business Coalitions – Leverage economies of scale, shared service model, minimize scope/cost/risk/complexity of EMR integration with future information exchange initiatives.</td>
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### ELECTRONIC MEDICAL RECORDS

#### INTERVENTION AREAS AND Case Examples

**What does the intervention intend to address?**

- The Massachusetts General Physicians Organization, working with Massachusetts General Hospital, designed an incentive and communications campaign to encourage doctors to use health information technologies (including a new EHR and electronic radiology ordering system), and to adopt other, department-specific quality and safety measures. The program, which offers rewards of up to $5,000 annually for physicians who meet pre-established goals, led to increased use of these technologies and to other quality and safety improvements.
- Several hospitals reported providing providers with EMR systems (e.g., eClinicalWorks, GE Centricity)
  - Johnson Memorial (Indiana),
  - Children’s National Medical Center (Washington, DC), and
  - Stamford Hospital (Connecticut).

**What is the research evidence regarding impact of intervention?**

- As of November 2009, new HHS rules under the Health Insurance Portability and Accountability Act (HIPAA) call for financial penalties ranging from $100 to $50,000 for each violation. HHS also sets a maximum yearly penalty of $1.5 million for all violations of an identical provision.

**How applicable to which types of markets?**

- Model appears viable for most geographical markets.
- Model appears suitable for diverse market conditions.
- Dominant purchasers include, but may not be limited to:
  - IPA, Physician Groups, Clinics, Hospitals,
  - Laboratory, and
  - Retail Pharmacies.
- Other:
  - CSF could be relevant to payor based organizations as well due to the increased need to ensure PHI is protected:
    - Fee-for-Service plans,
    - Health Maintenance Organizations (HMO),
    - Point-of-Service plans (POS), and
    - Preferred Provider Organizations (PPO).

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#### ADOPTION OF COMMON SECURITY FRAMEWORKS (CSF) TO MANAGE NEW SECURITY REQUIREMENTS

**CSF is a new program to evaluate and certify IT security products and services.**

CSF is an information security framework that harmonizes the requirements of existing standards and regulations, including federal (HIPAA, HITECH), third party (PCI, COBIT) and government (NIST, FTC).

- The research evidence for this innovation is limited since this is a fairly new strategy in anticipation of widespread EMR adoptions under ARRA and new security provisions under HIPAA. (Note: ARRA provides for greatly increased penalties for security breaches involving personal health information, and these are in effect now).

- Anticipated results include:
  - Lowered costs, reduced risks, increased efficiency and decreased complexity;
  - Helps doctors and hospitals share patient records both on site and remotely;
  - Allows health plans to exchange patient data with doctors and protects online access to medical records; and
  - Provides organizations with the needed structure, detail and clarity relating to information security tailored to the healthcare industry.

Note: CSF appears to be a preemptive move in anticipation of a new market for assisting hospitals, clinics and physicians in complying with privacy rules in HIPAA and the HITECH Act; both are part of the federal stimulus package.

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**Other Comments**

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### Electronic Medical Records

**Intervention Areas and Case Examples**

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<td>Health Information Trust Alliance (HITRUST) is a coalition of more than 50 health care companies. HITRUST includes health providers, insurers, pharmacies, biotech firms, device manufacturers, and technology vendors that established a common security framework designed to be a benchmark for safeguarding the privacy of electronic medical records. The coalition’s plan creates guidelines for addressing the security and regulatory aspects of establishing a broad network for the exchange of electronic health records. 29 HITRUST Common Security Framework (CSF) is a certifiable framework that can be used by any and all organizations that create, access, store or exchange personal health and financial records. HITRUST members include Cisco Systems, CVS Caremark Corporation, Humana Inc., Johnson &amp; Johnson, UnitedHealth Group Inc., and hospital chain HCA, Inc.</td>
<td>• Research reveals that this is becoming a key differentiator in selecting EMR technology due to its ability to improve the efficiency and profitability of medical practices.  • Often it is touted as providing “end to end” management of medical practice, patient and production data.  • Reported results include:  o Revenues gained through more accurate procedure tracking, resulting in additional reimbursement;  o Savings generated by eliminating transcription services;  o Labor cost recovery from fewer support staff; and  o Increased effectiveness in meeting Federal and State quarterly reporting requirements.  • According to the CEO of the Healthcare Billing and Management Association, the fact that the Medicare’s Recovery Audit Contractor (RAC) audits are affecting nearly every financial process for healthcare providers. As RAC auditors aim to find irregular claims information, providers need to ensure their systems can appropriately manage and process all financial data. 30</td>
<td>• No evidence was found to suggest that approach would be limited to specific geographic markets.  • Model appears suitable for diverse market conditions.  • Dominant purchasers identified include, but may not be limited to:  o The majority (if not all) health care facilities, including IPA, clinics, hospitals.  o Relevance to Business Coalition  o Reduced operational costs,  o Improved management of third party vendors,  o Improved pricing strategies,  o Improved diagnostic and service coding,  o Increased cash flow,  o Improved business processes, and  o Improved customer services.</td>
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**Other Comments**

- Health Information Trust Alliance (HITRUST) is a coalition of more than 50 health care companies. HITRUST includes health providers, insurers, pharmacies, biotech firms, device manufacturers, and technology vendors that established a common security framework designed to be a benchmark for safeguarding the privacy of electronic medical records. The coalition’s plan creates guidelines for addressing the security and regulatory aspects of establishing a broad network for the exchange of electronic health records. 29 HITRUST Common Security Framework (CSF) is a certifiable framework that can be used by any and all organizations that create, access, store or exchange personal health and financial records. HITRUST members include Cisco Systems, CVS Caremark Corporation, Humana Inc., Johnson & Johnson, UnitedHealth Group Inc., and hospital chain HCA, Inc.

- Focuses on providing physicians with the tools required to increase office efficiencies, insurance and patient collections, enhanced workflow productivity and profit.

- Bridge Community Health Clinic in Wausau, Wisconsin partnered with HealthPort to implement HealthPort Practice Management (PM), HealthPort Electronic Medical Record (EMR), and HealthPort Revenue Cycle Management (RCM).
  - Bridge County reported that the combined approach helped the organization move forward in terms of operations, patient care, and finance.
## INTERVENTION AREAS AND Case Examples

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<td>They also indicated that the ability to have these three solutions from a single vendor was an important factor and that disparate vendors and systems added significantly more costs, time and complexity.</td>
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## ENDNOTES


The Medical Tourism Association (MTA) states “medical tourism is where people who live in one country travel to another country to receive medical, dental, or surgical care while at the same time receiving equal to or greater care than they would have in their own country, and are traveling for medical care because of affordability, better access to care or a higher level of quality of care.”¹

The MTA (Global Healthcare Association) is the first and only international, non-profit trade association for the medical tourism and global health care industry made up of the top international hospitals, health care providers, medical travel facilitators, insurance companies, and other affiliated companies and members with the common goal of promoting the highest level of quality of healthcare to patients in a global environment.²

In 2008, the American Medical Association adopted guiding principles on medical tourism at its annual policymaking meeting. The nine principles are the first of their kind and outline steps for care abroad for consideration by patients, employers, insurers, and third-parties responsible for coordinating travel outside of the United States (U.S.). Select principles include medical care outside of the U.S. must be voluntary, patients should only be referred for medical care to institutions accredited by recognized international accrediting bodies, and patients should be informed of their rights and legal recourse prior to agreeing to travel outside the U.S. for medical care.³,⁴

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<td>MEDICAL TOURISM INSURANCE/BENEFIT PLANS</td>
<td>This approach seeks to cover and reduce costs of care for primarily international medical procedures for consumers, and cost of insurance- and health-related costs for employers. It also allows consumers alternative access to a wider range of high-quality medical procedures.</td>
<td>There is limited research evidence on the effectiveness of specific medical tourism insurance or benefit plans and their impact on the larger health care system. However, there is a clear difference between the cost of many U.S. medical procedures and the costs of getting these done in some international locations. For example: · A heart bypass costing $80,000 in a U.S. hospital costs just $16,000 in Thailand.⁵ · A full facelift that would amount to $20,000 in the U.S. usually costs about $1,250 in South Africa.⁶ · A knee replacement in the U.S. costs anywhere from $30,000 to $40,000, but at Hospital Clinica Biblica in San José, Costa Rica, the cost is $10,500, including airport pickups, personal assistance at the hospital, and post-discharge nursing care.⁷</td>
<td>Medical tourism benefits are typically used by two populations: 1) employers interested in keeping medical and insurance costs down and employee access to health care broad, and 2) consumers and employees interested in the widest range of cost effective medical options.</td>
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<td>Other Comments</td>
<td>Medical tourism benefits plans may be provided to employees through their employers or accessed directly by independent patients through insurers and insurers’ subsidiaries. Health benefit plans with medical tourism pilot programs include: • Anthem BlueCross BlueShield (WellPoint): Wisconsin, 8 • BlueCross BlueShield: South Carolina (case example below), 9 • BlueShield and Health Net: California, 10, 11 and • United Group Program: Florida. 12</td>
<td>Certain limited and short-term medical tourism and travel insurance plans may also be offered by independent companies other than traditional insurance carriers. For example, Companion Global Healthcare’s BasicPlus Limited Benefit Health Insurance Plan is offered through BasicPlus Insurance Services, LLC and Custom Assurance Placements Limited offers Global Protective Solutions Specialty Travel Insurance. 13, 14</td>
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<td>Case example: BlueCross BlueShield of South Carolina &amp; Companion Global Healthcare 15, 16, 17</td>
<td>In 2008, BlueCross BlueShield (BCBS) South Carolina launched a subsidiary, Companion Global Healthcare, to help U.S. patients plan trips abroad for lower-cost medical procedures. BlueCross BlueShield will cover patients’ procedures organized through Companion Global if their BCBS plan allows the travel. The insurer also will cover two follow-up visits with physicians at Doctors Care centers in the State. This approach seeks to cover and reduce costs of care for primarily international medical procedures for consumers, and cost of insurance- and health-related costs for employers. • There is no research evidence regarding the greater impact of BCBS’ medical tourism insurance plan yet, but new companies have added international medical travel options through the BCBS-created Companion Global as recently as March 2010. 18 • Companion Global partners continue to expand to hospitals in Brazil (Hospital Israelita Albert Einstein), Mexico (CIMA Hermosillo and Monterrey), Puerto Rico (HIMAHEALTH), Spain (Teknon Hospital), among others.</td>
<td>Medical tourism benefits are typically used by two populations: 1) employers interested in keeping medical and insurance costs down and employee access to health care broad, and 2) consumers and employees interested in the widest range of cost effective medical options.</td>
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1 http://www.doctorscare.com/
### Medical Tourism

#### Intervention Areas and Case Examples

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| Facilitators seek to connect individual consumers, businesses, insurance carriers and agents, and third party administrators to affordable and innovative medical travel options, primarily abroad. Medical tourism facilitators coordinate all medical tourism details, from arranging surgery and financing options to visas, travel, lodging, and tourism. | - Published research on the practices of medical tourism facilitators is limited.  
- Advantages of utilizing medical tourism facilitators include, but are not limited to, immediate access to established relationships with international providers and convenient transfer of medical information.  
- Disadvantages include that the quality of facilitation services varies greatly from one provider to another and facilitators may possess biases toward certain hospitals and destinations. | - Medical tourism facilitators appear applicable to many groups interested in receiving or administering medical tourism services (e.g., individual consumers, businesses and employers, and insurance carriers).  
- Facilitators could be particularly helpful to under- or uninsured patients who have difficulty navigating and affording medical care.  
- Consumers for whom insurance is not needed and cost is no issue could also benefit from the concept of medical tourism facilitators as medical travel is not just approached from a cost perspective, but can be from leisure perspective as well. |

#### Other Comment

Medical tourism facilitators may be accessed directly by independent patients or may be contracted by insurers to provide facilitation services to plan members. The number of medical tourism facilitators, both U.S.-based and international, is growing. Select examples of medical tourism facilitators include:

- Carpatia Group: Romania;
- Healthbase Online, Inc.: U.S.; (case example below)
- MEDICARE Travel: Slovakia;
- MEDTRAVEL: Ecuador;
- Patients Without Borders: U.S.; and
- Planet Hospital: U.S.

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**SECTION 4 ● MEDICAL TOURISM**
MEDICAL TOURISM

<table>
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<tr>
<th>INTERVENTION AREAS AND Case Examples</th>
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<tr>
<td>Case example: Healthbase Online Inc.: Healthcare Beyond Boundaries</td>
<td>Facilitators seek to connect individual consumers, businesses, insurance carriers and agents, and third party administrators to affordable and innovative medical travel options, primarily abroad.</td>
<td>There is little or no research evidence regarding Healthbase practices. However, Healthbase lists testimonials describing positive patient experiences and reports their sponsored procedures are up to 80% less than typical U.S. hospital prices.</td>
<td>Medical tourism facilitators appear applicable to many groups interested in receiving or administering medical tourism services (e.g., individual consumers, businesses and employers, and insurance carriers).</td>
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</table>

Other Comments
- Select Healthbase partners include Anadolu Medical Center (Turkey), Apollo Hospitals (India), Hospital Clinica Bribica (Costa Rica), Hospital Punta Pacifica (Panama), National Heart Center (Singapore), among others.
- Healthbase arranges services at internationally accredited hospitals in over 10 countries (e.g., Belgium, Brazil, Costa Rica, and Thailand) and is expanding in additional areas (e.g., Argentina, Canada, and New Zealand).

SECTION 4 • ENDNOTES

2 Ibid., Medical Tourism Association. (2010).

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[2](https://www.healthbase.com/hb/pages/testimonials.jsp)


Ibid., Deloitte Center for Health Solutions. (2010).


END SECTION 4
Patient-Centered Medical Home (PCMH) is a model for care provided by physician practices that seeks to strengthen the physician-patient relationship by replacing episodic care based on illnesses and patient complaints with coordinated care and a long-term healing relationship. Each patient has an ongoing relationship with a personal physician who leads a team that takes collective responsibility for patient care. The physician-led care team is responsible for providing all the patient’s health care needs and, when needed, arranges for appropriate care with other qualified physicians. A medical home also emphasizes enhanced care through open scheduling, expanded hours, and communication among patients, physicians and staff.

Bottom Line Findings: A substantial evidence base is building for improved quality, improved patient and provider satisfaction, and decreased costs under the PCMH model. The concept is not new, and in many ways is a version of the classic definition of primary care, but this model leverages modern communication tools and information technology, and new reimbursement structures that realign incentives, but typically use a hybrid approach that reduces provider risk while compensating for increased costs and rewarding performance (typically FFS + PMPM fee + performance bonus). Like other innovative models of delivery, PCMH would seem to be most advantageous for systems or purchasers that can realize the benefits of cost reductions due to decreased utilization and that are already well-connected and technologically advanced. However, the model has been surprisingly adaptable to a wide variety of markets. Early lessons learned emphasize the need for time and sustained support of practice redesign that can be more transformational than incremental.1,2

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<td><strong>PATIENT-CENTERED MEDICAL HOME</strong></td>
<td>The PCMH model is intended to improve quality of care and reduce annual per capita health care expenditures. Quality is improved through expanded access to care, improved patient communication, and greater care coordination and care management, especially of patients with chronic conditions. Costs are reduced by keeping people healthier, providing care in more cost-effective settings (e.g., expanded access to the PCP versus care in an emergency room) and reducing unnecessary care through better coordination.</td>
<td>- Over the past several years, a number of prospective evaluations of the PCMH model in a variety of settings have shown higher quality, greater patient satisfaction, improved access, and lower costs, mainly through reductions in hospitalizations and emergency department visits. In several cases, returns on investment were shown to be 2:1. Not surprisingly, savings were greatest for patients with chronic conditions, although savings have been documented for patients without chronic conditions as well. Some studies report increased provider satisfaction. There is also some evidence that the greater access, coordination, and care management associated with medical homes reduces health disparities.5</td>
<td>- The PCMH model is applicable to all markets. PCMH has been successfully implemented in a variety of settings and for a variety of populations. For example, the American Academy of Family Physicians launched a National Demonstration Project to test the model in a purposefully diverse set of 36 practices. - Lack of reimbursement for additional resources (e.g., staff, HIT) to provide greater access and coordination is a significant barrier to widespread adoption beyond the PCMH demonstration projects and employer or insurer-sponsored initiatives or particular integrated delivery systems. - Also, while clearly influential in directing care,</td>
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## Patient-Centered Medical Home

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| the PCMH:                           |                                             | • The evidence is still being collected on increased resource use associated with the transition to a PCMH. While the concept dates back decades, specific PCMH guidelines and criteria are relatively new and are still undergoing evaluation and revision. | primary care providers have less control over the care being delivered by specialists, hospitals, and other care providers, and the degree to which information is shared by these providers. In this sense, the PCMH model could potentially operate to greater effect within an integrated, innovative delivery approach such as an accountable care organization (ACO).  
• Sites identified as “medical home runs,” based on achieving 15-20% reductions in risk-adjusted total health care spending with no decrease in quality:  
  - Urban Medical Group (working class urban Boston, many nursing home-eligibles, 10% HMO);  
  - Leon Medical Centers (metro Miami, working class, Medicare HMO);  
  - CareMore Medical Group (urban Los Angeles, working class, Medicare HMO); and  
  - Redlands Family Practice (California small town, lower middle class, multiple HMOs). |
| Personal physician - each patient has an ongoing relationship with a personal physician trained to provide first contact, continuous and comprehensive care.  
Physician directed medical practice – the personal physician leads a team of individuals who collectively take responsibility for the ongoing care of patients.  
Whole person orientation – the personal physician is responsible for providing for all the patient’s health care needs or taking responsibility for appropriately arranging care with other qualified professionals. This includes care for all stages of life, acute care, chronic care, preventive services, and end of life care.  
Care is coordinated and/or integrated across all elements of the complex health care system (e.g., subspecialty care, hospitals, home health agencies, nursing homes) and the patient’s community. |                                           |                                                                 |                                        |
### Patient-Centered Medical Home

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<td>(e.g., family, public and private community-based services). Care is facilitated by registries, information technology, health information exchange, and other means to assure that patients get the indicated care when and where they need and want it in a culturally and linguistically appropriate manner.</td>
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**Other Comments**

- PCMH demonstrations are now underway in most states with broad support from government, employers, insurers, and professional organizations.
- 18 September 2009 memorandum from Office of the Assistant Secretary of Defense/Health Affairs establishes Department of Defense policy of implementation of PCMH model in all military treatment facilities.
- In January 2008, the National Committee for Quality Assurance (NCQA) released standards for the Physician Practice Connections®–Patient Centered Medical Home (PPC PCMH™) to identify primary care practices that function as PCMHs. Practices can apply to be recognized in one of three levels of PCMH implementation. Recognition may be relevant to participation in a variety of demonstrations and/or payer reimbursement programs.

**PCMH for Medicaid Populations**

- Improved coordination, increasing quality of care, and reducing costs, particularly of hospitalization and Emergency Department (ED) visits.
- Market is usually statewide PCMH can be more challenging to implement in state Medicaid markets because many providers are in small practices, are not connected, and are not generously resourced. However, there are a number of states overcoming these challenges and creating success, demonstrating that it is possible. Examples include:
  - Genesee Health Plan in Flint, Michigan; and
  - Colorado Medicaid and SCHIP.
### Patient-Centered Medical Home

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<td><strong>Case Example:</strong> Community Care of North Carolina</td>
<td>Developed as a way to manage Medicaid patients in rural areas to link them with a hospital and other safety net providers.</td>
<td>Evaluations from Mercer Human Resource Consulting Group comparing costs under the program with historical benchmarks indicate significant net savings for FY04, FY05, and FY06. FY06 savings, for example, were estimated at close to $300M for the state. Savings were especially high for inpatient care, and care to patients aged 0 to 1 year old.</td>
<td>This is especially applicable to rural markets with small, fragmented practices. Emphasis is on community-based system development.</td>
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<td>Other Comments</td>
<td>Program started in 1998 and has matured to include 3,000 physicians and 13 networks.</td>
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<tr>
<td><strong>PCMH Within Large, Integrated Health Plans and Delivery Systems</strong></td>
<td>Greater quality of care, reduced costs, improved beneficiary satisfaction</td>
<td>There are many successful PCMH implementations in large, integrated delivery systems, including: - Group Health Cooperative of Puget Sound; - Intermountain Healthcare; and - Geisenger Health System.</td>
<td>Integrated delivery systems that include an insurer have an advantage in that they are able to receive some of the benefits of cost reductions due to reduced hospitalizations and ED visits and greater coordination, offsetting reduced provider reimbursement.</td>
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<td><strong>Case Example:</strong> UnitedHealthcare</td>
<td>Some lessons learned: - Critical mass is fundamental – patient panel size must make business sense, often requires multi-payer collaborations; - Flexibility is critical – mixed bag of technology and capabilities in practices; and - PCMH takes time.</td>
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<td>Other Comments</td>
<td>Winner of 2009 NBCH eValue8 Health Plan Innovation Award for PCMH program and Diabetes Health Plan. One of 2 winners out of over 100 programs submitted.</td>
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<td>PURCHASER-SUPPORTED PROGRAMS AND THE PATIENT-CENTERED PRIMARY CARE COLLABORATIVE (PCPCC) 13</td>
<td>The PCPCC seeks to promote the PCMH as a means for purchasers to increase the value of health care dollars spent.</td>
<td>PCPCC publishes a compilation of PCMH pilots and demonstrations by state and a summary of evaluation results. The 2009 edition covers nearly 30 projects, not including public payer pilots. 15</td>
<td>Applicable to all markets. PCPCC materials describe strategies and case studies for a wide variety of markets, including statewide rural Medicaid markets and multi-payer coalitions covering major metropolitan regions.</td>
</tr>
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<td>“PCPCC is a coalition of major employers, consumer groups, patient quality organizations, health plans, labor unions, hospitals, physicians and many others who have joined together to develop and advance the patient centered medical home. The Collaborative has well over 500 members.” 14</td>
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<tr>
<td>Other Comments</td>
<td>• Sponsored by PCPCC, NBCH developed a purchaser’s guide to PCMH highlighting advantages, strategies for purchasers, and case studies. 16</td>
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<td>• IBM was a leader in creation of PCPCC and is an active employer participant in PCMH programs.</td>
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**SECTION 5 • ENDNOTES**


END SECTION 5
## SECTION 6

### PAYMENT MODELS

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<tr>
<td><strong>INTERVENTION AREAS AND Case Examples</strong></td>
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<tr>
<td><strong>MARKET-LEVEL REIMBURSEMENT AND PAYMENT APPROACHES OR INCENTIVES</strong></td>
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</table>
| **Purchasing Pools** | Regional or statewide purchasing pools or cooperatives offer purchasing power that enables participating businesses to get better prices, rebates, and more flexible plans than they could find on their own. | • Results appear mixed depending on combined participant market share and items or services purchased.  
• Studies of insurance pools by RAND show no direct effect of pools on health spending. However, savings regarding pharmaceuticals, DME, and other supplies can be considerable.  
• Employers belonging to Wisconsin’s first statewide prescription drug purchasing cooperative saved more than $18 million in the first year, according to an independent audit: The cooperative’s 381 employers saved 20% on drug costs, or about $275 per employee. | The model appears suitable for most markets but is most effective in markets where participants compose a majority. |
| **Other Comments** | Gregg Horstman, executive director of WisconsinRx, endorses the price transparency of this approach, noting that businesses would be unable to obtain similar discounts unless they have 200,000 members. | | |

1. RAND study on insurance pools.  
2. Independent audit of WisconsinRx's cooperative.
## Payment Models

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<td>Preferred Provider</td>
<td>Preferred provider approaches encourage providers to meet standards of cost and/or quality and to price services within acceptable ranges if they are to participate in health plan, payer, or purchaser arrangements.</td>
<td>This approach produces direct results, assuming sufficient provider availability in a market to eliminate high-cost providers from local networks.</td>
<td>The model is especially attractive in markets with many providers that vary considerably in price.</td>
</tr>
<tr>
<td>Value-based Purchasing</td>
<td>Value-based purchasing can refer to a variety of approaches that focus on the decisionmaker (e.g., purchaser, payer, patient) in assessing differences in value when selecting among options. Value may be defined in terms of efficiency, quality, cost, or another dimension.</td>
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<td>Report Cards</td>
<td>Report cards are intended to facilitate comparison of quality of care (or other attributes such as cost) across providers in a market.</td>
<td>Evidence of success appears to be mixed. One study of coalition use of hospital report cards in 11 communities found six factors to limit success: (1) ambiguity of report card goals, (2) conflicts over methods of measuring quality, (3) conflicts over the benefits of public release, (4) conflicts over the use of economic incentives, (5) lack of employer market power, and (6) failure to do collaborative planning. The study notes that only a few report cards have stimulated quality improvement.</td>
<td>• Market success depends on the balance of power among purchasers, health plans, and hospitals. • A significant market share is needed for success.</td>
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<tr>
<td>Other Comments</td>
<td>While it seems clear that coalitions and employers must work closely with hospitals regarding the report card design, there appear to be no clear set of report card characteristics that determine success. HEDIS measures from the National Committee for Quality Assurance and the Leapfrog Group (for hospitals) are often incorporated as part of report cards.</td>
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| **The eValue8 Common RFI**          | eValue8 promotes market-level efforts to ensure that consumers receive safe and efficient health care by increasing the market power associated with specific interventions across purchasers in a market. | ● eValue8 is used annually by health care purchasers to compare the quality and efficiency of health plans.  
● Widespread adoption of the tool is reported to be a catalyst for improved plan performance, efficiency, and innovation.  
● Evidence of impact on cost is not widely available and is likely to vary by market and application. | eValue8 will be most effective in markets where participating providers and plans account for a significant market share. |

**Other Comments**

Developed by the National Business Coalition on Health in the mid-1990s, eValue8 is being used by employer purchasing coalitions as well as many of the Nation’s largest private purchasers and involves nearly 300 health plans. This tool is used most commonly by large employers and purchasers and can effectively transform practice when participants’ market share is significant.

### Payment Approaches and Incentives

Payment approaches and incentives to providers and health systems continue to shift from cost-based methods of reimbursement to a wide range of approaches that provide incentives for more efficient, effective delivery of care. Many of these approaches include case, condition, or episode groupings and cost-sharing provisions, as below.

| Risk-adjusted Payment | Risk-adjusted payment methods are intended to reduce provider overpayments and incentives to undertreat or reject high-cost individuals. This approach is attractive to providers but may or may not result in cost savings to purchasers. | Risk-adjusted payment methods typically reflect provider costs, can more closely align payments and resource use, and provide consistency in payment for patients with similar characteristics and conditions.  
● These methods are sensitive to rate levels in relation to provider costs. | The performance of risk-adjusted payment approaches depends on rate levels relative to provider costs in a market and may vary by provider. |

- **Risk-adjusted Payment**
  - This approach is designed to predict health care costs to align standard payments with an individual's expected health care costs. Linking payment to diagnostic or other patient groupings (e.g., DRGs, APGs) is one common form of risk adjustment. Bundled payments are another.
## Payment Models

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<td>Other Comments</td>
<td>Other examples of risk adjustment approaches involving diagnostic groupings follow:</td>
<td>Evidence of impact has been mixed, especially regarding cost reduction. Mechanic and Altman (2009) state that P4P programs are “unlikely to affect spending trends as long as their primary emphasis is rewarding providers for delivering ‘underused’ services rather than for judicious use of potentially ‘overused’ treatments.” They also note that P4P does not encourage integration across providers, though programs that reward adoption of information technology and care management processes may be beneficial on the margin.</td>
<td>P4P is likely to be most effective at optimizing incentivized behaviors in markets with one or more large purchasers, payers, or provider systems.</td>
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<td>Pay for Performance (P4P)</td>
<td>P4P is intended to incentivize providers to deliver care according to defined standards. P4P can incentivize evidence-based treatment for specific conditions (e.g., diabetes) or incentivize the use of particular resources in treatment to improve quality, cost effectiveness, or other objectives.</td>
<td>Evidence of impact has been mixed, especially regarding cost reduction. Mechanic and Altman (2009) state that P4P programs are “unlikely to affect spending trends as long as their primary emphasis is rewarding providers for delivering ‘underused’ services rather than for judicious use of potentially ‘overused’ treatments.” They also note that P4P does not encourage integration across providers, though programs that reward adoption of information technology and care management processes may be beneficial on the margin.</td>
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<td>The Adjusted Clinical Group Case-Mix System groups patients with similar comorbidities into groups with similar resource requirements and clinical characteristics.</td>
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<td>The Burden of Illness Score (MEDecision, Inc.) groups care into episodes of illness and assigns services, severity levels, and medications to these episodes.</td>
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<td>The Clinical Complexity Index (Solucient, Inc.) methodology considers age, severity, comorbidity, hospital admissions, and categories of diagnoses (acute, chronic, mental health, and pregnancy) to assign patients into mutually exclusive CCI risk categories.</td>
<td>Evidence of impact has been mixed, especially regarding cost reduction. Mechanic and Altman (2009) state that P4P programs are “unlikely to affect spending trends as long as their primary emphasis is rewarding providers for delivering ‘underused’ services rather than for judicious use of potentially ‘overused’ treatments.” They also note that P4P does not encourage integration across providers, though programs that reward adoption of information technology and care management processes may be beneficial on the margin.</td>
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<td>The Episode Risk Groups (ERGs, Symmetry Health Systems, Inc.) classify illness by episode risk groups to create risk scores based on age, gender, and mix of ERGs.</td>
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**Other Comments**

Other examples of risk adjustment approaches involving diagnostic groupings follow:

- The Adjusted Clinical Group Case-Mix System groups patients with similar comorbidities into groups with similar resource requirements and clinical characteristics.
- The Burden of Illness Score (MEDecision, Inc.) groups care into episodes of illness and assigns services, severity levels, and medications to these episodes.
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| **Other Comments**                 | - MedPAC recommends that the P4P system be budget neutral, with the incentive pool to be funded by setting aside 1% or 2% of budgeted payments. ¹⁸  
- P4P programs are shifting from process measures such as rates of mammography screening to outcomes measures and cost efficiency based on actual patient care outcomes. There has been little or no consistency in the selection of measures across P4P programs.  
- For the P4P program to be successful, there needs to be agreement and buy-in among those being evaluated that the objectives are fair and the measures appropriate, that performance is accurately measured, and that the incentives make the effort worthwhile. Possible shortcomings and unintended consequences of a P4P program include having inappropriate measures and objectives, competing or uncoordinated efforts, insufficient or inappropriate incentives, and placing excessive focus on the reward. | |

### Bundled Payment

This approach also known as “case rates,” “episode-based payment,” or “global payment,” is a single payment for all services related to a specific treatment or condition (e.g., coronary artery bypass graft surgery), possibly spanning multiple providers in multiple settings. Providers would assume financial risk for the cost of services for a particular treatment or condition as well as costs associated with preventable complications. ⁹

- Bundled payment is intended to decrease spending by reducing the number of unnecessary physician services during a hospitalization; encouraging more judicious use of health care resources during the hospital stay; and reducing post-discharge costs, including unnecessary post-acute care services and avoidable readmissions (MedPAC, 2008).  
- Bundled payment systems can yield savings for payers if a discounted rate is negotiated at the outset or if payment amounts are adjusted downward to reflect the efficiencies achieved after the system is in place.  
- A small study (Casale et al., 2007) that compared the 117 patients in the intervention with 137 patients from a year prior to the implementation found that hospital costs dropped by 5%.  
- Bundling can be used in all market types. Provider responses may depend on bundled rate levels and the pricing of providers relative to each other.  
- Purchasers may see savings through bundling, especially if combined with preferred provider status.

| Other Comments | - If the costs of an episode of care are less than the bundled payment amount, the providers (hospital and physicians) can keep the difference; if the costs of care exceed the bundled payment, the providers bear the financial liability. Savings will depend on the design of the payment system, the particular services that are bundled, and the performance of the participating system before implementation.  
- Bundling often focuses on certain procedures (e.g., cardiac, orthopedic). |

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¹⁸

MedPAC recommends that the P4P system be budget neutral, with the incentive pool to be funded by setting aside 1% or 2% of budgeted payments.

⁹

Bundled payment is intended to decrease spending by reducing the number of unnecessary physician services during a hospitalization; encouraging more judicious use of health care resources during the hospital stay; and reducing post-discharge costs, including unnecessary post-acute care services and avoidable readmissions (MedPAC, 2008).
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<td><strong>Episode-based Payments</strong></td>
<td>Episode-based payment strengthens incentives for providers to deliver care efficiently and to contain the cost of services delivered during clinical episodes of care. Episode-based payments include financial incentives to encourage providers to deliver quality care efficiently and in coordination with other providers involved in shared episodes of patient care.</td>
<td>- Evidence of the effects of episode-based payment approaches on cost and quality is scant, though there are examples of episode-based programs having positive influences on structure and process quality measures as well as being associated with decreased costs of care. - Evaluation of first year results of Geisinger’s ProvenCare coronary bypass program showed a 10% reduction in readmissions, shorter ALOS, and reduced hospital charges. More recent data show that over the course of 18 months, the program achieved a 44% drop in readmissions.</td>
<td>- Episode-based payment can be used in all market types but may be most effective with integrated delivery systems that have a dominant market share, such as Geisinger. - Responses by providers may depend on rate levels and the pricing of providers relative to each other. - Purchasers may see savings, especially if combined with preferred provider status.</td>
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**Other Comments**

- Current episode-based payment approaches address only a fraction of all patient care. There are a number of design and operational issues to be resolved or considered, including varying definitions of episodes, methods for calculating and distributing per-episode payments, and data infrastructure needs.
- Desired outcomes include (1) reducing unnecessary physician and ancillary services to compensate physicians for efficient resource use and (2) reducing complications and readmissions. However, some argue that paying for discrete episodes does nothing to control the total number of episodes and could actually encourage more episodes.
- Mechanic and Altman (2009) suggest that Geisinger’s unique structure and market position may influence the strong results reported for the ProvenCare program.

**The Prometheus Payment Model**

This is an approach to episode-based payment that pays for all care that a patient

The model encourages two behaviors that fee-for-service payment discourages: (1) collaboration of physicians, hospitals, and other providers involved in a patient’s care and (2) active efforts to reduce avoidable complications of care and costs

Analyses of pilots and several national and regional datasets show that potentially avoidable costs (PACs) account for 22% of private-sector health expenditures. Even a modest reduction in PACs year to year will have a considerable effect on private health care spending.

The model appears suitable for diverse market conditions—integrated networks as well as fragmented, geographically spread provider groupings.

**Case Examples**

- Evaluation of first year results of Geisinger’s ProvenCare coronary bypass program showed a 10% reduction in readmissions, shorter ALOS, and reduced hospital charges. More recent data show that over the course of 18 months, the program achieved a 44% drop in readmissions. **11**

**Notes**

- Current episode-based payment approaches address only a fraction of all patient care. There are a number of design and operational issues to be resolved or considered, including varying definitions of episodes, methods for calculating and distributing per-episode payments, and data infrastructure needs. **10**

**References**

- Mechanic and Altman (2009) suggested that Geisinger’s unique structure and market position may influence the strong results reported for the ProvenCare program. **13**

**Definitions**

- **ALOS** (Average Length of Stay)
- **PACs** (Potentially Avoidable Costs)
### Payment Models

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| needs throughout the clinical episode or set period of management of a chronic condition rather than paying for discrete visits, discharges, or procedures (Brantes, Rosenthal, and Painter, *New England Journal of Medicine*, 2009;14 www.prometheuspayment.org) | associated with them. | • The model encourages integration of services and incentivizes hospital and physicians working together to avoid readmission.  
• Prometheus can be used for acute as well as chronic conditions. |  |
| Other Comments | | | |
| • Prometheus has three pilots under way, supported by the Robert Wood Johnson Foundation (RWJF). It includes an evidence-based case rate that is adjusted for the severity and complexity of the patient’s condition. It provides larger profit margins for providers who can eliminate complications, rewarding optimal care, not volume. Prometheus is said to avoid capitation’s transfer of risk to providers, because rates are severity adjusted and opportunities for increasing financial gain are limited to decreases in PACs.  
• Pilots show that hospital-centric provider organizations can expect increased internal tension when episode-based care and payment are implemented.  
• Prometheus does not require that a single integrated organization accept payment for an entire episode, and it can be implemented in a fragmented, largely fee-for-service system if the payer serves as a financial integrator. Prometheus is not appropriate for reimbursements for all conditions but provides a good bridge from fragmentation to accountability, according to RWJF proponents.  
• Prometheus is seen as a promising approach by some business and health coalitions. | | |

#### Global Payment or Capitation

This is an all-inclusive payment per enrollee for a defined scope of services, regardless of how much care is provided.

| Global Payments are intended to contain costs, reduce the use of unnecessary services, and encourage integration and coordination of services. Global payment may also include added incentives to improve the quality of care. | • Studies have shown that payment approaches involving risk sharing with providers, including global payment or capitation, are associated with lower service use and cost than with fee-for-service arrangements.15  
• Mechanic and Altman (2009) state that programs that combine global payment and quality bonuses (e.g., Blue Cross Blue Shield of Massachusetts) can improve margins and reduce spending below rates of inflation.16 | Global payment or capitation appears suitable for all market types. |
## Payment Models

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<td>Other Comments</td>
<td>Potential problems or issues related to global payment involve concerns that providers may “cherry-pick” less expensive patients, creating issues regarding access, quality, and equitable provider payment.</td>
<td>This system has encouraged patients to select more cost-effective providers and has encouraged providers to reduce costs while maintaining or improving quality in order to attract more consumers.</td>
<td>The model appears suitable for diverse market conditions, can be used by self-funded employers, and works with diverse provider and billing arrangements.</td>
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<td>Condition-specific &quot;capitation&quot; (e.g., Patient Choice System)(^{17})</td>
<td>Patient Choice is value-based purchasing that combines provider incentives for competitive pricing and consumer selection based on price and quality transparency.</td>
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<td></td>
<td>Under Patient Choice, “care systems” (groups of providers, including physicians and hospitals) bid on the risk-adjusted (total) cost of caring for a population of patients. Care systems are placed in cost or quality tiers based on their relative bids. Consumers pay the difference in the bid price to select a care system in a higher-cost tier. Providers continue to bill using fee-for-service codes, with the addition of new codes to cover previously uncovered services, but fee levels are adjusted to keep total payments within budget. Budget is adjusted upward or downward based on relative illness and other characteristics of the patients the provider cares for. This prevents the provider from assuming insurance risk and makes them liable only for the performance risk component of their bid.(^{20})</td>
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<td></td>
<td>Also, see “bundled payment.”</td>
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\(^{17}\) This capitation approach, introduced in the 1990s by Minnesota’s Buyers Health Care Action Group (www.patientchoicehealthcare.com), pays for condition-specific, risk-adjusted care according to capitated bids by cost- and quality-tiered provider groupings; consumers who select from higher tiers must pay the difference between bids and prices for higher-tier groupings.

\(^{18}\) Patient Choice is value-based purchasing that combines provider incentives for competitive pricing and consumer selection based on price and quality transparency.

\(^{20}\) Under Patient Choice, “care systems” (groups of providers, including physicians and hospitals) bid on the risk-adjusted (total) cost of caring for a population of patients. Care systems are placed in cost or quality tiers based on their relative bids. Consumers pay the difference in the bid price to select a care system in a higher-cost tier. Providers continue to bill using fee-for-service codes, with the addition of new codes to cover previously uncovered services, but fee levels are adjusted to keep total payments within budget. Budget is adjusted upward or downward based on relative illness and other characteristics of the patients the provider cares for. This prevents the provider from assuming insurance risk and makes them liable only for the performance risk component of their bid.
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<td><strong>Gain-Sharing</strong></td>
<td>Gain-sharing (with consumers, providers, payers, and purchasers) involves identification of clinical practices that increase provider operating costs without improving quality of care, developing initiatives to reduce or eliminate such practices while maintaining quality of care, and sharing the resulting cost savings attributable to the clinical initiatives.</td>
<td></td>
<td><strong>Gain-sharing is likely to be most effective in higher-cost markets with considerable “waste” and inefficiency, which this approach seeks to address.</strong></td>
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| Gain-sharing Hospital-Physician Agreements | These agreements provide incentives for physicians to reorganize care for delivery of quality care at significantly lower cost by being prudent in their clinical choices, including procedures, supplies and devices that comprise a considerable portion of inpatient care costs. | - Studies of gain-sharing are limited, but some suggest that this approach can effectively reduce “waste” and generate cost savings without reducing quality.  
- Ketcham and Furukawa (2008) studied the effects of 13 gain-sharing programs on coronary stent patients. Compared to other hospitals, gain-sharing hospitals reduced costs by 7.4% per patient, with 91% of the savings from lower prices and 9% from lower utilization. The available measures of access and quality suggest that neither was reduced, nor was access to drug-eluting stents before 2006.  
- The Centers for Medicare and Medicaid Services (CMS) initiated a 3-year gain-sharing demonstration, beginning in January 2007 and ending in December 2009, to examine collaborative efforts between the hospital and the physician to improve overall quality and efficiency. In July 2009, CMS initiated a demonstration with a consortium of 12 New Jersey hospitals, called the Northern New Jersey Mobile Intensive Care Consortium, to examine the effects of gain-sharing aimed at improving the quality of care in a health delivery system to determine the impact of hospital-physician collaborations on preventing short- and longer-term complications, duplication of services, coordination of care across settings, and other quality improvements that hold great promise for eliminating preventable complications and unnecessary costs. | |
| Other Comments | Gain-sharing is not profit sharing; arrangements typically involve payments from hospitals to physicians for assistance in generating cost savings. According to Healthcare Financial Management Association, “such arrangements have the potential to foster efficiency and cohesiveness. | | |
### Gain-sharing Payer-Provider Agreements
These payer-provider agreements involve aligning payment incentives for providers with payers to improve efficiencies and reduce “waste” while maintaining quality care.

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<td>The model provides incentives for providers to reorganize care and eliminate inefficiency and unnecessary cost by being prudent in their clinical choices.</td>
<td>• Although many contracts with providers involve a global cost (e.g., diagnosis-related group), others, depending on the market in which they are operating, involve a separate payment (i.e., carve-out) for large expenses such as devices and implants.</td>
<td>Gain-sharing is likely to be most effective in higher-cost markets with considerable “waste” and inefficiency, which this approach seeks to address.</td>
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<tr>
<td>• Careful monitoring is needed.</td>
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<td>Gain-sharing is likely to be most effective in higher-cost markets where patient utilization of services and payer costs are relatively high.</td>
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### Gain-sharing Patient-payer Agreements
These involve aligning payment incentives to reward consumers or patients for selecting providers and services that are more efficient and less costly. They may also include financial incentives to patients for achieving behavioral changes such as weight reduction.

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<td>The model provides incentives for patients to be selective in their use of services, especially in selecting providers for ancillary and outpatient services. Incentives may also be offered for behavior change (e.g., weight reduction, smoking cessation).</td>
<td>• In Wisconsin, the Wisconsin Collaborative for Health Care Quality and the Wisconsin Health Information Organization have published extensive cost and quality data, much of which is available to patients on an interactive web site (<a href="http://www.wchq.org">www.wchq.org</a>).</td>
<td>Gain-sharing is likely to be most effective in higher-cost markets where patient utilization of services and payer costs are relatively high.</td>
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<td>• In Wisconsin, the Wisconsin Collaborative for Health Care Quality and the Wisconsin Health Information Organization have published extensive cost and quality data, much of which is available to patients on an interactive web site (<a href="http://www.wchq.org">www.wchq.org</a>).</td>
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<td>• The availability of this information inspired one self-insured employer in South Bend, Indiana to pay bonuses to patients to have radiology examinations completed at lower-cost centers. Insured employees are paid $500 bonuses for computed tomography and magnetic resonance imaging scans completed at the lower-cost center, because the total cost for an examination is</td>
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### Payment Models

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<td>reduce patient care costs and align with quality.</td>
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<td>$1,000 cheaper to the employer.</td>
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<td>Other Comments</td>
<td>In an environment of increasing cost and quality transparency, a new type of gain-sharing that rewards patients for participating in generating cost savings is being considered. Patient rewards may be provided as bonus payments, reductions in coverage costs, and other approaches.</td>
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### Section 6: Endnotes


25 Footnote: Jain and Roble name the following potential safeguards: "ensuring clinical and financial transparency of quality indicators; using a proven risk-adjusted system; implementing ongoing measurement and monitoring to determine the program’s success and to confirm that the program is not having an adverse impact on clinical outcomes; basing payments to physicians on all procedures to avoid disproportionate participation of federal health care program beneficiaries; capping potential payments to the physicians; using baseline thresholds to guard against inappropriate reductions in service; providing clear feedback to physicians about their quality and efficiency; terminating physician participation if noncompliant; defining fair market value in advance with the participating physicians; limiting total savings by meeting appropriate utilization standards".
Introduction: Quality of care is the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.\(^1\)

Pay for Performance refers to incentives that reward providers for achieving objectives established by a purchaser; these objectives may include improvements in efficiency, data submission, quality improvement, and/or patient safety.\(^2\)

### Performance Measurement and Health Care Quality

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| **Performance Measurement**          | Performance measurement and public reporting have been identified as potential levers to improve health care quality and reduce costs. On the national level, the Centers for Medicare and Medicaid Services (CMS), the National Committee for Quality Assurance (NCQA), the Joint Commission, and others have been accrediting, measuring, and reporting on the performance of health plans and hospitals for more than a decade. In addition, some states are collecting and reporting on performance information regarding procedures, health plans, medical groups, hospitals, and other entities. In 1999, the National Quality Forum (NQF) was created in response to a need to facilitate collaboration in multiple performance measurement systems. | - Several initiatives attempt to connect a nationally recognized group of measures. While there is development of performance measures across all care areas, the evidence has not definitively shown an improvement in health care quality, reduced costs, or return on investment.  
- Return on Investment (ROI) studies have proven difficult to conduct. For example, four sites studying quality based purchasing in an Agency for Healthcare Research and Quality (AHRQ) study did not conduct an ROI analysis. Factors cited included difficulty of isolating the effects of its P4P initiative, small sample sizes, and the short history of the programs.\(^3\) | National accreditation measures are standard across markets. However, there are wide differences across markets in the type and number of local or state level performance measures. National measures include the HEDIS (Health Plan Employer Data and Information Set) for health plans and the Joint Commission and CMS measures for hospitals. |
| **National organizations that develop measures include The Joint Commission, CMS, NCQA, AHRQ, and the Leapfrog Group.** | Performance Measurement systems exist for multiple health care settings, including hospitals, health plans, physician groups, and nursing homes. | | |

3. National accreditation measures are standard across markets. However, there are wide differences across markets in the type and number of local or state level performance measures. National measures include the HEDIS (Health Plan Employer Data and Information Set) for health plans and the Joint Commission and CMS measures for hospitals.
## Performance Measurement and Health Care Quality

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<td>o Palliative and End of Life Care,</td>
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<td>o Overuse,</td>
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<td>o Health Information Technology,</td>
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### Other Comments

- AHRQ supports resources on public report cards, including the Web-based Report Card Compendium, which is available on AHRQ’s TalkingQuality.gov site, http://www.talkingquality.gov. The compendium provides a searchable database of over 200 report examples.\(^4\)
- In 2007, through its Aligning Forces for Quality (AF4Q) program, the Robert Wood Johnson Foundation launched a major initiative focusing on the measurement and improvement of health care quality in 20 communities around the country.
- Since 2008, the AHRQ has chartered 25 value exchanges in health care markets around the country with the chartering value exchanges (CVEs) program, some of which also participate in the AF4Q program.\(^5\)
- Many health plan report cards rely on HEDIS and CAHPS (Consumer Assessment of Healthcare Providers and Services) indicators.
- The Consumer-Purchaser Disclosure Project is a coalition of more than 50 consumer, labor, and employer organizations that works to advance publicly reported, nationally standardized measures of clinical quality, efficiency, equity, and patient centeredness for health plans, hospitals, medical groups, physicians, other providers, and treatments. The Disclosure Project is supported by in-kind contributions of participating organizations and by a grant from the Robert Wood Johnson Foundation.\(^6\)
- Other initiatives include the High-Value Health Care Project, an initiative of the Quality Alliance Steering Committee that is supported by the Robert Wood Johnson Foundation and the Engelberg Center for Health Care Reform at the Brookings Institution; and the National Priorities Partnership, which is convened by the National Quality Forum and has 32 partner organizations.
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<td><strong>Case Example 1:</strong> CMS Hospital Compare</td>
<td>The medical conditions available on Hospital Compare include heart attack, heart failure, chronic lung disease, pneumonia, diabetes in adults, and chest pain. Several surgical procedures in five areas are included. The five areas are heart and blood vessels; abdominal; neck, back, and extremities (arms and legs); bladder, kidney and prostate; and female reproductive.</td>
<td></td>
<td>The CMS performance measurement system for inpatient quality is not limited by market.</td>
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<td><strong>CMS Hospital Compare</strong></td>
<td>In December 2002, the American Hospital Association (AHA), the Federation of American Hospitals (FAH), and the Association of American Medical Colleges (AAMC) launched the Hospital Quality Alliance (HQA), a national public-private collaboration to encourage hospitals to voluntarily collect and report hospital quality performance information. The initiative grew into a consumer accessible website called Hospital Compare (<a href="http://www.hospitalcompare.hhs.gov">www.hospitalcompare.hhs.gov</a>), where consumers can search for hospitals in a specific geographic area and compare those hospitals according to performance, outcome, and structural measures related to certain medical conditions and surgical procedures.</td>
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Other Comments
- Over 4,000 hospitals voluntary participate in Hospital Compare, and since 2007, have received a 2% increase in Medicare payments as a result.
- Membership in the Hospital Quality Alliance (HQA) now includes the CMS, the Joint Commission, the AHA, the FAH, the AAMC, the American Medical Association, the American Nurses Association, the National Association of Children’s Hospitals and Related Organizations, American Association of Retired Persons (AARP), American Federation of Labor and Council of Industrial Organizations, the Consumer-Purchaser Disclosure Project, the Agency for Healthcare Research and Quality, the National Quality Forum, the Blue Cross and Blue Shield Association, the National Business Coalition on Health, America’s Health Insurance Plans, National Association of Public Hospitals and Health Systems, Society for Critical Care Medicine, Wisconsin Collaborative for Healthcare Quality, and the U.S. Chamber of Commerce.
### Performance Measurement and Health Care Quality

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<td><strong>Case Example 2:</strong> Joint Commission</td>
<td>One reason that hospitals seek Joint Commission accreditation is because it provides deeming authority for Medicare certification. The CMS designation means that hospitals accredited by The Joint Commission may choose to be “deemed” as meeting Medicare and Medicaid certification requirements. CMS has consistently found that The Joint Commission’s standards for hospitals meet or exceed those established by the Medicare and Medicaid program. Hospitals seeking Medicare approval may choose to be surveyed either by an accrediting body, such as The Joint Commission, or by state surveyors on behalf of CMS.</td>
<td>In 2002, accredited hospitals began collecting data on standardized—or “core”—performance measures. In 2004, the Joint Commission and CMS began working together to align measures common to both organizations. These standardized common measures are called “Hospital Quality Measures.”&lt;sup&gt;10&lt;/sup&gt;</td>
<td>The Joint Commission’s accreditation process, and performance measurement, is applicable in any market.</td>
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**Other Comments**

| **Case Example 3:** Consumer Assessment of Healthcare Providers and Systems (CAHPS), Agency for Healthcare Research and Quality (AHRQ) | The Consumer Assessment of Healthcare Providers and Systems (CAHPS) program is a public-private initiative to develop standardized surveys of patients’ experiences with ambulatory and facility-level care. Health care organizations, public and private purchasers, consumers, and researchers use CAHPS results to assess the patient-centeredness of care, compare and report on performance, and improve quality of care. |  |

The family of CAHPS instruments is used nationwide and in multiple market settings.
### PERFORMANCE MEASUREMENT AND HEALTH CARE QUALITY

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<td>CAHPS Ambulatory Care Surveys include: CAHPS Health Plan Survey, CAHPS Clinician &amp; Group Survey, CAHPS Surgical Surgical Care Survey (developed by the American College of Surgeons and the Surgical Quality Alliance), ECHO Survey (The Experience of Care and Health Outcomes Survey asks adult health plan enrollees about their experiences with behavioral health care and services provided by either managed behavioral health care organizations or managed care organizations), CAHPS Dental Plan Survey (originally developed for the TRICARE dental plan), CAHPS American Indian Indian Survey (developed for the Choctaw Nation Health Service), and the CAHPS Home Health Care Survey. Supplemental Items Sets include CAHPS Item Set for Children with Chronic Conditions, CAHPS Item Set for People With Mobility Impairments, CAHPS Item Set for Addressing Health Literacy, CAHPS Health Information Technology Item Set, and the CAHPS Cultural Competency Item Set.</td>
<td>At the request of the CMS, the CAHPS Consortium is developing several surveys of patients’ experiences in health care facilities. Facility surveys include the CAHPS Hospital Survey, CAHPS In-Center Hemodialysis Survey, and CAHPS Nursing Home Surveys. The CAHPS Consortium is comprised of Federal agencies and private research organizations. AHRQ works closely with the Centers for Medicare &amp; Medicaid Services (CMS), which has funded the development of several of the CAHPS surveys. AHRQ also contracts with Westat to support the work of the Consortium and assist users of CAHPS products through the CAHPS User Network. Westat also manages the National CAHPS Benchmarking Database.</td>
<td>Other Comments</td>
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**Case Example 4**

**HEDIS, National Committee for Quality Assurance (NCQA)**

The Healthcare Effectiveness Data and Information Set (HEDIS) is a tool used by more than 90% of America’s health plans to measure performance on important dimensions of care and service. Altogether, HEDIS consists of 71 measures across eight domains of care. HEDIS measures address a broad range of health issues, including:

- Asthma Medication Use,
- Persistence of Beta-Blocker Treatment after a Heart Attack,
- Controlling High Blood Pressure,
- Comprehensive Diabetes Care,
- Breast Cancer Screening,
- Antidepressant Medication Management,
- Childhood and Adolescent Immunization Status, and
- Advising Smokers to Quit.

HEDIS is applicable in all markets. In some markets it has become standard across plans. In other areas it has been less broadly adopted.

**Other Comments**

- HEDIS results are included in Quality Compass, an interactive, Web-based comparison tool that allows users to view plan results and benchmark information.
- HEDIS measures are one component of the NCQA Health Plan Accreditation process. More than half of the health maintenance organizations (HMOs) in the nation, covering three-quarters of all HMO enrollees, have been reviewed by NCQA. Additionally, CMS extends deeming authority to NCQA for Medicare Advantage (MA), Medicare’s managed care program. This authority allows NCQA to review MA...
### PERFORMANCE MEASUREMENT AND HEALTH CARE QUALITY

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<td><strong>Case Example 5:</strong> NCQA Quality Dividend Calculator (QDC)</td>
<td>The QDC can be used to assess the impact of health care quality on productivity and absenteeism in an organization related to the following conditions: alcohol abuse, asthma, hypertension, heart disease, child immunization (chicken pox), depression, diabetes, and smoking.</td>
<td>Evidence is not available regarding impact of intervention.</td>
<td>This innovation is applicable in all market settings.</td>
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| **Case Example 6:** The Leapfrog Group | Leapfrog advocates four leaps in hospital quality, safety, and affordability. These include:  
- Computer Physician Order Entry (COPE);  
- Evidence-based Hospital Referral (HER);  
- ICU Physician Staffing (IPS); and  
- Leapfrog Safe Practices Score (The Leapfrog Hospital Survey).  
- The four leaps listed above comprise 20 of the 34 National Quality Forum-endorsed Safe Practices that reduce the risk of harm in certain processes, systems or environments of care.  
- The Leapfrog Hospital Survey assesses hospital performance based on four quality and safety practices endorsed by the NQF. Any hospital in the U.S. is welcome to complete the Leapfrog Hospital Survey and the Leapfrog Safe Practices Leap is comprised of 17 of the 31 NQF-endorsed practices. | There is some concern that too few hospitals are participating in the Leapfrog Hospital Survey to document clinical and financial improvements using the methods. There is some evidence that little change has resulted in hospital operating decisions. Some surveys have indicated that despite a small increase in the number of consumers using performance data to guide their health care selections, the majority have not changed the way they make health care decisions. | The Leapfrog Hospital Survey is applicable to urban and rural hospitals. |

**Other Comments**

- Leapfrog was founded in November 2000 by the Business Roundtable. The 1999 Institute of Medicine report “To Err is Human” focused Leapfrog on the aim of reducing preventable medical errors.

- There is some concern that too few hospitals are participating in the Leapfrog Hospital Survey to document clinical and financial improvements using the methods. There is some evidence that little change has resulted in hospital operating decisions. Some surveys have indicated that despite a small increase in the number of consumers using performance data to guide their health care selections, the majority have not changed the way they make health care decisions.
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| Other Comments                         | • The Leapfrog Group is comprised of a consortium of major companies and other large private and public healthcare purchasers that provide health benefits to more than 37 million Americans in all 50 states.\(^{16}\)  
• The Leapfrog Hospital Survey, Leapfrog’s hallmark public reporting initiative, was launched in 2001 and is now in its fifth version.  
• Leapfrog Hospital Surveys are used by purchaser members to inform their employees and their purchasing strategies.  
• In 2009, 1206 hospitals across the country completed the Leapfrog Hospital Survey.\(^ {17}\)  
• Leapfrog Hospital Survey ratings are posted on their website and free to the public; participation by hospitals is voluntary. | | |

#### Case Example 1:
**National Quality Forum (NQF), Measuring and Reporting Cultural Competency**

The National Quality Forum (NQF) has endorsed 45 practices to guide healthcare systems in providing care that is culturally appropriate and patient centered.

The NQF-endorsed framework for cultural competency establishes a conceptual model to identify and organize preferred practices and performance measures based on a set of seven interrelated domains (and multiple subdomains) that are applicable to all settings and providers of care. Specifically, the seven primary domains for measuring and reporting cultural competency are: Leadership; Integration into Management Systems and Operations; Patient-Provider Communication; Care Delivery and Supporting Mechanisms; Workforce Diversity and Training; Community Engagement; and Data Collection, Public Accountability, and Quality Improvement.

The 45 practices endorsed by NQF are intended to improve the quality of care through cultural competency. They are intended to serve as the basis for identification and/or development of quality measures that can be used for public accountability for the delivery of culturally competent care.\(^ {18}\) Given that the measures are not yet developed, there is no evidence regarding their efficacy.

Given that the measures are not yet developed, applicability to markets is not yet determined.
## Performance Measurement and Health Care Quality

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<td><strong>Case Example 2</strong>&lt;br&gt;CAPHS Cultural Competency Item Set&lt;br&gt;The CAPHS Team is completing work on a new set of supplemental items designed to capture the cultural competency of health care providers from the patient’s perspective.</td>
<td>This item set asks patients to report on their experiences with issues such as language access, health literacy, trust, shared decision making, patient-provider communication, and discrimination. These items will be available for use with the CAPHS Clinician &amp; Group Survey. If time and resources permit, the team will also adapt the items for use with the CAPHS Health Plan Survey.</td>
<td>The CAPHS Cultural Competency Item Set is not yet available, so no evidence exists regarding its efficacy.</td>
<td>The CAPHS Cultural Competency Item Set is not yet available, so no evidence regarding its market applicability exists.</td>
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<td><strong>Other Comments</strong>&lt;br&gt;The CAPHS Cultural Competency Item set is shaped by work of The Commonwealth Fund. This work emphasizes aspects of culturally competent care from the patient’s perspective. It categorizes measures in the following quality domains: Patient-provider communication, shared decision-making and respect for patient’s preferences, experiences leading to trust or distrust, experiences of discrimination, and linguistic competence.20</td>
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<td><strong>Case Example 3</strong>&lt;br&gt;The Joint Commission: Hospitals, Language, and Culture&lt;br&gt;The Joint Commission, with funding from The Commonwealth Fund, is developing proposed accreditation requirements for hospitals to advance effective communication, cultural competence, and patient-centered care.</td>
<td>The project explores how diversity, culture, language, and health literacy issues can be better incorporated into current Joint Commission standards or drafted into new requirements.</td>
<td>At the earliest, any implementation of the proposed requirements would occur in January 2011. So, there is no evidence regarding the actual measures. However, the research framework is based on the Joint Commission’s ongoing Hospitals, Language, and Culture: A Snapshot of the Nation (HLC) study. The HLC study is being conducted in partnership with The California Endowment.</td>
<td>Implementation is scheduled for January 2011, so there is currently no information regarding market specifics.</td>
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<td><strong>Other Comments</strong>&lt;br&gt;The Joint Commission, in collaboration with the National Health Law Program is developing an implementation guide to prepare Joint Commission surveyors and accredited hospitals for the potential release of proposed requirements to advance effective communication, cultural competence, and patient-centered care.</td>
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### Performance Measurement and Health Care Quality

#### Intervention Areas and Case Examples

**Evidence-Based Medicine (EBM)**

- Evidence-based medicine is the practice of supporting clinical decision making with systematic research, while taking into account the personal values, uniqueness, and the specific concerns of each patient.

**Other Comments**

- The Cochrane Collaboration is a worldwide endeavor dedicated to tracking down, evaluating, and synthesizing randomized clinical trials in all areas of medicine. The Cochrane Collaboration established a consumer website that links patients to articles on how to understand health research and the consumer's role in health research and to the consumer version summaries on the effects of health care.

- UpToDate is an evidence-based (proprietary) electronic resource for clinicians that includes a free, evidence-based information section for patients. Zynx is another EBM tool for physicians.

**Employers Support for Primary Care**

- Primary care is care provided by personal physicians—family physicians, general internists, and general pediatricians—who are responsible for the entire health of an individual or family. Primary care is the patient's entry into the health care system.

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<td>EBM</td>
<td>EBM is operationalized through the reporting of evidence-based measures to organizations like the Joint Commission, CMS, and others that tie accreditation and pay-for-performance to the implementation of specific evidence-based measures. Guidelines or protocols may be provided. A guideline is a systematically developed statement to assist practitioners and patients in choosing appropriate care for specific clinical conditions. A protocol is a plan, or set of steps, to be followed in a study, investigation, or intervention. EBM is a key dimension underlying consumer decision tools in health care. Although most of the focus has been on developing clinical provider decision tools; e.g., care protocols, this activity is necessary in order to create health care decision tools that have value to the consumer.</td>
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<td>There is some controversy in EBM as to the extent that EBM either implies or explicitly requires an evidence hierarchy. For example, some hold that EBM prioritizes randomized controlled trials and systematic reviews of randomized trials above observational studies, physiological studies, and unsystematic clinical observations. As Sackett, et al. write, “because the randomised trial, and especially the systematic review of several randomised trials, is so much more likely to inform us and so much less likely to mislead us, it has become the ‘gold’standard’ for judging whether a treatment does more good than harm.” They also hold that EBM is not restricted to randomised trials and meta-analyses. It involves tracking down the best external evidence with which to answer clinical questions.</td>
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<td>EBM applies to all markets.</td>
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<td>Other Comments</td>
<td>The Cochrane Collaboration is a worldwide endeavor dedicated to tracking down, evaluating, and synthesizing randomized clinical trials in all areas of medicine. The Cochrane Collaboration established a consumer website that links patients to articles on how to understand health research and the consumer's role in health research and to the consumer version summaries on the effects of health care.</td>
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<td>UpToDate is an evidence-based (proprietary) electronic resource for clinicians that includes a free, evidence-based information section for patients.</td>
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<td></td>
<td>Zynx is another EBM tool for physicians.</td>
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<td></td>
<td>This approach seeks to reduce costs and improve quality. The National Business Group on Health's workgroup on primary care was formed to develop strategies for employers to increase support for primary care. Its priorities for action are patient-centered medical homes, health information technology (IT) for practice transformation, payment policies that recognize the value of primary care.</td>
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<td>Research studies (dozens) demonstrate that a strong primary care foundation to the health system can reduce costs and improve quality. People with a PCP rather than a specialist as a personal physician had 33% lower annual health care spending and 19% lower mortality; cost and mortality data were adjusted for age, sex, ethnicity, health insurance status, reported diagnoses, and smoking status. Other studies confirm that patients with a regular PCP have lower health care costs than those without.</td>
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<td>This innovation is applicable to all markets.</td>
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<td>System and the medical “home” for ongoing, personalized care, 28</td>
<td>services, and educational and loan programs that encourage physicians and other health professionals to work in primary care. 29 The Patient-Centered Primary Care Collaborative, a coalition of major employer and physician groups, represents more than 300,000 primary care physicians (PCPs). 30 Its goals are to help transform how primary care is organized and financed to provide better patient outcomes; more appropriate payment to physicians; and better value, accountability, and transparency to purchasers and consumers. 31 Individual employers are sponsoring demonstration projects. For example, the IBM Corporation has a patient-centered primary care initiative.</td>
<td>For Medicare patients, hospitalization rates were 80% higher in areas with a shortage of PCPs than in other areas. 34 People with PCPs are more likely than those without PCPs to receive preventive services, to have better management of chronic illnesses, and to be satisfied with their care. 35 States with more PCPs per capita have lower total mortality rates, lower heart disease and cancer mortality rates, and higher life expectancy at birth compared with states that have fewer PCPs, adjusting for other factors such as age and per capita income. 36</td>
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<td>Other Comments</td>
<td>Health Employer Data and Information Set (HEDIS) performance measures are heavily weighted toward such primary care items as preventive services and chronic disease management. 37</td>
<td><strong>PAYMENT SYSTEMS IMPACT ON QUALITY</strong></td>
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<td><strong>Payment Systems Impact on Quality</strong></td>
<td>Changing payment systems to incentivize quality seeks to alter providers’ behavior indirectly. The end goals are improving quality and managing costs. Fee-For-Service (FFS) payment puts the provider at risk for the cost of processes within each service, but there is no limit on the number of services. Providers get paid regardless of quality or outcomes. 38 The advantages of episode-of-care-payment include the flexibility for providers to decide how care is delivered within the episode and the incentive it creates to eliminate any unnecessary services within the episode. If the services of multiple providers are covered by the same episode-of-care payment, there is also an incentive for those providers to</td>
<td>It has become clear that under existing reimbursement structures, current market forces are insufficient to ensure either higher-quality or more cost-effective care. 31 The evidence tends to compare FFS to capitated systems of payment. Quality is often disappointingly poor for both FFS and capitated arrangements. The majority of studies of outcomes uncovers no difference between FFS and HMOs. There is little evidence of any consistent difference in clinical quality between FFS and HMOs. 32</td>
<td>State governments and nonprofit regional health improvement collaborators are playing a growing role in forging consensus on new payment systems among multiple payers. Without this collaboration, aligning multiple payers is challenging, because antitrust laws and policies at both the federal and state levels limit the ability of multiple payers to discuss and agree on changes in payment systems. 33 Financial incentives must be sufficiently large and clear in order to have an impact on quality. 44</td>
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28. Services, and educational and loan programs that encourage physicians and other health professionals to work in primary care.
29. The Patient-Centered Primary Care Collaborative, a coalition of major employer and physician groups, represents more than 300,000 primary care physicians (PCPs). Its goals are to help transform how primary care is organized and financed to provide better patient outcomes; more appropriate payment to physicians; and better value, accountability, and transparency to purchasers and consumers. Individual employers are sponsoring demonstration projects. For example, the IBM Corporation has a patient-centered primary care initiative.
30. For Medicare patients, hospitalization rates were 80% higher in areas with a shortage of PCPs than in other areas. People with PCPs are more likely than those without PCPs to receive preventive services, to have better management of chronic illnesses, and to be satisfied with their care. States with more PCPs per capita have lower total mortality rates, lower heart disease and cancer mortality rates, and higher life expectancy at birth compared with states that have fewer PCPs, adjusting for other factors such as age and per capita income.
31. Health Employer Data and Information Set (HEDIS) performance measures are heavily weighted toward such primary care items as preventive services and chronic disease management.
32. It has become clear that under existing reimbursement structures, current market forces are insufficient to ensure either higher-quality or more cost-effective care.
33. State governments and nonprofit regional health improvement collaborators are playing a growing role in forging consensus on new payment systems among multiple payers. Without this collaboration, aligning multiple payers is challenging, because antitrust laws and policies at both the federal and state levels limit the ability of multiple payers to discuss and agree on changes in payment systems.
34. Financial incentives must be sufficiently large and clear in order to have an impact on quality.
## Performance Measurement and Health Care Quality

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<td>Other Comments</td>
<td>Coordinate their services. Capitation models or payment are designed to control the number of episodes of care as well as the cost of individual episodes. In this model, providers have a strong incentive to avoid patients who are more costly to treat.</td>
<td>● The empirical foundations of Pay for Performance in health care are rather weak. However, one systematic review of the literature did find partial or positive effects of financial incentives on measures of quality in five of six studies of physician-level financial incentives and seven of nine studies of the provider group-level. There is a paucity of demonstrable return on investment (i.e., evidence of net savings). ● According to one report, the modest P4P incentives in the CMS Premier Hospital Quality Incentive Demonstration and the Physician Group Practice Demonstration have succeeded. However, there is little evidence that small (2-5%) payment incentives are likely to drive individual specialists to changing practices, such as joining accountable care organizations. ● There is no empirical evidence suggesting how large a payment gradient needs to be to stimulate quality improvement. ● Possible unintended consequences may include gaming, where participants find ways to maximize their rewards.</td>
<td>● P4P initiatives work better in more integrated markets. Unilateral, small-scale bonus arrangements will be insufficient to motivate substantial changes on the part of physicians and hospitals. ● Because the U.S. health care system is characterized by a large number of overlapping contracts among payers (i.e., health plans and government programs) and providers, financial incentives introduced by any one payer must be a relatively large percentage of total reimbursement to justify any quality improvement effort with substantial fixed costs.</td>
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<tr>
<td>Pay for Performance (P4P)</td>
<td>Fee-for-service is where a predetermined amount is paid for each discrete service provided. Episode-of-care payment is paying a single price for all of the services needed by a patient during an entire episode of care. If services of multiple providers are covered by the same episode-of-care payment, this is called bundling payments. Capitation is when a provider (or a group of providers, working in a coordinated fashion) receives a single payment to cover all of the services their patients need during a specific period of time, regardless of how many or few episodes of care the patients experience. In comprehensive care payment, a provider or group of providers would receive a single payment to cover all of the services their patients need during a specific period of time (such as a year). However, this payment would be adjusted based on the health of the patients and other characteristics that affect the level of services needed. A provider would receive a higher payment if he or she has more patients with severe rather than mild heart disease, but the payment would not depend on what kinds of treatment patients receive.</td>
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*PAY FOR PERFORMANCE (P4P)*

Pay for Performance (P4P) refers to incentives that reward providers for achieving objectives established by the purchaser. Following the Principal-Agent model, existing payment mechanisms do not reward providers for higher quality as do prices in most other markets. In health care, purchasers are not able to contract for a given level of provider quality.

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**Other Comments**

This approach seeks to reward quality and efficiency via payment incentives. Ideally, P4P should reward high quality, give all providers incentives to improve, and create a payment gradient between high- and low-performing hospitals. Emerged from dissatisfaction with reimbursement methods that reward quantity rather than the quality of health care services.
## Performance Measurement and Health Care Quality

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<td>measurable results without actually accomplishing the desired objective; crème skimming of healthier patients for treatment; and the multitasking problem – where compensation based on available measures will distort effort away from unmeasured objectives.</td>
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<td>Limitations of P4P initiatives include: defining and unifying measures across the vast number of reporting initiatives, risk adjustment for clinical outcome measures, resource burdens on smaller versus larger hospitals, and the need for data on the effectiveness of P4P in improving care processes and outcomes.</td>
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### Other Comments

- With the advantages and disadvantages, it is evident that there is no perfect P4P payment strategy for every setting. The decision about which P4P strategy to use likely depends on the goal of P4P (to improve quality among low-performing providers or to maintain quality among high-performing providers), the distribution of performance within and across providers (whether it is highly variable or uniformly high), the percentage of payment available for P4P programs, and the overall level of performance.

- Key elements of P4P programs include: individual vs. group incentives, paying the right amount, selecting high-impact performance measures, making payment rewards all high-quality care, and prioritizing quality improvement for underserved populations.

- CMS and Premier Inc., a nationwide organization of not-for-profit hospitals teamed on a P4P initiative where hospitals are scored and ranked by condition measured. Top-tier hospitals (in top 10%) receive a 2% bonus on its Medicare payments; hospitals in the next decile receive a bonus of 1%.

- Bridges to Excellence (BTE) is a multilateral effort backed by a group of large employers to offer new financial incentives for physicians to improve health care quality in several target markets (Boston, Cincinnati/Louisville, and Albany/Schenectady). Three distinct initiatives were launched by BTE, including the Diabetes Care Link, the Physician Office Link, and the Cardiac Care Link. Each “link” comprises a broad set of measures, each of which is accorded points toward an overall score.
## PERFORMANCE MEASUREMENT AND HEALTH CARE QUALITY

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<td><strong>Case Example 1</strong></td>
<td>This program changes the incentives to providers from quantity of services provided to a combination of quality and efficiency. The episode of care is the unit of analysis — and episode of care is a series of health care services related to a particular condition or event.</td>
<td>• Performance on the clinical quality metrics improved by an average of 3% annually, while performance as measured by patient satisfaction surveys stagnated. A survey of physician and plan leaders by Cheryl Damberg and colleagues reported that the majority felt that the P4P program had motivated improvements in the data systems and measurement capabilities but that no “breakthrough” quality improvement had been achieved. • Adoption of the P4P-specified types of information technology (IT) increased annually by 7%.</td>
<td>The medical group structure of managed care in California theoretically resolved the three thorniest problems besetting episode initiatives in other contexts: small numbers, attribution, and inconsistent benefit designs.</td>
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<td>California P4P Program, Integrated Healthcare Association (IHA)</td>
<td>- Although P4P principles were adopted by Medicare and by private insurers across the nation, the CA program remains the largest in terms of dollars distributed.</td>
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<td>Other Comments</td>
<td>• The highly regulated HMO product in California had very similar levels of consumer cost sharing across competing health plans; thus, differences in the number of episodes per patient and in the average cost per episode would not be driven by differences in benefit design. • Physician organization-based health care system – advantage for measuring efficiency in that organization as the unit of observation overcome the small numbers that preclude valid episode measurement at the individual physician level. (The IHA technical committee decided that a physician organization must have at least 30 patients experiencing a type of episode during a year for the episode results to be valid for statistical purposes.)</td>
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### SECTION 7 • ENDNOTES


3. Ibid., AHRQ. (2007).


26 The Cochrane Collaboration. http://www.cochrane.org/health professionals can use this website to find evidence-based information on a wide range of medical topics.


SECTION 7 ● PERFORMANCE MEASUREMENT AND HEALTH CARE QUALITY


END SECTION 7
PHARMACEUTICAL INNOVATIONS

Overview: Employers and purchasing groups use pharmaceutical innovations to manage costs and increase the value of prescription drug benefits. These include: incentive-based formularies (multi-tier formularies), generic substitution, coinsurance and copayments, pharmacy benefit management (PBM), and computerized real-time alerts.

Definitions: Incentive-based formularies are an innovation designed to curb the increasing costs of prescription drugs. An incentive-based or tiered formulary provides financial incentives (i.e., lower copayments) for enrollees to choose drugs that are preferred by the payer.¹

Generic substitution is the practice of providing the generic equivalent of brand name medications, when available, to patients.

Copayments require consumers to pay a fixed percentage of a prescription’s costs, with the remaining cost paid through the health or prescription drug benefit.

A Pharmacy Benefit Manager (PBM) is a third party administrator of prescription drug programs. They are primarily responsible for processing and paying prescription drug claims. They also are responsible for developing and maintaining the formulary, contracting with pharmacies, and negotiating discounts and rebates with drug manufacturers. Today, more than 210 million Americans nationwide receive drug benefits administered by PBMs. Fortune 500 employers and public purchasers (Medicare Part D, the Federal Employees Health Benefits Program) provide prescription drug benefits to the vast majority of American workers and retirees.

Computerized real-time alerts include: electronic alerts to patients, reminding them to take medications; computerized order entry (and real-time decision support such as reminders and prompts) for physicians that provide prescribing alerts regarding medicines with potential contraindications and therapeutic alternatives; and faxed letters to prescribers regarding patients who have had gaps in refilling prescriptions.

### PHARMACEUTICAL INNOVATIONS

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<td>INCENTIVE-BASED FORMULARIES (MULTI TIER FORMULARIES)</td>
<td>Incentive-based formularies are intended to reduce health benefit costs. Criteria for placing drugs in different tiers should be based on clinical outcomes and not on the cost of ingredients and manufacturer rebates. If not, then the costs of pharmaceuticals may decrease, but overall medical costs may increase.²</td>
<td>• Different changes in formulary administration may have dramatically different effects on utilization and spending and may in some instances lead enrollees to discontinue therapy. The associated changes in copayments can substantially alter 1) out-of-pocket spending by enrollees, 2) the continuation of the use of medications, and possibly 3) the quality of care.³ • Several studies have found that the adoption of an incentive-based formulary and the accompanying changes in copayments resulted in lower</td>
<td>Incentive-based formularies are applicable to all markets.</td>
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¹ For example, a formulary that prioritizes generics may reduce the overall cost of medications for enrollees.

² While cost savings may be realized, discontinuation of therapy or reduced adherence may occur due to less favorable treatment options.

³ The impact on quality of care can vary depending on how the formulary changes affect patient adherence and drug efficacy.
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<td>Pharmaceutical Innovations</td>
<td>aggregate utilization of and spending on drugs,$^{7,5,6,7,9,10}$ However, most of the savings go to health insurance plans, not to consumers.$^{11}$ There is greater spending by patients,$^{12,13,14,15,16,17}$</td>
<td>• Adding tiers generally results with increased switching within drug classes (switching toward “preferred” drugs on formulary occurring among 5% to 49.4% of patients).$^{18,19,20,21,22,23,24,25}$ • Adding tiers to copayment structures has been associated with either no change$^{26}$ or an increase in the rate of discontinuation of prescribed drug treatments.$^{27,28,29,30,31}$ • Also, whether these effects are beneficial overall depends on potential health effects and spillover effects on medical spending.$^{32}$ These results are mixed. • One study of chronically ill patients found that doubling copayments in a two-tier plan for antidiabetic, anti-asthmatic, and antiulcerant agents resulted in a 17% increase in predicted annual emergency department visits and a 10% increase in predicted annual hospital days for persons with the respective conditions.$^{33}$ • Other studies contradict these findings. One study found that a three-tier structure reduced the payer’s prescription drug costs and increased consumers’ out-of-pocket drug expenditures without affecting physician office visits, inpatient hospital stays, or emergency department visits.$^{34}$ This study only observed effects up to 12 months after implementation. Another study confirmed these findings for 30 months after implementation. However, there were other limitations of this work, particularly that the study only examined one health plan.$^{35}$ • One study found a decrease in total drug spending of about 5% to 15% from changing from a single tier to a two- or three-tier formulary.$^{36}$</td>
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<td>An example of an incentive based formulary is a three-tiered formulary. In this model, the first tier is comprised of generic drugs with the lowest copayment. The second tier is comprised of brand-name drugs that are preferred by the payer and have a higher copayment. The third tier generates the highest copayment, as it is comprised of brand-name drugs that are not preferred by the payer.</td>
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<td>As of 2005, almost 75% of commercially insured individuals had prescription drug coverage with an incentive formulary with three or more tiers, whereas a decade ago such coverage was rare.</td>
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<td>Many studies of tiered formularies are limited in conclusions for particular populations, including the elderly, those with low-incomes, and the chronically ill.</td>
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<td>Also, among the various plans studied, there were differences in drug benefit design features. Some plans had co-payments, others had coinsurance. Some had retail and other mail-order pharmacies. Some plans had generic substitution rules, and others a list of drugs or drug classes excluded from coverage.</td>
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<td>A key distinction is between price-based formularies, in which copayments are tied to the price of the drug, and value-based formularies, in which copayments are tied to the cost-effectiveness or therapeutic value of the drug.</td>
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### Pharmaceutical Innovations

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<td><strong>Case Example:</strong> Pitney Bowes, Inc. shifted all diabetes drugs and devices from tier two or three formulary status to tier 1.</td>
<td>This intervention lowers the cost of required projects. This single change in pharmaceutical benefit design immediately made critical brand-name drugs available to most Pitney Bowes employees and their covered dependents for 10% co-insurance, the same coinsurance level as for generic drugs, versus the previous cost share of 25% to 50%.&lt;sup&gt;49&lt;/sup&gt;</td>
<td>• After two to three years, preliminary results in plan participants with diabetes indicate that medication possession rates have increased significantly, use of fixed-combination drugs has increased (possibly related to easier adherence), average total pharmacy costs have decreased by 7%, and emergency department visits have decreased by 26%.&lt;sup&gt;40&lt;/sup&gt; • Hospital admission rates, although increasing slightly, remain below the demographically adjusted Medstat benchmark. Overall direct healthcare costs per plan participant with diabetes decreased by 6%. In addition, the rate of increase in overall per-plan participant health costs at Pitney Bowes has slowed markedly, with net per-plan-participant costs in 2003 at about $4,000 per year versus $6,500 for the industry benchmark.&lt;sup&gt;41&lt;/sup&gt; • The percentage of members with suboptimal adherence with insulin decreased by two thirds. The percentage of members using fixed-combination oral hypoglycemic increased from 9% to 22%. Among insulin-dependent diabetic plan participants, the shift to newer brands of test strips in tier one was associated with a doubling in the usage rate of these test strips on glucometers (from 28% usage to 55% usage).&lt;sup&gt;42&lt;/sup&gt;</td>
<td>In all of Pitney Bowes’ self-funded plans and a few of the others, the drug benefits are provided by a carve-out pharmacy benefit manager. This coverage of approximately 90% of all employees under one common pharmaceutical plan provides a potentially powerful single point of entry for studying – and leveraging – long-term disease outcomes in the Pitney Bowes population.&lt;sup&gt;43&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Other Comments</strong></td>
<td>The average annual increase in employee health cost from 2000 to 2003 was 8.1% versus composite annual increases of 12% to 15% for benchmark companies.&lt;sup&gt;44&lt;/sup&gt;</td>
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<td><strong>Generic Substitution</strong></td>
<td>Generic substitution is intended to keep costs down by providing lower cost generics in place of more expensive, branded products.</td>
<td>• In surveys of more than 400 employers in the US: 39% always require a generic to be used when available and appropriate, 31% charge a higher copayment for brands unless indicated as medically necessary by a physician.&lt;sup&gt;45,46&lt;/sup&gt; • One study found that if a generic had been substituted for all corresponding brand-name outpatient drugs in 2000, the median annual</td>
<td>Generic substitution is applicable to all markets.</td>
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**Strategic Innovations for Affordable, Sustainable Health Care: A Model for Health System Reform: Environmental Scan**

**Altarum Institute January 2011**

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**Section 8 • Pharmaceutical Innovations**
## Pharmaceutical Innovations

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<tr>
<td><strong>Coinsurance and Copayments</strong></td>
<td>Both coinsurance and copayments are cost sharing mechanisms to ensure that consumers’ decision making reflects that they assume at least some of the cost of the product. Absent these mechanisms, consumers have no incentive to select cost-effective treatments. coinsurance is attractive to employers because, unlike fixed co-payments per prescription, coinsurance rates keep pace with rising drug costs.</td>
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<td>• Higher levels of cost sharing result in reductions in prescription drug use. However, demand for prescription drugs is insensitive to price changes. Most estimates of price elasticity suggest that a 10% increase in price, for example, would decrease use by less than that, ranging from 1% to 4%. However, the price elasticity of different medication classes can vary widely.</td>
<td>• RAND found that increased cost sharing resulted in overall use reductions of 25% to 45% for common drugs, and reductions of 8% to 23% for drugs used by chronically ill patients. Individuals who use specialty drugs responded to increased cost sharing much less, ranging from about 1% to 21%. Several studies have found that increased cost sharing has detrimental effects on patient’s health.</td>
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<td>• Modest increases in prescription copayments have been shown to have a negative impact on consumers’ medication purchasing decisions. These increases may lead to pill splitting or other reduced-dosing methods, increased time between refills, and increased medication discontinuation, particularly for symptomatic medications, but also for classes of prescription medications used for long-term disease prevention.</td>
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<td></td>
<td>Coinsurance and copayments are applicable to all markets. However, even small increases in coinsurance and copayments can severely limit access for low-income populations.</td>
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### PHARMACEUTICAL INNOVATIONS

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<td></td>
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<td>● In one study that considered 75 different plans, increasing a single copayment from $5 to $10 cut annual per-person spending from $725 to $563, or more than 20%. Similarly, doubling co-payments in multi-tier plans reduced average drug spending by about one-third.</td>
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<td>Other Comment</td>
<td>Patients respond differently to an increase in their out-of-pocket costs for prescription medications depending on the condition being treated, the absolute price increase, and the availability of treatment alternatives.</td>
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### PHARMACY BENEFIT MANAGEMENT

General activities of a PBM that generate cost savings to plan sponsors include:66

- efficient processing of prescription claims;
- providing a network of retail and mail-order pharmacy services to lower ingredient and dispensing fees (e.g., formulary management, generic-use programs, drug utilization review, disease management, manufacturer rebates);
- academic detailing (e.g., letters to prescribers, educational interventions, newsletters); and
- offering prescription drug insurance benefits with patient cost sharing and other incentives.

### DISEASE MANAGEMENT

Disease Management attempts to decrease health care costs and utilization and improve health outcomes over the life of a patient. Also aims to improve medication compliance.

- In a study of an HMO’s diabetes management program decreased hospitalizations by 18% among enrolled diabetic patients, and total gross costs were decreased by $44/patient/month (10.9%).67
- In another study of self-insured diabetic beneficiaries, implementation of a disease management program led to a 9.4% decrease in medical spending compared to baseline, and a 17% compared to expected.68

- Disease management requires a long-term focus.
- Programs are most common in large organizations (>50,000 employees).

Other Comments

- Disease management tends to target specific conditions (e.g., diabetes, heart disease, asthma).
- Longitudinal information on benefits is not well documented.
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| **Quantity Limitations**               | This intervention seeks to control drug costs and access by setting quantity limits. It may also set maximum allowable quantity limits. | - One study found that limiting the number of prescriptions covered by Medicaid to three/month/recipient resulted in a reduction in medication use and thus a savings in prescription costs.  
- Longer-term studies have shown that this can have deleterious health effects. | Utilization Management applies to all markets. |
| **Other Comments**                     | Limiting prescription access may lead to unintended consequences and should be carefully considered. | | |
| **Prior Authorization**                | Prior authorization is used to control utilization and expenditures and helps prevent potentially harmful or unnecessary utilization. It requires advanced physician and insurance approval before dispensing a prescription. | - Implementing a prior authorization policy for higher-cost NSAIDs led to a drug cost savings of 53% in one study.  
- There is a potential for high administrative costs, as well as patient dissatisfaction. | Prior authorization applies to all market settings. |
| **Other Comments**                     | Prescriptions most commonly restricted by prior authorization policies include fertility drugs, growth hormones, and medications with a potential cosmetic or "lifestyle" use. | | |
| **Drug Utilization Review (DUR)**      | (Typically automated) reviews conducted either before dispensing a prescription medication or retrospectively, after the prescription has been dispensed to the patient. Warnings are prompted by pharmacy computer systems at the time a prescription claim is processed. These include drug-drug interactions, drug duplication warnings, drug-disease interactions, allergy overlaps, early or late refill alerts, pregnancy alerts, incorrect dosage alerts, drug-age warnings, and drug-gender warnings. | There is little evidence that Drug Utilization Review programs actually lead to any health or financial benefits. | Computer-based systems are required. |
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<td><strong>DELIVERY SYSTEMS</strong></td>
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<td>The intervention achieves cost savings through offering restricted access to retail pharmacies. A narrower network concentrates purchasing power by limiting the pharmacies at which members are covered, thereby leveraging greater discounts. Mail-order pharmacies are often utilized to reduce costs. The Federal Trade Commission has found that prescription drug plan sponsors generally pay lower prices for drugs purchased through PBM-owned mail-order pharmacies. Although, mail-order pharmacies are not always more cost-effective.</td>
<td>Adding a mail-order pharmacy benefit has been shown to: provide an opportunity for deeper discounts compared with retail networks; be convenient for beneficiaries needing maintenance medications; and provide greater opportunity for effectively managing cost, utilization, and compliance. These types of arrangements are often inconvenient to beneficiaries and, therefore, may decrease consumer satisfaction. In some cases, mail order systems may be more expensive than point of purchase options.</td>
<td>This intervention applies to all markets.</td>
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**Other Comments**
- Over 87% of employers offered the option of mail-order service, with the ability to increase the supply of medication (90 days) for a decreased copayment.
- 31 states have “any willing provider” laws requiring PBMs to contract with any pharmacy willing to accept their reimbursement rate.

### BENEFIT DESIGN AND CONSUMER COST SHARING

<p>| Generic Incentives | Blue Cross Blue Shield of Michigan determined that increasing the use of generic medications by just 1% would result in $17M in savings. In surveys of more than 400 employers in the US: 39% always require a generic to be used when available and appropriate, 31% charge a higher copayment for brands unless indicated as medically necessary by a physician. | Generic incentives can be used in all markets. |
| Multi-tiered Copayments | Above and beyond the brand/generic distinction, plans categorize medications according to their effectiveness, availability of therapeutic alternatives, and the differential pricing and/or rebates | 71% of HMO panelists and 75% of PBM panelists who use the three-tier system stated that the design did save their organization money. More than 25% of HMO executives estimated that ~10% of pharmacy costs were saved as a result of | Multi-tiered copayments can be used in all markets. |</p>
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<td>PHARMACEUTICAL INNOVATIONS</td>
<td>81 obtained from manufacturers or wholesale distributors. Typically, copayment tiers are based on formulary status.</td>
<td>81 implementing a three-tier benefit.</td>
<td>81</td>
</tr>
<tr>
<td>Other Comments</td>
<td>Multi-tiered copayments require sufficient cost gap to incentivize purchasing behavior.</td>
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<td>Coinsurance</td>
<td>81 Coinsurance raises consumer cost sharing to proportionally reflect actual medication costs.</td>
<td>81 This intervention is designed to sensitize consumers to the cost of medications, provide a stronger financial incentive for use of lower-cost medications, and help protect payers from drug-price inflation.</td>
<td>81 Cost sharing applies to all market settings.</td>
</tr>
<tr>
<td>Case Examples 1:</td>
<td>81 The intervention manages pharmaceutical quality and costs.</td>
<td>81 It is estimated that the tri-state initiative will save 10-15% a year on prescription drug costs.</td>
<td>81 PBMs can be used in all market settings.</td>
</tr>
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<td>New England Tri-State Prescription Drug Purchasing Coalition</td>
<td>82 The coalition determined that the most comprehensive approach to managing quality and health care costs for their populations was through a PBM. Each state will contract separately with First Health Services for populations that it determines are most appropriate.</td>
<td></td>
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<tr>
<td>Other Comments</td>
<td>82 This case example involved regional-level, large scale purchasers.</td>
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### Pharmaceutical Innovations

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<td><strong>Case Example 2</strong> Federal Employees Health Benefits Program</td>
<td>The intervention helps manage the FEHBP prescription drug benefits.</td>
<td>• The average price PBMs negotiated for drugs from retail pharmacies was 18% below the average cash price customers would pay at retail pharmacies for 14 selected brand-name drugs and 47% below the average cash price for 4 selected generic drugs. • The average mail-order price was about 27% - 53% below the average cash price customers would pay at a retail pharmacy for the selected brand name and generic drugs, respectively. • Across the plans, rebates reduced total annual drug spending by 3% - 9% from 1998 to 2001. • PBMs achieved savings through intervention techniques such as prior authorization and drug utilization reviews that identify excess use, duplicative therapies, or the availability of effective, low-cost drug alternatives. • Enrollees benefited from cost savings from PBM services through lower costs for mail-order prescriptions, lower cost sharing linked to PBMs’ discounts obtained from retail pharmacies, and a lower increase in premiums overall. • PBM reductions in plan claims costs for prescription drugs translate into lower premiums for enrollees in later years.</td>
<td>PBMs can be used in all market settings.</td>
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Other Comments
- Example Intervention Techniques include:
  - Drug utilization review,
  - Prior authorization,
  - Therapeutic interchange, and
  - Generic substitution.
- Nearly all FEHBP enrollees had a retail pharmacy participating in their plan within a few miles of their residence.
- The plans reviewed were: Blue Cross and Blue Shield (BCBS), Government Employees Hospital Association (GEHA), and PacifiCare of California.
- Together, these plans accounted for about 55% of the 8.3M people covered through FEHBP plans as of July 2002 and represented various plan types and PBM contractors.
- These plans covered more than half of all FEHBP enrollees and paid $3.3B for about 65M prescriptions dispensed to these enrollees in 2001.
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<td><strong>COMPUTERIZED REAL TIME ALERTS</strong>&lt;sup&gt;84&lt;/sup&gt;</td>
<td>Patient-directed electronic reminders to take medication combats lack of adherence to drug regimens that may result in increased health care and emergency room utilization. Physician-directed computerized order entry is intended to alert prescribing physicians of potential contraindications and therapeutic alternatives at the time of prescribing. Other real-time decision support, such as reminders and prompts that are often connected to an electronic medical record, help to remind physicians of particular prescriptions or tests that may help in a particular case. Physician-directed faxed letters notify prescribers of patients who have had gaps in refilling prescriptions.</td>
<td>There is very little scientific evidence regarding the efficacy of using e-mail or text message reminders to patients in order to increase prescription drug regimen adherence. Several studies indicate improvements in care due to use of computerized order entry and real-time decision support such as reminders and prompts, including: reduced dispensing rates of potentially contraindicated medicines and higher quality of care.&lt;sup&gt;85, 86, 87, 88, 89&lt;/sup&gt; One study evaluated the impact of alerting prescribers via faxed letters about patients who had gaps of more than 10 days in refilling antidepressant prescriptions during the first six months of therapy. The faxed alerts to prescribers had no discernable effect on the proportion of non-adherent patients or the number of days without antidepressant treatment during the 12-month follow-up period.&lt;sup&gt;90&lt;/sup&gt;</td>
<td>There is very little evidence regarding the types of markets in which computerized real time alerts are either successful or unsuccessful. However, real-time decision supports as reminders and prompts to physicians often rely on electronic medical records (EMRs), requiring a market that is utilizing EMRs. Computerized order entry requires the corresponding system.</td>
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Includes:
- Electronic alerts to patients, reminding them to take medications.
- Computerized order entry (and real-time decision support such as reminders and prompts) for physicians provides prescribing alerts regarding medicines with potential contraindications and therapeutic alternatives.
- Faxed letters to prescribers regarding patients who have had gaps in refilling prescriptions.
PHARMACEUTICAL INNOVATIONS

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| **Case Example:** Carespeak Communications and Mount Sinai Hospital | The intervention is intended to increase adherence to prescribed pharmaceutical regimens in pediatric liver transplant patients. In turn, this was intended to reduce the risk of organ rejection, end stage liver disease, and/or death.92 | ● The program increased adherence to medication regimens and significantly reduced the risk of organ rejection.  
● The standard deviation of mean serum tacrolimus levels (a measure of the amount of tacrolimus—a common immunosuppressant taken by all study participants—in the blood) fell significantly, from 3.46 micrograms per liter in the year before the study to 1.37 micrograms per liter during the year-long study. Lower standard deviations are associated with higher levels of adherence, as they suggest more consistent amounts of medication in the blood. Results were consistent regardless of the number of medications being taken or who (the caregiver or patient) took responsibility for medication intake.93  
● Among the 41 study participants, the number with a standard deviation above the threshold level of 2.5 micrograms per liter (which puts the patient at increased risk of a rejection episode) fell from 24 before program implementation to 6 afterwards.94  
● Among participants, the number of episodes of acute cellular rejection fell from 12 in the year before implementation to 2 during the study.95 | ● The program appears applicable to all markets. Program developers are currently applying for funding to cover the costs of a national multicenter study of the program.96  
● Only patients or caregivers who had a cell phone and active cell phone service were allowed to participate in the program.97  
● Over 40% of participants in the initial study dropped out before the end of the year, with the inability to pay for cell phone service being the single biggest reason for ending participation. To address this issue, those considering implementing a similar initiative may wish to provide pre-paid cell phones with text-messaging capabilities to patients and/or caregivers.98 |

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**SECTION 8 ● ENDNOTES**

2 RAND Health Research Highlights of Joyce, et al. (2002).


Price Transparency

Price Transparency – Price Transparency is the consideration of health care prices by consumers – customers, purchasers, and employers. The concept of quality transparency is often linked with price transparency because knowledge of quality in addition to price brings value to the concept of price transparency. “Demand for payment reform arises when trust in the efficiency and fairness of the existing payment system breaks down.” The causes of this distrust are price distortion and consumer disconnectedness, which reflect the lack of consumer participation in the health care payment process. Many economists believe that increased price transparency will result in lower health care costs, and that price transparency shifts health care affordability accountability to the public, although there is limited evidence to support these beliefs.

It is thought that transparency will reduce price distortion and price discrimination, which will lead to improved market efficiency. However, no studies were discovered that accurately tested this hypothesis. The characteristics of the health market make it difficult to apply empirical evidence of the effects of price transparency observed in other markets. These characteristics include limits on competition among hospitals, complicated products that vary in quality, intermediate agents (physicians) who make choices, and third-party payment of costs through insurance.

Note: The Health Care Price Transparency Promotion Act of 2009 (H.R.2249, introduced 5/5/09), amends title XIX (Medicaid) of the Social Security Act to require states to provide laws for Medicaid plan transparency of hospital charge information and out-of-pocket costs, and to provide for additional research on consumer information for charges and out-of-pocket costs. Most health care leaders think that increasing price and quality transparency is important for improving provider performance improvement, rewarding quality and efficiency, and helping patients make informed health care choices.

Note: The Transparency in Medical Device Pricing Act of 2007 (S. 2221, introduced in October 2007), requires medical device manufacturers, as a condition of receiving direct or indirect payments under Medicare, Medicaid and CHIP, to submit average and median sales prices for all implantable medical devices used in inpatient and outpatient procedures. However, this is still in Committee and has not yet been passed.

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| QUALITY AND COST SCORECARDS / REPORTS | Scorecards and reports offer a retrospective examination of health care costs and trends in costs for providers. | • There is no direct evidence that the presence of a scorecard or report card results in decreased health care costs.  
• Organizations reporting cost information often just recommend the use of generic drugs (vs. brand) to decrease costs.  
• Retrospective reporting contributes peripherally to cost transparency by encouraging publication of cost data, through publically available data, on the trends in health care costs. However, costs can change by the time of publication, so it is difficult to use report cards | • Most scorecards and report cards are state or regionally specific.  
• Many report cards contain Medicaid data. Most report cards report quality results (mortality, safety issues, etc.). For example, Maine Health Management Coalition’s hospital report cards measure patient experience, safety, and clinical quality; the report cards use a cost index based on what insurance and patients pay the hospitals.  
• Much of the quality data are obtained from Medicare. |
| Scorecards take several different forms; many are provided online. | | | |
### PRICE TRANSPARENCY

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<td><strong>Case Example 1:</strong></td>
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<td>New Hampshire has a similar report card. The state created the New Hampshire Citizens Health Initiative and the New Hampshire Purchasers Group on Health.</td>
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**Pennsylvania Health Care Cost Containment Council Report on Cardiac Surgery in PA Hospitals**

- In 2000, the in-hospital mortality rate for patients undergoing a CABG procedure (without a valve procedure) was 2.39%. The rate had declined to 1.98% in 2004, and further declined to 1.90% in 2005. Between 2004 and 2005, the average number of open heart procedures per hospital declined from 376 cases per hospital to 346 cases per hospital—down from 499 in 2000.

**WEB-HOSTED COST POSTING / COMPARISON APPLICATIONS**

- Web-based applications are targeted towards real-time decision making by health care customers. The decisions represent choices between health care venues as opposed to decisions between health care plans.
- There are many case examples of innovations to improve cost transparency in health care; however, there are no clear studies relating the presence of these Web applications with a decrease in the cost of care. If a consumer has a choice of health care options, that choice may be based on price, which could result in a lower-cost health care alternative; however, price is not the only important consideration in health care decision making.
  - For example, The Leapfrog Group has an online hospital comparative program; however, the primary focus is on quality and not price.
  - Some of the Web “applications” are simply forms that need to be filled out in order to inquire about health care costs. For example, the “Texas Health Resources Cost Estimate Request” is a Web-based form that is filled out by a prospective patient, which is then emailed to a staff member who replies with information concerning deductibles and cost comparisons based on hospital charges.
- Most of the online cost information tools are hospital or plan specific, which is regional or state localized based on the projected target audience.
- Health plans often have a uniform fee schedule for small physician practices in a geographic area but negotiate higher rates for larger practices depending on their importance to the network.
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| **Other Comments**     | • Outofpocket.com was created to educate and help consumers understand health care prices. They have a price transparency portal that allows consumers to search for prices for health care services and invites consumers to collaborate by posting prices they paid for health care services.\(^\text{12}\)  
• The AQA Performance Measurement Workgroup: Proposed “Starter” Set of Conditions and Procedures is a measure of overall cost per patient for a physician or other clinician.\(^\text{13}\)  
• Many payers have tools that provide consumers with pharmacy costs. Some examples include: CIGNA Pharmacy Management, Bloomfield, CT, Pharmacy Price Quote tool, which drills down to the costs of drugs at local pharmacies. Members can look at actual out-of-pocket prescription costs, the plan's cost, and the total cost. Also, Humana and RegenceRx enable members to access the estimated retail price of specific drugs. In addition, Subimo, based in Chicago, offers PharmaAdvisor, a Web-based tool that helps consumers make decisions about drug treatment options, both clinically and from a cost perspective, including possible interactions, efficacy, dosage and how drugs work for certain conditions in side-by-side comparisons.\(^\text{14}\)  
• Vimo provides information on average list prices and average negotiated prices charged by hospitals for specific procedures.\(^\text{15}\) | | |
| **Case Example 1:**  
**My Cost** | Alegent Health’s My Cost online tool provides cost estimates for inpatient and outpatient tests, procedures, and appointments, including annual physicals, well-baby visits, mental/behavioral health services and cardiac rehabilitation.\(^\text{16}\) | They are a participating hospital in CMS’ Hospital Quality Alliance program to assess quality. Hospitals are currently required to submit data on 27 indicators that focus on clinical processes. Several additional clinical process indicators have been defined by CMS but are not yet required for public reporting. | The My Cost tool is limited to Nebraska. |
| **Case Example 2:**  
**CarePricer** | The Health Alliance of Greater Cincinnati’s CarePricer Software matches diagnosis and procedure codes with patient’s insurance plan and payer contracts.\(^\text{17}\) | CarePricer creates an advance EOB for 200 of the most common procedures, including radiology. | The CarePricer application is limited to the Greater Cincinnati area. |
**PRICE TRANSPARENCY**

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<td>COALITIONS, CAMPAIGNS, STATE REIMBURSEMENT CHANGES AND LEGISLATION</td>
<td>The federal government has launched a health care price transparency initiative for Medicare and other health care payers. Some examples of state-backed price transparency programs are shown in Table 1. The policy-driven approach to greater privatization uses three major tools: consumer-driven health care (CDHC), transparency of price and quality, and pay-for-performance initiatives. Knowledge of price and value (or quality) defines transparency. Transparency is critical to the success of CDHC. Note that the key component of CDHC is the high deductible health plan.</td>
<td>According to analysis of available data, the California Hospital Price Transparency Initiative has had negligible or no observable effect on hospital prices. Hospitals are incentivized to keep charges high, even though most consumers pay a discounted rate, which is assumed to be based on the fact that Medicare outlier reimbursement and some managed care payments are based on charges, rather than negotiated rates. In January 2008 Michigan's not-for-profit hospitals began posting online the prices for at least 50 common medical procedures in response to consumers' and businesses' demands for more cost information. The Smart Buy Alliance was founded to enable Minnesotans to improve the quality and lower the cost of health care by making them more demanding consumers.</td>
<td>Most coalitions are focused on limited geographical markets; they are often state-based. Organizations and legislation are appropriate for diverse market regions. Other markets require transparent information on cost and quality to work efficiently; today's health care system fails this requirement.</td>
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</table>

Approximately 32 states have mandated that hospitals provide pricing information to the public.

| Other Comments | The Partnership for Value-driven Health Care is a consortium of influential business groups committed to improving the nation’s health care system by empowering employees to make informed decisions about their health care. The AHA endorsed the Health Care Price Transparency Promotion Act, H.R. 1666; “sharing meaningful information with consumers about the price of their hospital care will greatly enhance the market-based approach to health care.” The Healthcare Financial Management Association (HFMA) has a National Advisory Committee to encourage price transparency. The mission of the Coalition for Affordable Healthcare Coverage is to educate and advise members of Congress and the President on how to help people get health coverage. The Patient Friendly Billing Project was created by HFMA. “Lawmakers should avoid direct “price setting” because such interventions inevitably distort the market in ways that end up harming both suppliers and consumers. Lawmakers will need to reach agreement with stakeholders on the appropriate standards for calculating and communicating prices to consumers in the health system. While enhanced price transparency at the provider level will certainly improve the functioning of the health system, the bigger issue will be the rules for how insurers price their health plan offerings.” |

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Other Comments

- The Partnership for Value-driven Health Care is a consortium of influential business groups committed to improving the nation’s health care system by empowering employees to make informed decisions about their health care.
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## Price Transparency

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<tbody>
<tr>
<td><strong>Case Example 1:</strong>&lt;br&gt;The Nevada Partnership for Value Driven Health Care</td>
<td>The Nevada Partnership for Value Driven Health Care is a multi-stakeholder community health care collaborative made up of public and private payers, purchasers, providers (institutional and individual), and the public.(^{29})</td>
<td>On September 3, 2008, the Nevada Partnership was designated a <em>Chartered Value Exchange</em> (CVE) and has been designated as a &quot;Community Leader&quot; by the Agency for Healthcare Research and Quality (AHRQ).</td>
<td>The Nevada Partnership for Value Driven Health Care is specific to Nevada.</td>
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<td><strong>Case Example 2:</strong>&lt;br&gt;Transparency in Pharmaceutical Purchasing Solutions (TIPPS)</td>
<td>The Pharmaceutical Purchasing Coalition (PPC) developed a certification process—named <em>Transparency in Pharmaceutical Purchasing Solutions</em> (TIPPS) that requires pharmacy benefits management organizations to disclose to their clients the actual acquisition costs for retail and mail-order drugs. They are required to pass drug company rebates directly to their clients.(^{30})</td>
<td>All TIPPS-credentialed pharmacy benefit managers charge employers a straight administrative fee instead of making their profits through deals with the drug industry. The certification fee is $50,000. Recertification costs $30,000.</td>
<td>TIPPS is a national program.</td>
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<td><strong>Case Example 3:</strong>&lt;br&gt;Abtut Health Transparency</td>
<td><em>About Health Transparency</em> is a Web-based service that tracks new and updated health care reports on quality, pricing, and consumer satisfaction.(^{31})</td>
<td>The <em>About Health Transparency</em> service tracks new and updated health care reports on quality, pricing and consumer satisfaction; news and information on health care transparency, value-driven health care, public reporting legislation, and health care report cards, including hospital report cards, nursing home report cards, and home health report cards.</td>
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<td><strong>Case Example 4:</strong>&lt;br&gt;The Transparency Imperative</td>
<td>In Maine, the Consumers for Affordable Healthcare published, <em>The Transparency Imperative</em>, which is a consumer guide to public policy that is supposed to lower health care cost and improve quality.(^{32})</td>
<td><em>The Transparency Imperative</em> policy initiatives include: required reporting of total price for episodes of care, or for all services related to a particular diagnosis, including doctor services; required price transparency, listing prices and negotiated prices by service, provider and payer; and required public reporting that includes cost and quality data in order to improve value purchasing.</td>
<td><em>The Transparency Imperative</em> policy initiatives are regionally distributed in Maine.</td>
</tr>
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</table>

2 Price distortion refers to a disparity between price and cost, which can be created by charging a higher price to one buyer in order to afford charging a lower price to another buyer.


11 Ginsburg, Paul B. “Shopping for Price in Medical Care,” Health Affairs. 26: 2. (February 2007).


<table>
<thead>
<tr>
<th>State</th>
<th>Description</th>
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<tbody>
<tr>
<td>Arizona</td>
<td>Posts cost information for hospitals and nursing home facilities on the Department of Health Services, Division of Public Health Services Web page.</td>
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<tr>
<td>California</td>
<td>Posts hospital cost comparisons on its state government web site and on the Office of Statewide Health Planning and Development Healthcare Quality and Analysis Division Web page.</td>
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<tr>
<td>Florida</td>
<td>FloridaCompareCare.gov enables consumers to obtain data on hospitals' charges and readmission rates.</td>
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<tr>
<td>Louisiana</td>
<td>Louisiana Hospital Inform, maintained by the Louisiana Hospital Association, provides pricing data on the most common Medicare inpatient and outpatient services.</td>
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<tr>
<td>Maryland</td>
<td>Maryland Hospital Pricing Guide, provided by the Maryland Health Care Commission, lists, for each acute care hospital in Maryland, the number of cases, the average charge per case, and the average charge per day for the 15 most common diagnoses.</td>
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<tr>
<td>Massachusetts</td>
<td>Will create a new Web site that has much more information than its existing site; will allow consumers to compare the quality of hospitals and clinics, as well as prices for hospitals and for the cost of prescriptions at individual pharmacies.</td>
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<tr>
<td>Minnesota</td>
<td>Some health insurers are unveiling or updating Web sites (some are members-only) that allow their members to compare pricing and quality information for a variety of procedures and services.</td>
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<tr>
<td>New Hampshire</td>
<td>New Hampshire PricePoint, sponsored and maintained by the New Hampshire Hospital Association, allows health care consumers to receive basic, facility-specific information about services and charges.</td>
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<tr>
<td>New Jersey</td>
<td>A bill introduced in 2006 that allows consumers to compare drug prices via a state Web site. Prices for the 150 most-commonly prescribed drugs will be listed, along with retail pharmacy prices; consumers can search the Web site by zip code.</td>
</tr>
<tr>
<td>Oregon</td>
<td>Oregon PricePoint, sponsored and maintained by the Oregon Association of Hospitals and Health Systems, allows health care consumers to receive basic, facility-specific information about services and charges.</td>
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<tr>
<td>Wisconsin</td>
<td>Price Point displays typical charges and lengths of stay for individual hospitals, as well as state and county averages.</td>
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24 Coalition to Advance Healthcare Reform (CAHR). http://www.coalition4healthcare.org/about/principles/?c=yiwa0k0h005kk7. (Accessed March 19, 2010).


END SECTION 9
Purchasing Pools

Purchasing Groups – Purchasing pools are intended to band together employers and other purchasers into a larger purchasing block. This creates a larger purchaser presence in the marketplace than the individual entities would create operating on their own.

Pooled Purchasing – Group purchasing is a principal strategy by which companies in many sectors, especially health services, have sought to achieve cost containment, improve the quality of goods purchased, and allow staff to focus their efforts on other activities. Of every health care (acute care setting) supply dollar, 72% to 80% is acquired through group purchasing. The “bottom-line” rationale for group purchasing is to achieve: (1) lower prices, (2) price protection, (3) improved quality control programs, (4) reduced contracting cost, and (5) monitored market conditions.

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<td><strong>Purchasing for Insurance:</strong></td>
<td>Purchasing pools address the inability for small purchasers to participate in the insurance market due to prohibitive costs. They provide coverage for over 175,000 lives through more than 12,000 small employers.</td>
<td>• RAND studied the three largest small-group health insurance purchasing “alliances” begun in the mid-1990s and found that they did not reduce small-group market health insurance premiums, nor did they raise small-business health insurance offer rates.</td>
<td>• When the purchasing alliances or co-ops failed, it is mostly because they could not attract large numbers of small employers and covered lives — a lesson that the proposals for statewide insurance exchanges have taken to heart, since the statewide exchanges are similar in spirit to many of the co-ops and alliances that were in place for a few years in the 1990s.</td>
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<td></td>
<td>Purchasing pools address the inability for small purchasers to participate in the insurance market due to prohibitive costs. They provide coverage for over 175,000 lives through more than 12,000 small employers.</td>
<td>• There is no strong evidence that Health Insurance Purchasing Cooperatives (HIPCs) have had a major impact on the number of people who are uninsured.</td>
<td>• Particularly sensitive to adverse selection issues.</td>
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<td>Purchasing pools address the inability for small purchasers to participate in the insurance market due to prohibitive costs. They provide coverage for over 175,000 lives through more than 12,000 small employers.</td>
<td>• HIPCs have found that centralizing administrative functions have not produced the economies of scale expected.</td>
<td>• When HIPCs have a small market share they just do not have much leverage to be effective bargainers.</td>
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<td>Purchasing pools address the inability for small purchasers to participate in the insurance market due to prohibitive costs. They provide coverage for over 175,000 lives through more than 12,000 small employers.</td>
<td>• HIPCs have clearly increased coverage options for the self-employed, or so-called groups of one.</td>
<td>• Unless sufficient numbers of quality, name brand health plans participate initially and then stay on as partners with the HIPC, success is unlikely.</td>
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<td>Purchasing pools address the inability for small purchasers to participate in the insurance market due to prohibitive costs. They provide coverage for over 175,000 lives through more than 12,000 small employers.</td>
<td>• A reoccurring problem with employer coalitions is maintaining employers’ commitment to the coalition’s principles and activities over time.</td>
<td>• If HIPC doesn’t hold a large share of the small market, plans are able to compete effectively without HIPC.</td>
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<td>Purchasing pools address the inability for small purchasers to participate in the insurance market due to prohibitive costs. They provide coverage for over 175,000 lives through more than 12,000 small employers.</td>
<td></td>
<td>• Not all communities have health care delivery systems that can be configured readily around competing groups of primary care physicians, nor is there enthusiasm among all local providers for doing so.</td>
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1. The various prototypes for an exchange have operated in a single metropolitan area (Cleveland’s COSE), across an entire state (the Massachusetts Connector and CalPERS), and nationally (FEHBP).
2. Purchasing pools address the inability for small purchasers to participate in the insurance market due to prohibitive costs. They provide coverage for over 175,000 lives through more than 12,000 small employers.
3. RAND studied the three largest small-group health insurance purchasing “alliances” begun in the mid-1990s and found that they did not reduce small-group market health insurance premiums, nor did they raise small-business health insurance offer rates.
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5. HIPCs have found that centralizing administrative functions have not produced the economies of scale expected.
6. HIPCs have clearly increased coverage options for the self-employed, or so-called groups of one.
7. A reoccurring problem with employer coalitions is maintaining employers’ commitment to the coalition’s principles and activities over time.
8. When the purchasing alliances or co-ops failed, it is mostly because they could not attract large numbers of small employers and covered lives — a lesson that the proposals for statewide insurance exchanges have taken to heart, since the statewide exchanges are similar in spirit to many of the co-ops and alliances that were in place for a few years in the 1990s.
10. Highly dependent on state insurance laws.
11. When HIPCs have a small market share they just do not have much leverage to be effective bargainers.
12. Unless sufficient numbers of quality, name brand health plans participate initially and then stay on as partners with the HIPC, success is unlikely.
### PURCHASING POOLS

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| Other Comments                       | Cleveland has the Council of Smaller Enterprises (COSE), which has provided health insurance options to small businesses in northeast Ohio for more than 35 years. Unfortunately, other notable group purchasing cooperatives have failed in recent years, including PacAdvantage6 (closed at the end of 2006), the Florida Community Health Purchasing Alliances (closed in 2000), and the Alliance in Colorado (closed in 2002). | This approach seeks to address choice. It allows small firms choice among competing health plans. COSE offers over 20 different plan designs. However, all plans are provided by a single health insurer, Medical Mutual of Ohio (formerly Blue Cross). COSE is more like a portal to that insurer than a purchaser. COSE is also a member of National Small Business United, the nation’s oldest bipartisan advocacy association for small business, representing over 65,000 small businesses in all 50 states. COSE claims a significant price advantage. | • COSE operates in a single metropolitan area.  
• COSE is wholly private.  
• The bottom line is that no pool can succeed unless it lives by the same rules as the outside market; or the pool, like a large employer, is endowed with compensating characteristics. COSE dominates the small-group market in Cleveland (though precise market-share figures are not available). |
| **Case Example 1:** Cleveland’s Council of Smaller Enterprises (COSE) | COSE administers the program and sells it directly to small businesses with distribution costs that are 75% less than competing plans. COSE provides direct customer service to their members for enrollment and administration, and provides additional products like dental, vision, life, and disability insurance. | | |

**Other Comments**

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- COSE is the small business division of the Greater Cleveland Growth Association, one of the largest regional chambers of commerce in the country. In addition to offering benefits to businesses in the greater Cleveland area, COSE also provides group health insurance services in the Toledo, Lima, Findlay, Fostoria, and Mansfield areas of the state of Ohio.

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### PURCHASING POOLS

#### Case Example 2: HealthPass (NYC)

HealthPass is an innovative non-profit founded by the City of New York and The New York Business Group on Health (NYBGH). (http://www.healthpass.com/)

- This approach seeks to reduce the administrative burden for employers by handling much of the back-end work.\(^{20}\)
  - It gives small companies access to more than 30 coverage options from four carriers.\(^{21}\)
- Choice and administrative simplicity.\(^{22}\)
- Excellent third party administration and legal advice; excellent broker network; brokers became the program’s most important source of sales; inclusion of general agents as intermediaries in the network; absence of a “silo” mentality.\(^{23}\)
- Employers’ appreciated the range of products and prices available and the ability to offer a choice among these products to their employees under a defined contribution model.\(^{24}\)

#### How applicable to which types of markets?

- New York State has a community rating requirement. However, the state allows modified community rating by age, gender, and industry among employers with 50 to 2000 employees.\(^{27}\)
- Many employers will not join the program unless they can also obtain more complete coverage for themselves and their families; 25 – 34 year olds are the largest segment; Defined contribution approach.\(^{28}\)

#### Other Comments

- Founded with a grant from New York City.
- HealthPass is administered by the New York Health Purchasing Alliance, a subsidiary of NYBGH, and provides access to a wide and growing range of health plans and prescription drug and dental options.\(^{29}\)

#### Case Example 3: Health Connections Program, Connecticut Business and Industry Association (CBIA)

Managed competition model with multiple insurers is represented. Insurers compete to attract individual enrollees on the basis of price and/or quality. In this model, the participating plans offer the same rates that they offer to small employers purchasing outside the CBIA arrangement.\(^{30}\)

It seems highly unlikely that optional pools, by themselves, can do much to reduce health insurance premiums.\(^{31}\)

- CBIA has operated since 1995, and, in 2007, served 88,000 members in almost 5,800 companies (NHPF 2009). CBIA is wholly private.
- Small-employer worker-choice pools have done better in states that do not allow health rating in that market, such as Connecticut.\(^{32}\)
- CBIA has small-employer market penetration of more than 10%.\(^{33}\)
### INTERVENTION AREAS AND Case Examples

#### Case Example 4: Buyers Health Care Action Group (BHCAG) Purchasing Model

BHCAG is a coalition of over 30 employers including Minnesota Life, Jostens, SUPERVALU, and Park Nicollet with more than 500,000 members.  

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| ● The Buyers Health Care Action Group (BHCAG) is a model of direct contracting from purchaser to provider, bypassing the health plan. The model attempts to allow employees rather than employers to choose their health care providers. In 1997, Choice Plus was introduced which included direct contracts with provider-controlled delivery systems, annual care system bidding, public reports of consumer satisfaction and quality, uniform benefits, and risk-adjusted payment.  
● The stated purpose of the initiative, called Choice Plus, was to foster competition among groups of providers (not licensed health plans) on price and quality, with consumers’ choices driving the process.  
● BHCAG has adopted some form of risk adjustment.  
● An essential part of the model was that providers submitted bids, in effect setting their own prices.  
● The model requires building an attractive set of competing care system networks. | ● Choice Plus has helped to create economic incentives for employees to choose less costly provider systems. The initiative has resulted in some degree of restraint in cost growth.  
● In order to promote more-informed choices, BHCAG required standardized benefit packages and distributed the results of surveys of enrollees’ satisfaction and comparisons of the care systems’ performance. The early indications were that many employees used this information to make their choices.  
● At the same time that Patient Choice was facing the problem of replacing exiting employers, some employers were becoming dissatisfied with the cost of collecting quality information on the care systems.  
● Most providers appreciated that by organizing as care systems, they could set their own prices through risk-adjusted bids. | ● BHCAG faced challenges when two of their largest employers – Wells Fargo and American Express – withdrew. Purchasing coalitions face challenges in retaining members’ commitment after large corporate mergers.  
● Enrollment growth is a challenge for purchasing coalitions. In the case of BHCAG, it provides the opportunity to spread the fixed administrative costs over more patients. While the state employees’ group is an associate member of BHCAG, as of 2002, their 130,000 members did not participate.  
● The Choice Plus approach reveals which care systems are more and less efficient, and consumers respond by selecting less costly systems. The care system “losers” in the process might conclude that they are better off under existing managed care contracts.  
● In an attempt to transport BHCAG to Portland, Oregon, a new employer group – the Oregon Health Care Quality Coalition – found that no coalition employers emerged as a “product champion.” This undermined the chances of this model being successful in Portland. Unlike in the Twin Cities, many large employers in Portland offered only fully insured products. Also hampering marketing efforts was the fact that the care system network was limited to the Portland area at that time, and most large Portland employers had employees statewide.  
● Factors for success in the Twin Cities: large number of multispecialty groups and the social network structure of corporate headquarters. |

#### Other Comments

- Beginning in 1999, BHCAG contracted with a pharmacy benefit management company (PBM).
- The nonprofit part of BHCAG, HealthFront, focuses on improving patient safety, health care quality, and consumerism in the community.  
- The successful resistance of key hospitals to the model was a major factor in delaying implementation and, ultimately, in abandoning efforts in some communities. One interpretation is that the consolidation of local hospital markets created market power for the dominant institutions, which they used to forestall the entry of a new health plan that could be disadvantageous to them.  
- In most communities, employers were hesitant to offer any product unless it permitted access to virtually all providers. Employers with national or statewide workforces posed even greater problems for the model, as they typically wanted benefit options to provide coverage for all employees in order to minimize the number of their health plan offerings.
## PURCHASING POOLS

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<td>Tiered care system networks were sold to employees and employers in Minneapolis as an expression of consumer choice because, in comparison to HMOs, they would provide greater access to providers. In 1994, 78% of Minnesotans in managed care plans were enrolled in the “Big 3” HMOs – Medica, HealthPartners, and Blue Cross – leading to demands by both purchasers and providers for more health plan options. By the time the Patient Choice model moved to other cities, broad provider networks had become the norm, and tiered networks were seen as offering less choice.</td>
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<td>Pharmaceutical purchasing pools are intended to reduce the cost of pharmaceuticals. The states benefit by capturing rebates from the manufacturers and reducing per-unit administrative expenses.</td>
<td>Savings are enhanced when a pooling arrangement is combined with a preferred drug list, prior authorization requirements, and other mechanisms that shift individuals toward less expensive prescription drugs.</td>
<td>Multistate purchasing pools work particularly well for smaller states that do not represent a large number of covered lives individually.</td>
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<td>Multistate pools are particularly promising for smaller states that do not represent a large volume of covered lives on their own, but together can muster the purchasing power of larger states.</td>
<td>West Virginia estimates that it saved $7 million in its first year.</td>
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<td>Other Comments</td>
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| **Case Example 1:** West Virginia: RXIS Multistate Pharmaceutical Purchasing Pool.56 | This approach’s goal is to contain spending - thereby stretching limited dollars - on pharmaceuticals. | - States receive 100% of manufacturer rebates, which is a greater amount of money than the increase in administrative fees. So, overall, there is a cost savings. This arrangement with the PBM is attributed in part to the collective power of the states that issued the RFP.  
- Rebates will grow along with drug-cost escalation.  
- Administrative fees are based on a sliding scale tied to volume. Pooling individuals in multiple states means lower per-unit administrative costs.  
- As the pool grows, bulk purchasing should enable the PBM to negotiate lower drug prices and higher rebates.  
- It’s less expensive to conduct periodic audits of the PBM when all participating states share the cost.  
- West Virginia realized $7M in net savings the first year, and expects $25M over the third contract period.  
- Missouri expects savings of $1.4M, or 2% of the plan cost, in its first year. New Mexico expects $2.0M in savings. Delaware reports $1.9M in rebates. Ohio anticipates savings of $15M over 3 years.57 | |
| **Other Comments** | - In developing its program, the RXIS group had to grapple with multiple state regulations, garner political will (to change the status quo and take a chance with a project whose outcome was unknown), and make significant time commitments for planning and implementing the new PBM arrangement.  
- The elimination of Medicaid pharmacy coverage for people dually eligible for Medicaid and Medicare in 2006 (through the Deficit Reduction Act of 2006, DRA) reduced the volume and purchasing power of state Medicaid programs, even in large states.58 | |

56 West Virginia, Missouri, New Mexico, and Delaware (the “Rx Issuing States,” or RXIS) hired a common PBM that negotiates and purchases drugs for their state employees (West Virginia’s group also includes its SCHIP enrollees). Ohio joined the pool after it was initially formed. The states benefit by capturing rebates from the manufacturers and reducing per-unit administrative expenses.  

57 Five states, nearly 700,000 lives as of July 2004.
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<td><strong>Case Example 2:</strong> New England Tri-State Prescription Drug Purchasing Coalition</td>
<td>The coalition collectively addresses rising prescription drug costs for people covered by public programs, and uninsured and underinsured individuals. The goal is to enhance quality of care; control pharmacy expenditures for covered populations; reduce program administrative costs; and improve access.</td>
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<td><strong>Other Comments</strong></td>
<td>Drug costs for the uninsured and public beneficiaries will be lowered through cost-management strategies including:</td>
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<td></td>
<td>- Negotiation of price and rebates,</td>
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<td>- Greater efficiency in pharmacy claims processing,</td>
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<td>- Reduction of claims processing for ineligible populations,</td>
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<td>- Reduction of administrative costs,</td>
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<td>- Cost avoidance of claims for individuals with third-party liability for pharmacy services,</td>
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<td>- Preservation of health through prospective drug utilization review (PRO-DUR) to prevent inappropriate drug dispensing and/or use,</td>
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<td>- Prevention of payment for fraudulent or duplicate claims, and</td>
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<td>- Maintenance of positive relationships with providers.</td>
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<td>Intrastate Purchasing</td>
<td>This innovation reduces the cost of pharmaceuticals through combining the purchasing power of agencies within a state.</td>
<td>Georgia selected one PBM to implement an intrastate drug-purchasing program for its Medicaid, SCHIP, employees of higher-education institutions, and state employees. The plan uses a single preferred drug list (PDL) and covers almost two million residents.</td>
<td>Intrastate purchasing pools work at the state level, in states that have multiple agencies purchasing pharmaceuticals. The payers in this case are the state agencies involved in the pool.</td>
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Like multistate purchasing, intrastate pooling within agencies – pooling within a state-- allows states to stretch their dollars by enhancing their purchasing power through administrative streamlining.
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<tbody>
<tr>
<td><strong>Case Example 1</strong></td>
<td>This approach stretches their dollars by enhancing their purchasing power through administrative streamlining.</td>
<td>The changes have helped reduce the pharmaceutical cost growth trend from 26% in FY 2001 to 16% in FY 2002.</td>
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<tr>
<td>Georgia: Intrastate Consolidated Drug Management</td>
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<td></td>
<td>Georgia selected one PBM to implement an intrastate drug-purchasing program for its Medicaid, SCHIP, employees of higher-education institutions, and state employees. The plan uses a single PDL and covers almost two million residents.</td>
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<td></td>
<td>The state designed a three-tiered formulary for state employees and the Board of Regents, and expanded its Maximum Allowable Cost (MAC) list, which sets price ceilings on generic drugs and encourages their use when appropriate.</td>
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<tr>
<td>INTERVENTION AREAS AND Case Examples</td>
<td>What does the intervention intend to address?</td>
<td>What is the research evidence regarding impact of intervention?</td>
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<tr>
<td><strong>Case Example 2:</strong> Illinois: RX Buying Club</td>
<td>The approach reduces the cost of pharmaceuticals for its beneficiaries.</td>
<td>The club enrolled 62,450 individuals during its first three months and achieved average savings of 21%.</td>
<td>This type of plan works at the state level.</td>
</tr>
</tbody>
</table>
| **State-negotiated Discounts and Drug-only Benefits** | The goal is to reduce the cost of pharmaceuticals for individuals who are ineligible for Medicaid or who lack drug coverage. | - Under Maine Rx Plus, the state serves as pharmaceutical-benefit manager for residents without prescription-drug insurance who have incomes up to 350% of the federal poverty level. The state negotiates discounts in the form of manufacturer rebates, which are distributed to participating pharmacies that pass on the savings to Maine Rx Plus cardholders.  
- Vermont spearheaded the “Pharmacy Plus” approach in 1995 when it implemented drug-only coverage for elderly persons with income up to 125% of the federal poverty level under an 1115 waiver (which involves experimental, pilot, or demonstration projects). | |
### INTERVENTION AREAS AND Case Examples

<table>
<thead>
<tr>
<th>Purchasing Pools</th>
<th>What does the intervention intend to address?</th>
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<tbody>
<tr>
<td>Other Comments</td>
<td>A related strategy that not only extends Medicaid discounts to additional populations, but also taps federal matching funds involves an actual expansion of Medicaid with a drug-only benefit. The result is a “Pharmacy Plus” waiver that allows states to implement a Medicaid drug-only benefit to low-income elderly populations. The requirement for budget neutrality may be met based on the expected savings in institutional long-term care costs that result from improved access to outpatient medications.</td>
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<tr>
<td>Case Example 1</td>
<td>The goal is to obtain prescription drug discounts for the uninsured.</td>
<td>Enrollees are expected to save 15% on brand-name drugs and up to 60% on generic drugs on the state’s Medicaid Preferred Drug List.</td>
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<tr>
<td>Maine Rx Plus</td>
<td>Implementation is proceeding in steps, with ultimate enrollment expected to reach up to 270,000 members. As of July 2004, there were approximately 100,000 members.</td>
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<tr>
<td>Substitutions, Evidence-based Preferred Drug List (PDLs) and Supplemental Rebates</td>
<td>The goal is to reduce the cost of pharmaceuticals through the use of an evidence-based preferred drug list and generic substitutions for brand medications.</td>
<td>Michigan has greatly enhanced its savings from the National Medicaid Pooling Initiative by incorporating its PDL into the arrangement (each participating state maintains its own PDL). This type of system works at multiple levels. Individual state purchasers and multistate purchasers can take advantage of this purchasing strategy. It can also be utilized by non-state purchasers and private entities in order to reduce drug costs.</td>
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### PURCHASING POOLS

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<tr>
<td>prescription drug costs. Generic substitution saves money through lower-priced versions of brand-name drugs. Some states require generic substitution in state pharmacy programs, while others simply encourage it by providing information about generic alternatives.</td>
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<tr>
<td>Other Comments</td>
<td>States may select “preferred drugs” from different classes of pharmaceuticals, based on the drugs’ therapeutic action, safety, clinical outcome, and cost. Drugs not on the list are not covered, or they require that the prescribing physician obtain prior authorization. Most states using a PDL also obtain supplemental rebates from manufacturers that want their products to be included on the PDL and, thus, available without prior authorization.</td>
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<tr>
<td>Hospital Purchasing Alliances</td>
<td>The goal is to reduce drug costs by pooling hospital purchasing resources.</td>
<td>• Hospital purchasing group alliances succeed in reducing health care costs by lowering product prices, particularly for commodity and pharmaceutical items. Alliances also reduce transaction costs through commonly negotiated contracts and increase hospital revenues via rebates and dividends. • The annual cost avoidance per hospital using group purchasing is $154,927.</td>
<td>This strategy works at the hospital level. There is no discussion of geographic differences in this strategy.</td>
</tr>
<tr>
<td>Other Comments</td>
<td>Alliances may achieve purchasing economies of scale. Hospitals report additional value as evidenced by their long tenure and the large share of purchases routed through the alliances.</td>
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</table>
SECTI ON 10 • PURCHAS ING POOLS

ENDNOTES

5 Ibid., Wicks, Elliot K. and Mark A. Hall. (2000).
21 Ibid., Badal, Jaclyne. (2007).


SECTION 11

SOCIAL NETWORKING AND CONSUMER E-HEALTH

Social Networking and Consumer e-Health – Social networking and e-Health include a variety of Internet-based communications, tools, and aids to help consumers and patients engage and empower themselves in their health and healthcare-related interactions. Recent research by The Pew Charitable Trusts and California Health Care Foundations shows that 74% of American adults go online, 61% of adults look online for health information—and these percentages are increasing for all age and ethnic groups.¹

Social networking through the Internet facilitates interactions between people and groups who cannot easily meet in person, due to geographic distance or difficulty identifying needed skills, resources, or other information. In addition to the Internet, social networking can occur through the use of cell phones. Social Networking Web sites allow individuals to 1) construct a public or semipublic profile within a bounded system; 2) articulate a list of other users with whom they share a connection; and 3) view and traverse their list of connections and those made by others within the system.² General social networking Web sites such as Facebook and My Space have open enrollment that is not based on specific characteristics, activities, or other common attributes of individuals; anyone can join. Health-specific sites typically direct content to specific health conditions and health care services. As a model of direct-to-consumer activity, social networking sites can enable people to use social networks to discuss and ask about health, and find others with the same conditions at the same stage of treatment.

Consumer e-Health refers to a broader set of online and electronic tools to help consumers and patients manage their health care. These tools can include consumer information sites, interactive games, tools for patient-provider connectivity, and others. E-Health approaches can be used for managing health choices, budgets, and care that normally is difficult because of the disparate systems, various health plans, different geographic locations, and incomplete information. E-health includes what is often referred to as Health 2.0, defined by the use of social software and its ability to promote collaboration between patients and the rest of the medical industry.³

Few studies have addressed specific intervention characteristics and linked these to impact or effectiveness of these approaches. Methods for defining and measuring effects are developmental though growing as researchers seek to evaluate electronic communication tools. Typically, social networking, media, and e-Health are seen to enhance, but not replace in-person medical interactions.

### INTERVENTION AREAS AND Case Examples

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<tr>
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<tbody>
<tr>
<td>General Social Networking Sites</td>
<td>• While general sites are used by 39% of individuals who seek health information online, few use these sites to search for health care information.⁴</td>
<td>Social networking and health information sites expand traditional definitions of markets and communities to include virtual communities that cross geographic markets and other market configurations.</td>
</tr>
</tbody>
</table>

Social Networking and Internet Health Information Web Sites

These sites include Facebook, My Space, Twitter, and other general social networking sites.

General social networking sites provide channels for consumers and patients to share information about health and health care.

Studies of impact and effectiveness are limited.
### Social Networking and Consumer e-Health

<table>
<thead>
<tr>
<th><strong>Intervention Areas and Case Examples</strong></th>
<th><strong>What does the intervention intend to address?</strong></th>
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</table>
| **Health-specific social networking sites** | Health-specific social networking sites provide channels for consumers and patients to share information about health and healthcare. | • Most consumers/patients use health-specific sites to search for health information. In addition to seeking health information for themselves, individuals also seek information for family members and friends.  
• Little is known about the impact or effectiveness of online social networking or health information sites for health decision making, behavior change, or health outcomes. | Social networking and health information sites expand traditional definitions of markets and communities to include virtual communities that cross geographic markets and other market configurations. |
| Other Comments | Individuals of all ages and ethnicities are using general and health-specific social networking sites to search for health information. | | |
| **Case Example 1:** Patientslikeme® | Search engines are critical and are used frequently by consumers seeking health information. Exercise and fitness has become the most frequently searched for topic, followed by specific diseases; medical treatments and procedures; prescription and over-the-counter drugs; alternative treatments; depression, anxiety, and mental health; and experimental treatments. | | |
| Other Comments | | | |
| **Case Example 1:** **Patientslikeme®** | This searchable site—www.patientslikeme.com/ allows individuals to record their symptoms and responses to treatment regimes and share these with other community members. The site includes up-to-date resources on conditions and treatments. | • Little quantitative data are available, as the PatientsLikeMe site recently launched.  
• Through PatientsLikeMe and the ALS community it has been “discovered” that ALS (known as Lou Gehrig’s disease or Amyotrophic Lateral Sclerosis) is a multi-system disorder which definitely affects cognition. Another measure of success is the period that PatientsLikeMe’s members stay active. Sixty percent of joiners from one year ago are still active members. | Social networking and health information sites expand traditional definitions of markets and communities to include virtual communities that cross geographic markets and other market configurations. |
| Other Comments | Patientslikeme® generates income not from advertising revenue, but from aggregating and selling of the data to life science companies for treatments (pharmaceuticals). The site has been labeled “a home for users for whom privacy does not matter.” | | |
## Social Networking and Consumer e-Health

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| **Case Example 2:** Patients Direct | *Patients Direct* offers a web-based reporting system and seeks to provide naturalistic data on safety and efficacy captured directly from patients. It serves pharmaceutical companies and providers, and provides a way for patients to make their voices heard. The site also provides information on clinical trials that may be available to patients. | • This site offers an innovative recruitment tool that may facilitate recruitment across geographic areas.  
• Little is known about how use of the site impacts consumer decision making or health outcomes. | This site expands traditional markets and approaches for recruiting participants in studies and trials. *Patients Direct* notes that it “has developed partnership arrangements with community pharmacists both individual and across a range of local and national companies.” |

### Social Media and Health Information Sites
- These sites provide consumers with a broad array of information and decision tools to help empower and inform health and health care choices.
  - Evidence regarding the effectiveness of social media and information sites is limited, and site-specific. However, media interventions are generally known to be more effective when combined with community and program interventions.\(^{11}\)
  - Internet access to community-specific and general health information can lead to increased empowerment and appreciation of information technology.\(^{12}\)
  - A recent study using 2005-2007 data for 10,000 participants showed that people who rely on print media for their health information and those who turn to community organizations tend to do better than web seekers at following a healthy lifestyle. The researchers note that changes in Internet access and telecommunications (e.g., smart phones) are occurring.

Internet-based and other social media expand reach beyond traditional market or community areas.
# Social Networking and Consumer e-Health

## Intervention Areas and Case Examples

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<tr>
<td><strong>Case Example 1:</strong> Medscape</td>
<td>This site aims to provide access to up-to-date information about medical research and findings as an information source for physicians, other health care professionals, and consumers/patients.</td>
<td>The effectiveness of specific programs and offerings through Medscape is often assessed in terms of use rates and user success completing CME/CE (Continuing Medical Education).</td>
<td>Internet-based and other social media expand reach beyond traditional market or community areas.</td>
</tr>
<tr>
<td><strong>Case Example 2:</strong> The Mayo Clinic</td>
<td>This site serves as a consumer/patient information portal to assist with health knowledge, decision making, and empowerment. It includes a personal health manager using Microsoft Health Vault, which enables provision of individualized, actionable recommendations developed by Mayo Clinic experts.</td>
<td>Downloads of Mayo Clinic podcasts have increased by more than 8,000% since 2005, because of using three free social channels.</td>
<td>Internet-based and other social media expand reach beyond local market or community areas.</td>
</tr>
</tbody>
</table>

### Other Comments

- New technologies and applications are constantly growing and improving functionality. Consumer use of social media and health information sites is also increasing at a rapid pace.
- The Centers for Disease Control and Prevention and the American Cancer Society, among others, have utilized virtual worlds such as [www.secondlife.com](http://www.secondlife.com) and are exploring the use of social media to spread the word about health promotion and prevention.

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Other Comments

- Other Comments
  - Medscape describes its offerings as: “In-depth specialty-focused medical news, CME/CE in engaging formats across 30 or more specialty areas, conference coverage from across the globe, free full-text journal articles from 150 or more leading journals, peer-reviewed clinical reference across more than 6,000 topic areas and drug reference tools, complete access to MEDLINE, expert commentary features, discussion forums, and more.”
  - Downloads of Mayo Clinic podcasts have increased by more than 8,000% since 2005, because of using three free social channels.
# Social Networking and Consumer e-Health

## Intervention Areas and Case Examples

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<tr>
<td>social media channels to promote and increase downloads of its podcasts. The clinic posts podcasts, with video and text, on its blogs. It also leverages a Facebook page, a Twitter account, and a YouTube channel.</td>
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Other Comments

The Mayo Clinic states: “More than 3,300 physicians, scientists, and researchers from Mayo Clinic share their expertise to empower you to manage your health.” Topics covered include: diseases and conditions, symptoms, drugs and supplements, tests and procedures, and healthy living.

## Consumer e-Health and Self Management Tools

### Games

A wide range of interactive games have been developed to help inform patients about conditions such as diabetes, obesity, mental health, and others.

- Use of games as an approach to inform and educate patients and consumers builds on the popularity of online games and expands content to health and health care.
- Interactive online health promotion interventions overall are reported to be more effective in promoting health-related behavioral change outcomes (exercise, weight loss maintenance, knowledge of asthma treatment, etc.) than traditional offline approaches. Information regarding the efficacy of online approaches on long-term behavior outcomes is limited.
- Few studies have been conducted to assess the impact and effectiveness of online games as a specific health promotion tool. Most online health intervention studies are unable to determine causality and long-term impacts on health. However, many games that have been assessed do appear to be helpful and effective interventions.

Online games expand reach beyond local market or community areas.

Other Comments

- [www.healthgames.org](http://www.healthgames.org) includes surveys and measures that can be used to evaluate games, including neighborhood population health questionnaires.
- The National Network of Libraries of Medicine includes a list of consumer health topics developed for children and teens at: [http://nnlm.gov/outreach/consumer/chforkids.html](http://nnlm.gov/outreach/consumer/chforkids.html)
### Social Networking and Consumer e-Health

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<tr>
<td>- Health Games Research — <a href="http://www.healthgamesresearch.org">www.healthgamesresearch.org</a> — is a national program sponsored by the Robert Wood Johnson Foundation that funds research to advance the innovation and effectiveness of digital games and game technologies intended to improve health. This site includes a search feature to access games and related resources.</td>
<td>- There are many guides for consumers to select health care; however, research that tracks the application and related consequences of consumer decision support tools is limited. &lt;br&gt;  - Studies generally find report cards can positively influence consumer decision making when the information is easy to understand. &lt;br&gt;  - Research shows conflicting results regarding the impact of report cards on quality topics on consumer behavior. &lt;br&gt;  - Tools related to provider choice have shown improvements in users’ knowledge, satisfaction with decision making, likelihood of considering alternatives, and selection of plans that best meet consumers’ personal needs and preferences. &lt;br&gt;  - Controlled trials have shown that decision aids improve knowledge regarding options, enhance realistic expectations about options, reduce patient frustration with decision making, and stimulate people to take an active role in decision making. &lt;br&gt;  - A 2007 study in California concluded that Web-based decision tools performance varied widely and few met all of the key standards for effectiveness and usability. Nearly all fell short in providing relevant information regarding treatment costs.</td>
<td>- Decision support tools can be targeted to specific market areas, e.g., for provider choice options, and can expand reach beyond community market areas when options of care and treatment are considered.</td>
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### Decision Support Tools

These include online tools to assist with choice of providers, and tools related to specific care and treatment options.

- Decision support tools aim to help patients/consumers frame questions, learn about treatment options, and clarify values and preferences. Internet Web site “calculators” are designed to match unique patient information with an underlying evidence-based knowledge repository and sources of potential feedback, e.g., tools for assessing an individual’s cardiovascular risk, potential drug interactions and drug dosing, and recommendations about appropriate screening interventions for a given patient.19
- Many payers have tools that provide consumers with pharmacy pricing:
  - Pharmacy Price Quote – this tool drills down to the costs of drugs at a local pharmacy. Members can look at actual out-of-pocket prescription costs, the plan’s cost, and the total cost. Humana and RegenceRx enable members to access the estimated retail price of specific drugs.
  - Subimo, based in Chicago, offers PharmaAdvisor, a Web-based tool that helps consumers make decisions about drug treatment options, both clinically and from a cost perspective, including possible interactions, efficacy, dosage, and how drugs work for certain conditions in side-by-side comparisons.20

Decision support tools can be targeted to specific market areas, e.g., for provider choice options, and can expand reach beyond community market areas when options of care and treatment are considered.
### Social Networking and Consumer e-Health

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<td><strong>Other Comments</strong></td>
<td>Barriers to use include:</td>
<td>Also:</td>
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<td>- Lack of relevant content, e.g., comparative information;</td>
<td>- Low literacy levels;</td>
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<td></td>
<td>- Poor design and presentation; and</td>
<td>- Lack of trust of information source;</td>
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<td></td>
<td>- Limited consumer awareness of information.</td>
<td>- Lack of online access;</td>
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<td>- Lack of provider time and training to engage with patients;</td>
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<td></td>
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<td>- Need for reimbursement incentives that reward practitioners for engaging in decision support.</td>
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The *Puget Sound Health Alliance* consists of employers, unions, doctors, hospitals, health plans, patients, and others who work on constructive ways to improve the value of local health care. The Community Checkup is a report to the public about health care quality and value.24

**Case Example 1:**

**www.cancerfacts.com**

This online resource for cancer patients, their families, and caregivers provides personalized information via Cancer Profiler Tools that help people with cancer make informed treatment decisions for an optimal outcome. The site is developed by NexCura, and uses scientific evidence to populate the profilers.

Little is known about how use of the site impacts consumer decision making or health outcomes.

Decision support tools can be targeted to specific market areas, e.g., for provider choice options, and can expand reach beyond community market areas when options of care and treatment are considered.

**Other Comments**

Profilers are available for the following cancers:

- Bladder
- Breast
- Cervical
- Colorectal
- Head and Neck

Hodgkin Lymphoma
- Kidney
- Leukemia - Adult ALL
- Leukemia - Adult AML
- Leukemia - Adult CML

Lung - Non-Small Cell
- Lung - Small Cell
- Melanoma
- Multiple Myeloma
- Non-Hodgkin's Lymphoma

Ovarian
- Pancreatic
- Prostate
- Testicular
- Uterine
## Social Networking and Consumer e-Health

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<tr>
<td>Patient-Provider Connectivity</td>
<td>These approaches aim to help improve access and delivery of care, enhance patient/consumer and provider communication, and empower individuals to self-manage their care.</td>
<td>Patient-physician connectivity has transformed relationships between patients and physicians.</td>
<td>Virtual visits between patients and providers enable communication beyond conventional community/market boundaries and may be especially helpful for patients and providers across distances.</td>
</tr>
</tbody>
</table>
| Other Comments                     | More than 8 million U.S. adults sent or received email from their physicians in 2008. Changes in reimbursement may be needed to encourage virtual connectivity. | Research shows:  
- 7% of U.S. adults use PHRs;  
- As a result of their PHR, users cite taking steps to improve their own health, knowing more about their health care, and asking their doctors questions they would not otherwise have asked;  
- Higher income individuals are more likely to have a PHR, but lower income individuals, those with chronic conditions and those without a college degree, are more likely to experience positive effects of having their information accessible online; and  
- Most individuals with PHRs are not overly concerned with privacy issues. | Patient Health Records can be used in all markets, and expand access to information across providers and distances. |
| Case Example 1:  
Personal Health Records (PHRs) | Patient Health Records provide consumers with online access to their medical records and enable individuals to share access to their medical information with other providers. PHRs facilitate access to medical information across providers and distances. |  |  |
| Other Comments | 40% of individuals without a PHR express interest in having one. |  |  |

*Note: Case Example contents are not fully transcribed in the table.*
## SOCIAL NETWORKING AND CONSUMER E-HEALTH

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<tr>
<td><strong>Case Example 2: FONEMED®</strong></td>
<td>FONEMED® uses communications technology to provide individuals with 24-hour telephone or Web-based access to medical advice, information, products, and services. They provide outsourced nurse triage services and qualified partners with tools, technology, protocols, and know-how to operate proprietary Medical Call Centers. 27</td>
<td>For $4 per month, Jitterbug LiveNurse uses FONEMED®, to provide 24-hour unlimited access to registered nurses; people can speak to an experienced, registered nurse 24 hours a day, 7 days a week; there is 24-hour access to a pre-recorded health library; and the personal health history is updated each time a call is made. 28</td>
<td>FONEMED® can be used in most if not all markets.</td>
</tr>
</tbody>
</table>
| **Mobile Health: Smart Phone Applications.** | Cell/smart phone applications aim to provide information to assist patients/consumers and providers in managing health conditions. These mobile devices and applications also facilitate in-the-moment feedback and information capture regarding symptoms and responses. | • Research, albeit limited and with small sample sizes, suggests that online systems are superior to traditional online interventions in their ability to influence health behaviors. 29  
• A systematic review of evidence regarding smart phone technologies shows:  
  o Frequency of prompts affects results;  
  o Medium used to communicate prompts did not matter;  
  o Tailoring prompts produced positive results; and  
  o More frequent prompts produced more positive results. 30 | Smart phone applications can be used in all market types and expand applications beyond convention local markets. |

Other Comments

A Health Information Center is a powerful, proven strategy to lower costs, improve access, and leverage clinical service and marketing programs. Potential clients include government agencies, hospitals, clinics, insurance companies, and health maintenance organizations, as well as private companies and individuals.

Mobile Health: Smart Phone Applications.  
Smart phone applications are available to help people track weight loss, medication dosing, and manage conditions such as diabetes and others. Most use prompts and text message reminders.

Other Comments  
These technologies present a cost effective way to implement behavior change.
### Social Networking and Consumer E-Health

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<td><strong>Prototype</strong></td>
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<tr>
<td><strong>Case Example 1</strong></td>
<td>STEALTH HEALTH is designed to increase youth activity, reduce obesity, and increase learning of positive healthy behaviors. It is a social networking application designed around improving young people’s health. It is a project funded by the U.S. Department of Agriculture.</td>
<td>STEALTH HEALTH is in prototype design.</td>
<td>STEALTH HEALTH is designed for national application.</td>
</tr>
<tr>
<td><strong>Other Comments</strong></td>
<td>STEALTH HEALTH reports that its aim is to develop a simple, customizable software application (“widget”), integrating communication (MySpace, Facebook, instant messaging) and location-based (GPS, GIS, imagery) technologies with informal education (pop up nutrition and health messages), designed to promote increased physical activity and improved nutrition knowledge and behavior in youth.</td>
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### Patient-Provider Connectivity and Care Management

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<tr>
<th>Case Example 1</th>
<th>AllOne Mobile&lt;sup&gt;SM&lt;/sup&gt;</th>
<th>AllOne Mobile&lt;sup&gt;SM&lt;/sup&gt; is an application that can be used across and within markets with Internet connectivity.</th>
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<tr>
<td><strong>Case Example 1</strong></td>
<td>This cell phone application allows access to consumers’ personal health and insurance information. It is used in conjunction with MedFlash™, a product offered by Connectyx, which stores personal health and lifestyle information on a portable flash drive and in an online personal health record. The MedFlash Web site allows users to maintain and update their information and upload it to the flash drive. MedFlash can be worn as a bracelet or used as a key chain. The combined MedFlash and AllOne Mobile tools allow customers’ health information to be viewed, managed, and shared with trusted health care partners using the owner’s cell phone.</td>
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<tr>
<td><strong>Other Comments</strong></td>
<td>AllOne Mobile was one of the highest profile mHealth services to date. The dissolution of its partnership with technology partner Diversinet became apparent as they began renegotiations in December 2009.</td>
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## Social Networking and Consumer e-Health

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<tr>
<td><strong>Case Example 2:</strong> LifeWIRE</td>
<td>LifeWIRE is a mobile, two-way interactive e-health management solution that allows individuals and their providers to use text messaging, email or IVR-based interactions which are customized to track, monitor, and engage users to improve their health status or achieve other important health goals. LifeWIRE’s platform provides a tool for users to manage their own health, and for providers and care managers to manage patients through having them respond to personalized reminders and motivations.</td>
<td>Studies are underway to test the impact and effectiveness of LifeWIRE as used with several clinical conditions.</td>
<td>LifeWIRE is an application that can be used across and within markets with Internet connectivity.</td>
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<tr>
<td>Other Comments</td>
<td>Altarum Institute has adapted and is currently testing LifeWIRE as a behavioral health adjunct to therapy.</td>
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<td><strong>Case Example 3:</strong> Applied Nanodetectors Phone Application</td>
<td>Applied Nanodetectors Phone Application is a cell phone system that, when used in conjunction with a breathalyzer, detects health problems such as diabetes and cancer by reading the levels of gasses such as nitrogen, carbon dioxide, and ammonia. The phone can also detect lung cancer, bad breath, types of food poisoning and blood-alcohol levels. The phone can inform its user’s doctor of its findings.</td>
<td>Applied Nanodetectors Phone Application is an application that can be used across and within markets with Internet connectivity.</td>
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<tr>
<td>Other Comments</td>
<td>A growing number of organizations are researching or releasing modified mobile phones and mobile apps that diagnose serious health problems and disease patterns.</td>
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<td><strong>Case Example 4:</strong> BeWell Mobile Technology</td>
<td>BeWell Mobile Technology was founded in 2004. It provides patient engagement software for the health care industry and medical research community. The software is used in cell phones, wireless data networks, and the Internet to collect valid data and to help patients manage their health. The software incorporates self-monitoring via cell phones. Asthma and diabetes are two of the most significant conditions being addressed by BeWell Mobile Technology. Patients have access to San Mateo Medical Center distributed mobile phones with customized disease management software to young asthma patients, allowing them to communicate with and receive real-time feedback from providers on at least a daily basis. The communication focuses on how to better manage asthma on an ongoing basis, with the goal of reducing exacerbations that might lead to costly acute episodes. The initiative enhanced compliance with the daily diary and with medication regimens, which, in turn, led to better patient outcomes, less use of rescue medications, and fewer emergency visits.</td>
<td>BeWell Mobile Technology is an application that can be used across and within markets with Internet connectivity.</td>
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**SECTION 11 • Social Networking and Consumer e-Health**
### Social Networking and Consumer E-Health

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|                                        | to personalized information that helps them stay on track with their regimen.  
Case Example 1: mHealth Initiative | - department visits and missed school days. The program received a patient satisfaction score of 3.8 out of 4.  
- Program has reduced HbA1c by 0.91 points for patients with starting HbA1c between 8% and 9%;  
- Program has reduced HbA1c by 2.22 points for patients with HbA1c >9%; and  
- Blood sugar range (low to high) was lowered by 50 mg/dl between first month of service and the last month of service. |  |

**Other Comments**

Patient engagement is the key to self management and better medical outcomes, particularly for chronic conditions such as asthma and diabetes.

**Organizational Initiatives**

Case Example: mHealth Initiative

mHealth Initiative, Inc. is a not-for-profit Massachusetts organization that uses cell phones and other mobile devices as health care clinician tools. mDevices allow access to the Internet, medical information, documentation systems, and decision support guidance for care. Participatory Health is a network of healthy people, patients, wellness and care providers, payers and researcher as active participants in a transparent health care system, allowing 24/7 communication patterns between healthcare participants, including observations of daily living.

The mHealth field promotes technology integration in the health sector to promote healthy lifestyles, improve decision-making by patients and providers, and enhance health care quality by improving access to medical and health information and facilitating communication in remote areas.

mHealth Initiative is based in Massachusetts, but likely could be scaled to national distribution.

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### SECTION 11 • Endnotes


10 Ibid., Patients Direct. (2010).
11 DeJong, William, PhD Lecturer, Harvard School of Public Health, Boston, MA.


Although the definitions vary with the source, remote medicine, or telemedicine, as it is more commonly called, has been generally defined by the Institute of Medicine as “the use of electronic information and communication technologies to provide and support health care when distance separates the participants.” In more recent years, the American Telemedicine Association (ATA) has further defined telemedicine as “the use of medical information exchanged from one site to another via electronic communications to improve a patient’s health.”

Delivery mechanisms for telemedicine may include, but are not limited to, networked programs that link tertiary care hospitals and clinics with outlying clinics and community health centers; point-to-point connections through private networks that are used by hospitals and clinics that deliver services directly or contract out specialty services at ambulatory care sites; or primary or specialty care to the home connections or home to monitoring center links connecting primary care providers, specialists, and nurses to their patients via phone-video services from the office and vice versa.

### Virtual Integrated Practices (VIPs)

VIPs seek to increase capacity of, for example, small fee-for-service practices to offer multidisciplinary team care for patients with complex care needs.

VIPs alleviate potential patient frustration concerning whether their caregivers are in touch with each other in managing their medical problems and needs.

VIPs coordinate patient care of team members who do not share office facilities and reduce the obstacles of having clinicians meet in person.

VIPs target reduction in crisis intervention and acute care management.

- Research demonstrates that quality of care is improved when delivered by interdisciplinary teams, particularly care provided to those with multiple, chronic health problems.
- Research evidence of VIP impact at a systems level is still limited and warrants further investigation, but results from model programs thus far include:
  - Increased patient satisfaction with care; and
  - Increased patient understanding about medications and disease management.
- More specifically, in a Rush University Medical Center study of four practices using the VIP model, among patients with poor physical functioning, those who were not treated in VIP practices were far more likely to use the emergency room (ER). Their usage of the ER was twice that of those in VIP practices.

VIPs appear applicable to any geographic market. They may be an especially helpful tool in areas where provider teams are at separate locations.

VIPs appear applicable in and across multiple health care settings (i.e., hospitals, community health centers, private practices, etc.), but may be particularly applicable for smaller, resource-light primary care practices.

VIPs appear applicable to many patient populations, but may be particularly applicable for those with multiple, chronic health problems, including the elderly.
### Telemedicine

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| **Other Comments**                   | - As members of a VIP team traditionally already bill for the care they provide, the practice can be cost-neutral for providers.\(^8\)  
- Versions of VIPs have also been developed for purposes other than patient care. For example, virtual "alliances" have been formed to lessen the administrative burden on providers where offsite partners manage for physicians medical practice financial transactions such as managed care contracting, as well as electronic medical records and payments.\(^9\) | | |
| **Case example:** John A. Hartford Foundation & Rush University Medical Center VIP\(^10\), \(^11\) | VIPs seek to increase capacity of, for example, small fee-for-service practices to offer multidisciplinary team care for patients with complex care needs.  
In particular, this model coordinates patient care of team members who do not share office facilities and reduces the obstacles of having clinicians meet in person. | Both the Hartford Foundation and Rush report the VIP as a successful promising practice, but the empirical evidence of the Rush VIP has not yet been reported in peer-reviewed research. | This model appears applicable to any geographic market. In particular, it is applicable in smaller, resource-light primary care practices and larger hospital partnerships. |
| **Other Comments**                   | - Rather than hiring additional staff, the VIP concept calls for primary care physicians to identify practitioners in nearby health care settings or community organizations and develop working relationships among them. Teams are built among providers in the community who are seeing the same patients and addressing the same issues around aging and chronic disease management, but who don't otherwise interact with one another. Communication among these team members occurs primarily though e-mail, voicemail, and Internet-based medical informatics systems to facilitate efficient teamwork.  
- The VIP process begins with convening and training the virtual team members. The team members discuss clinical issues that they can work on together. For example, the physician may identify diabetes education as an area that he or she lacks the resources to comprehensively provide. The team can also utilize a toolkit of activities that were developed by the Rush team to facilitate the team process. The toolkits provide guidance on four improvement strategies: planned communications, process standardization, patient self-management, and group activities. | | |
### Telemedicine

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| **Electronic Intensive Care Units (eICUs)** | eICUs allow a single specialist to simultaneously monitor multiple patients on a continuous basis. eICUs counter shortages of ICU physicians (a.k.a. intensivists, nurses, and ancillary staff.) eICUs expand the geographic range of ICU physicians. | - There is extensive data showing improved ICU outcomes with daily traditional ICU physician participation in the care of critically ill patients.\(^\text{12}\)  
- The research evidence of eICU impact thus far includes:  
  - Reduction in mortality rates,  
  - Reduction in length of stay,  
  - Reduction in ICU complications, and  
  - Reduction in cost (by most estimates).\(^\text{13,14,15}\)  
- The severity-adjusted hospital mortality rates over a 2-year period were 9.6% for 185,464 patients at 156 hospitals with a VISICU\(^\text{16}\) eICU Program, compared to the national hospital mortality rate of 13.5%. (The 29% reduction in hospital mortality translates to 7,233 lives saved in this sample alone.)\(^\text{17}\)  
- Phillips Healthcare-VISICU reports decreased severity-adjusted mortality rates with eICUs. For example, they report a 63% reduction in pre- and post-data over a 3-year period.\(^\text{18}\)  
| - eICUs are applicable to rural and other areas. They may be especially helpful where health care resources are limited.  
- eICUs appear applicable to hospital networks or hospitals with ICUs. A company/facility’s ability to invest in significant eICU costs up front would be an important factor as to if and when an eICU could be implemented. |

| Other Comments | - Less than 6,000 intensivists are actively practicing in the U.S. and only 13% of ICU patients receive dedicated intensivist care.\(^\text{19}\)  
- While significant data support positive patient outcomes, a reported barrier to eICUs has been skepticism among providers. For example, according to a University of Texas-Memorial Hermann Center for Healthcare Quality and Safety some providers:  
  - Worry about the effect on their relationships with patients and that it might adversely affect care; and  
  - Dislike someone “looking over their shoulder all the time” and feel that constant, occasionally unnecessary reminders from remote clinicians “bother their workflow.”\(^\text{20}\)  
- This lack of acceptance may make it difficult to assess the impact of telemedicine on patients who are less sick, but have much to gain. Redefining the patient-doctor relationship in the light of eICU technology may be required.\(^\text{21}\) |

\(^\text{12}\) Phillips Healthcare report decreased mortality rates with eICUs. For example, they report a 63% reduction in pre- and post-data over a 3-year period.\(^\text{18}\)  
\(^\text{13}\) The severity-adjusted hospital mortality rates over a 2-year period were 9.6% for 185,464 patients at 156 hospitals with a VISICU\(^\text{16}\) eICU Program, compared to the national hospital mortality rate of 13.5%. (The 29% reduction in hospital mortality translates to 7,233 lives saved in this sample alone.)\(^\text{17}\)  
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**TELEMEDICINE**

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<tr>
<td><strong>Case example:</strong> Sutter Health</td>
<td>This model is particularly strong in countering shortages of ICU physicians (a.k.a. intensivists), nurses, and ancillary staff.</td>
<td>Sutter Health’s return on investment includes an estimated 425 sepsis-related patient deaths prevented; $2.6 million in treatment savings; and a reduction in ventilator-associated pneumonia from 37 to 8 (from 2005 to 2006).</td>
<td>The Sutter Health case shows that a company or facility’s ability to invest in significant up front eICU costs is an important factor in implementing an eICU.</td>
</tr>
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</table>

**Other Comments**

The Sutter Health capital investment is reported to be $25 million. The cost includes VISICU servers and eICU software.

**GENERAL RURAL PATIENT REMOTE AND TELE MEDICINE INTERVENTIONS**

These interventions allow patients and providers in rural locations access to a wider spectrum of care and consultants. These interventions counter geographic maldistribution of clients and maldistribution of certain types of specialists/facilities. Provide patients in rural locations better continuity and longevity with relocated providers.

Remote and telemedicine consultations and monitoring may be applicable to a number of geographic areas and patient populations.
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<tr>
<td><strong>Case Examples</strong></td>
<td>A growing number of varied remote and telemedicine interventions and programs designed to increase access to quality care for patients exist.</td>
<td>- The Pooled Analysis of the STRoKE DOC and STRoKE DOC-AZ Telemedicine Trials supports the STARR hypothesis that telemedicine evaluation of stroke patients results in more accurate diagnoses, better emergency decision-making, fewer complications, and encouraging long-term outcomes.</td>
<td>Remote and telemedicine consultations and monitoring may be applicable to a number of geographic areas and patient populations, but are widely investigated and used for these rural populations and areas.</td>
</tr>
<tr>
<td>Other Comments</td>
<td>Access to a wider variety of services for patients in rural locations can be improved with the utilization of remote and telemedicine consultations and monitoring. While these interventions can successfully bridge the gap between patients and experienced specialists to whom they might not otherwise have access, the rural telemedicine literature also illustrates several considerations for further enhancement, for example:</td>
<td>- Results of the 5-year study showed that the correct emergency stroke treatment decision-making was made 96% of the time with the audio/video telemedicine technology, compared with 83% for telephone only. Importantly, diagnosis by telemedicine means that use of clot-busting medications for stroke can be increased to 29%, noting that one in three acute stroke patients is able to receive disability-reducing emergency clot-busting medications.</td>
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<tr>
<td><strong>Case example:</strong></td>
<td>In particular, this model allows patients and providers in rural locations access to a wider spectrum of care and consultants.</td>
<td>- Previously, fewer than 5% of patients in rural communities had access to such treatments.</td>
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<tr>
<td><strong>Mayo Clinic Hospital</strong></td>
<td>The aim of the network — STARR — is to give rural Arizona residents who suffer a stroke access to the latest stroke care, including clot-dissolving therapies. The program connects rural hospital emergency rooms with stroke specialists at the Mayo Clinic in Phoenix via telemedicine. Using a digital video camera and Internet telecommunications, vascular neurologists at the Mayo Clinic can quickly perform live, real-time audiovisual consultations on patients who have suffered acute strokes, increasing the likelihood that clot-dissolving therapies (thrombolitics) can be delivered in time to reduce stroke disability. STARR operates on a hub-and-spoke system.</td>
<td></td>
<td>Remote and telemedicine consultations and monitoring may be applicable to a number of geographic areas and patient populations, but are widely investigated and used for these rural populations and areas.</td>
</tr>
<tr>
<td><strong>Stroke Telemedicine for Arizona Rural Residents (STARR)</strong></td>
<td>Funded in part by the Arizona Department of Health Services, the Mayo Clinic in Arizona is organizing a new network to bring stroke expertise to rural residents through telemedicine consults with hospital-based providers.</td>
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3 http://www.mayoclinic.org/stroke-telemedicine-az/hub-spoke.html


Clark, Phillip G., Donald L. Spence and Judy L. Sheehan. “A Service/Learning Model for Interdisciplinary Team Work in Health and Aging,” Gerontology & Geriatrics Education. 6: 4, 316. (June 1987).


Footnote: VISICU, Inc. is the leading provider of clinical information technology systems that enable critical care medical staff to actively monitor patients in hospital ICUs from remote locations. In February 2008, VISICU was acquired by the (Phillips) Healthcare business of Royal Phillips Electronics of the Netherlands, a diversified health and well-being company focusing on improving people’s lives through timely innovations.


END SECTION 12
Value-Based Benefit Design refers to the use of health plan incentives to encourage enrollee adoption of one or more of the following: appropriate use of high-value services, including certain prescription drugs and preventive services; adoption of healthy lifestyles, such as smoking cessation or increased physical activity; and use of high-performance providers who use evidence-based treatment guidelines. Enrollee incentives can include rewards, reduced premium share, adjustments to deductible and co-pay levels, and contributions to fund-based plans, such as Health Savings Accounts. Value-based benefit design may be one strategy used as part of purchasers’ value-based purchasing.

While research shows that financial incentives can influence health related behaviors, cost of services, impacts of service use, and compliance rates, few studies have addressed these factors in relation to value-based benefit designs. Value-based benefit designs are intended to increase the likelihood that patients will comply with recommended treatment plans and engage in healthy behaviors. In turn, healthier people typically have lower health care costs. Patients with specific chronic conditions who maintain treatment regimens have also shown to demonstrate lower overall health care costs. Value-based benefit designs may also increase costs of care in pursuit of quality enhancements. Employers are cautioned not to adopt value-based benefits as a cost-saving strategy, but rather to increase value for the health care dollar. Return on Investment (ROI) is typically assessed by including both direct and indirect costs. According to the National Business Coalition on Health, “ROI is determined by assessing costs to the purchaser of a) reduced co-pays or other financial incentives, and b) any increased utilization that results from the incentives. It then compares these costs to reductions in medical care costs that may occur as a result of increased treatment adherence.” The time frame for demonstrating ROI is important to purchasers, as results may occur over time—within or beyond an enrollee’s engagement with the employer. Evidence is limited regarding ROI associated with different benefit designs, as impact differs according to different conditions and contexts.

### Value-Based Benefit Design

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<td><strong>TARGETED INCENTIVES</strong></td>
<td>Interventions seek to identify individuals at risk for specific conditions, high rates of utilization, and cost—and prevent or better manage these conditions, adherence, treatment, and cost.</td>
<td>• Evidence, while limited, shows considerable variation in impact across program types, conditions, and populations. Savings tend to accrue over time. • Few comparative studies or trials have been conducted of such interventions, many of which have been implemented with little or no evidence base.</td>
<td>These programs are applicable across market types. ROI is most likely to be realized by employers with a stable, long-term employee base, as programs may take time (some advise at least two years post implementation) to achieve results.</td>
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### Case Examples

**What does the intervention intend to address?**

**What is the research evidence regarding impact of intervention?**

**How applicable to which types of markets?**

Targeted Incentives are directed to specific enrollees based on their diagnosis, e.g., targeting initiatives for anti-hypertensive medications to limit co-pays to members with known hypertension or targeting participation in interventions.
### Value-Based Benefit Design

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<td>Disease Management or Health Promotion programs to members with known conditions or risk factors.</td>
<td>Programs that target participation often involve multiple interventions to address or prevent one or more specific conditions. Additionally, financial and other incentives may be offered for participation, and/or achieving specific outcomes, e.g., improved treatment adherence, management of chronic conditions, or behavior changes. It is important to coordinate across programs and vendors to track participation and intervention impacts. Often, it is difficult to assess the relative impact of specific interventions and incentives—especially when multiple approaches are used.</td>
<td>Many hybrid, mixed models have been implemented, including diverse components, with varying degrees of impact.</td>
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| Other Comments | Evidence of effects is mixed. A recent review of literature by Pacific Business Group on Health suggests:  
- Unhealthy behaviors are associated with higher health care costs;  
- Health promotion programs can be effective in reducing risks for targeted populations;  
- Reducing health risks can reduce health care costs and reduce absenteeism;  
- The strength of the relationship between risky health behavior and health costs/absenteeism is greater for some behaviors than for others; and  
- The effectiveness of programs designed to improve health behavior also varies, based on the types of behavior change sought and the methods used to effect that behavior change. | These approaches can be used in all types of markets. However, impact is likely to be greatest in settings with large employee/member groups with sophisticated data capabilities and highly targeted interventions. | |
| Targeted Health Promotion/Disease Management | Interventions seek to encourage participation of high-risk employees in health promotion/disease management programs to reduce health care costs and increase workforce productivity. | Careful selection of programs and targeting of individuals are key to achieving savings and clinical success. Health promotion and disease prevention programs do not necessarily reduce the costs of care—and in some cases, may increase overall costs to the employer. | |
| Other Comments | A recent review reports that cost offsets do occur, especially among those with chronic diseases. Studies have also shown that decreases in prescription drug spending resulting from patient co-pays can lead to increases in utilization of other services, e.g., hospital, ER visits, etc. Offsets tend to be higher in targeted populations with chronic diagnoses. | Several sources identify the need for sophisticated data systems to identify high value services, specific patients using them, and compliance. | |

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**Strategic Innovations for Affordable, Sustainable Health Care: A Model for Health System Reform**

Environmental Scan

ALTARUM INSTITUTE January 2011

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**Section 13 • Value-Based Benefit Design**
### Value-Based Benefit Design

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<td><strong>Targeted Co-pays</strong></td>
<td>This approach intends to remove financial barriers to medications and services with the expectation of raising compliance and avoiding more costly services, such as hospitalization.</td>
<td>Financial impact depends on the level and precision of clinical targeting and the extent of changes in co-payers. Interventions that are carefully targeted are most likely to generate lower program costs.</td>
<td>This approach appears to be applicable across market types.</td>
</tr>
<tr>
<td><strong>Non-targeted Incentives</strong></td>
<td>This approach is available to all employees/members regardless of health or risk status.</td>
<td>Non-targeted incentives are typically less effective than targeted incentives, and program costs are greater as more employees/members’ participate—including those for whom benefit may be marginal. However, some interventions may provide both value and savings.</td>
<td>These designs can be applied across market types and employer settings.</td>
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**Other Comments**

- Considerations noted above for other value-based design features are also considerations for targeted co-pays.
- Non-targeted incentives do not require as sophisticated data systems and analytics as targeted programs (above), but purchasers/employers should be careful in selecting specific interventions, given the potential cost implications.
### Value-Based Benefit Design

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<td><strong>Preferred Provider/Supplier</strong></td>
<td>This approach provides direct incentives for employees to select providers based on quality and cost effectiveness.</td>
<td>Preferred provider/supplier approaches have demonstrated effectiveness in most settings.</td>
<td>This approach can be applied at the local market level, but can also expand market reach to regional, national, or international providers.</td>
</tr>
<tr>
<td>Other Comments</td>
<td>Application of preferred provider/supplier approaches can reduce purchasers’ costs in all markets, including high-cost markets, if market parameters are expanded to include high-quality providers in less costly markets outside the local area. One example is medical tourism.</td>
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<td><strong>Model Programs and Hybrid Applications</strong></td>
<td>Value-based benefit programs can take many forms targeted to the employee/member population and purchaser/payer requirements.</td>
<td>A limited number of studies have been conducted to assess the effectiveness of value-based benefit designs. Effectiveness depends on the particular combination of incentives and approaches in relation to employee/member health status and risk, and the appropriate targeting of benefits.</td>
<td>Program applications and approaches can be used across market types, and are likely to comprise different components in different markets.</td>
</tr>
<tr>
<td>Other Comments</td>
<td>Most model programs include several program components and features, making it difficult to assess the specific impact of individual interventions. It is important to consider utilization across services to assess impact. Most purchasers also assess productivity, including absenteeism and disability costs, in considering ROI.</td>
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</table>
| **Case Example:** City of Asheville, NC | This is a hybrid model that pairs diabetics with pharmacy students for health education and coaching support services, and waives medication and office co-pays. Free medications and testing equipment were provided for diabetics who attend educational seminars. | • The City of Asheville is reported to have achieved a 30% reduction in sick days for diabetics who received counseling support, compared to those who received only written educational materials.  
• Another Asheville initiative addressed asthma. For this program, co-pays were waived for patients with asthma. Patients were also provided with information for self-care. Regular one-on-one meetings were held with asthma educators. Over the 5-year-period, $584,307 in direct and indirect costs were saved. Annual percentage of participants who visited the | This approach appears to be applicable across markets with available pharmacy students for coaching, as applied with a long-term employee population. |
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<tr>
<th>INTERVENTION AREAS AND Case Examples</th>
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</table>
| City of Springfield, OR11 | Similar to the Asheville model, this program was undertaken to address the rising cost of diabetes while lowering treatment cost trends. | • This program was assessed through EMPOWER, a randomized control study of diabetes management.  
• Clinical results showed dramatic improvement: Hemoglobin A1C levels in the control group dropped 30% in the control and 50% in the intervention group. HbA1C levels remained unchanged in the control group, improved from 46% to 63% in the intervention group. Productivity, measured as average sick leave, increased 2.7 hours in the control group, but decreased by 15.3 hours in the intervention group. | |
| Other Comments | This approach was based on the Asheville community-based model. The City paired with its pharmacy school. Eligible employees with a diagnosis of Type I or Type II diabetes were enrolled and randomized into control and intervention groups. Clinical data were collected at the onset of the program. Co-pays were waived for all participants for medications and visits related to diabetes control. Educational materials (American Diabetes Association approved) were provided to control group enrollees. Face-to-face consultations with pharmacists were provided to the intervention group. Clinical, financial, and productivity outcomes were tracked over time. Consultations with the pharmacist were required at least once per quarter. | | |
| Case Example: Hannaford Brothers12 | This value-based design was started in 2004 to address incentives for selecting top-quality providers. In 2008, it expanded to address non-invasive surgery. | Hannaford reports improvements in diabetes biometrics and has decreased risk of heart attacks, and increased cost savings through incentives for choosing low-cost providers. | This example demonstrates the influence purchasers can have in moving market practice. |
| Other Comments | This program promotes use of top tier providers, reduced co-pays for specified disease states, provides healthy behavior credits, tracks biometric outcome data for patients and providers, and offers incentives for using particular providers for selected procedures. The largest private employer in Maine, Hannaford’s push for less invasive techniques for hysterectomies, appendectomies, and gastric bypass has reportedly shifted surgical practice in the state, resulting in shorter lengths of stay, fewer complications, and faster return to work for employees.13 | | |
### Value-Based Benefit Design

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</table>

#### SECTION 13 • ENDNOTES


2. Ibid., Houy, Margaret (2009).


END SECTION 13
Value-Based Purchasing

Value-Based Purchasing – Value-based purchasing (VBP) involves products, money, and information in the context of the services, products, and options that are available, both within and across organizations. Examples of health care purchasers include mail-order distributors, group purchasing organizations, pharmaceutical wholesalers, medical-surgical distributors, independent contracted distributors, and product representatives. VBP include initiatives for quality considerations in health care purchasing; i.e., employer-sponsored quality measurement initiatives in the context of a value-based purchasing strategy. VBP has typically focused narrowly on pay-for-performance, specific diseases, or segments of the population; however, a more general definition of VBP includes a variety of tools to obtain the right kind and mix of health care services at a desired level of quality, at a reasonable cost. The key elements of VBP include contracts that describe the responsibilities of employers as purchasers with selected insurance, managed care, and hospital and physician groups as suppliers; information that supports the management of purchasing activities; quality management for continuous improvements in the process of health care purchasing and in the delivery of health care services; incentives such as pay for performance that encourage and reward desired practices by providers and consumers; and education that helps employees become better health care consumers.

Note: The Agency for Healthcare Research and quality (AHRQ) has published a revealing statement regarding the presence of VBP: “There are a limited number of employers and coalitions acting in a bold and innovative fashion to implement the principles of value-based purchasing. These pioneers are collecting data on both cost and quality, using the data to select plans and providers, and developing financial incentives for employees to enroll in plans with good performance records. Some are also working directly with providers to identify and implement best medical practices. There are a moderate number of employer purchasers who are taking cautious first steps, most typically by asking providers and health plans for information. These dabbles rarely, however, feed that information into actual purchasing decisions. A very large number of employer purchasers are not undertaking any serious initiatives to build quality considerations into purchasing. The do-nothings look to carriers and plans to clamp down on providers’ costs, and are largely indifferent to how that is done.”

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<td>Pay for Performance</td>
<td>A study in 2006 demonstrated that more than half of the 252 HMOs surveyed use pay for performance in their provider contracts. Of the 126 health plans with pay for performance programs, 90% had programs for physicians, and 38% had programs for hospitals. The use of pay for performance was statistically associated with geographic regions, the use of primary care providers (PCPs) as gatekeepers, the use of capitation to pay PCPs, and whether the plans themselves received bonuses or penalties according to their performance.</td>
<td>• A 2005 study indicated that health plan pay-for-performance efforts range in size from small pilot programs targeting particular diseases, such as diabetes mellitus, to comprehensive efforts comprising separate components targeting primary care physicians, specialists, and hospitals.</td>
<td>A hospital system or a physician group in a community can influence how health plans develop their pay for performance programs. Local markets have health plans that customize their pay-for-performance programs to reflect the willingness of providers to participate, the effect of employer interest and influence, data availability, information technology capabilities, and health plans’ and providers’ leverage.</td>
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<td>• A recent RAND study of PacifiCare Health Systems, a large HMO, determined mixed results following one year of reward payments totaling $139M. Their findings indicate that benefits in quality are correlated with the size of the reward.</td>
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### Value-based Purchasing

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<tr>
<td><strong>Case Example 1:</strong> HighMark’s QualityBLUE Initiative</td>
<td>The purpose of the QualityBLUE physician pay-for-performance initiative is to satisfy consumer demand for information on provider quality and safety, align reimbursement with performance, and build performance excellence in everyday health care operations.</td>
<td>- QualityBLUE performance indicators and metrics include: 1. Clinical Quality (16 indicators), 2. Generic/Brand Prescribing, 3. Member Access, 4. Electronic Health Record, 5. Electronic Prescribing, and 6. Best Practice. - Bonus payment is up to 3% of total hospital payment. HighMark’s reports claim a $52M savings and 375 lives saved based on ICU infection rate reduction.</td>
<td>- The QualityBLUE Initiative is based in western Pennsylvania. - The type of program should be applicable to other regions based on health plan coverage area.</td>
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### Cost Consequence Analysis

Cost Consequence Analysis estimates the impact of a treatment on expected lifetime resource use and costs (including health care costs and productivity losses) and health outcomes (including life expectancy and quality of life) of an individual or population with a particular disease. Consequence analysis can also include the number of quality adjusted life-years.

There are 5 key types of economic evaluation for health care programs:
1. cost analysis, which considers only the costs of 2 or more programs being compared;
2. cost-minimization analysis, which seeks to determine the least costly of 2 programs, the outcomes of which are judged to be equivalent;
3. cost-effectiveness analysis, which examines the value of the outcomes or consequences of comparative programs in terms of quality units (e.g., cost per day of pain avoided), without attempting to put a monetary value on that outcome;
4. cost-utility analysis, which adjusts the outcome units used in the cost-effectiveness analysis by utility scores (scores that weigh the outcomes analyzed in terms of patient preference for the health outcomes achieved); and

Cost Consequence Analysis is primarily applied to the pharmaceutical industry; however, this approach could be used in a broader health care context.
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<td><strong>Value-based Purchasing</strong></td>
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<td>5) cost-benefit analysis, which assigns a monetary value to the outcome, allowing comparisons across disease states. Cost Consequence Analysis includes costs and effects that are calculated but not aggregated into quality-adjusted life-years or cost-effectiveness ratios. 13</td>
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</table>

Other Comments

Examples of cost-consequence analyses in the published literature include clinical trial data associated with other demographic, quality, financial or other data, which provides the breadth of information required for more accurate decision-making.

**Case Example 1: HealthGrades**

HealthGrades is a health care ratings organization that offers online comparisons of doctors, nursing homes, and hospitals. 11

No studies were reported concerning the outcomes associated with the ratings, either for the hospitals or consumers.

Based in Colorado, HealthGrades provides data nationally.

Other Comments

Note: There are several concerns related to the interpretation of their methodology, which apparently is not discussed on their Web site. Perhaps independent verification of their methods would be appropriate.

**Case Example 2: The American Medical Association Physician Consortium for Performance Improvement® (PCPI)**

The American Medical Association developed a Physician Consortium for Performance Improvement® (PCPI), consisting of over 100 national medical specialty and state medical societies, to enhance the quality of care and patient safety through development, testing, and maintenance of evidence-based clinical performance measures and measurement resources for physicians. 12

There has been little research to determine the impact of the PCPI; most of the reports from AMA concern process issues relating to development of measures, the use of their data, etc.

The PCPI was designed to be a national program.

**INTERVENTIONS BY CMS**

CMS is developing principles to guide the development of a standardized process for selecting, modifying, and retiring measures for VBP as mandated by the Deficit Reduction Act of 2005. CMS desires to develop measures that address the three performance domains identified by the Institute of Medicine: clinical quality, patient-centered care (including care coordination), and efficiency.

- CMS states that it will use a standardized, transparent set of criteria to evaluate performance measures for inclusion in the VBP program. CMS will align its measure-selection criteria with the criteria used by consensus-based measure endorsers, so that all VBP measures could ultimately be endorsed.
- A national set of standardized measures will be used that could apply to all eligible hospitals nationwide, and a systematic, transparent process for introducing performance measures will be used following
### Value-based Purchasing

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<tr>
<td><strong>Case Example 1:</strong> Consumer Financial Incentives: A Guide for Purchasers</td>
<td>The CMS Premier Hospital Quality Incentive Demonstration provides financial rewards to hospitals that demonstrate high quality performance in a number of areas within acute care. The demonstration is a partnership between CMS and Premier, Inc., a national organization of not-for-profit hospitals. The demonstration rewards participating top performing hospitals by increasing their payment for Medicare patients (275 hospitals are currently participating).</td>
<td>consultation with relevant stakeholders. CMS is also considering a composite aggregate measure instead of using individual measures. • As of July 2009, results of the CMS Premier Hospital Quality Incentive Demonstration showed that the average composite quality scores, which are an aggregate of all quality measures within each clinical area, improved significantly between the inception of the program and the end of Year 4. The incentive program paid a 2% bonus on Medicare reimbursement rates to hospitals performing in the top decile of a composite quality measure for certain conditions.</td>
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<td>Other Comments</td>
<td>• There is no agreed upon, standardized set of selection criteria for measures in a VBP or pay for performance. Although the National Quality Forum created consensus recommendations for a comprehensive framework for hospital performance measurement and reporting, these criteria may not be sufficient for VBP. Additional measures are required that are controllable by providers, independent of patient selection bias, which are applicable to the health care continuum.</td>
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<tr>
<td><strong>Case Example 1:</strong> Consumer Financial Incentives: A Guide for Purchasers</td>
<td>AHRQ developed a purchaser guide, the Consumer Financial Incentives: A Guide for Purchasers, that can be used as a tool for employers, health plans, and state Medicaid agencies that are considering implementation of consumer financial incentive strategies.</td>
<td>It is difficult to design incentives that will change the behavior of consumers. In health care, the practice of traditional marketing and social marketing suggests that people change behavior voluntarily when they perceive the new behavior as offering superior benefits to those of the existing behavior; the new behavior should involve fewer barriers than the existing behavior and the new behavior should be supported by people they value.</td>
<td>Although not specifically designed for geographic differences, value-based purchasing market research tactics include the following: divide large populations into segments of people who share common perceptions of what is easier and more popular for a particular behavior; prioritize and target population segments that are most amenable to change and that also provide the greatest potential for social good; provide products, services, and communications that effectively compete with the perceptions of existing behavior in terms of what is better, easier, and more popular; and monitor and adapt programs to meet changes in the target segment’s perceptions.</td>
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<tr>
<td><strong>Information Systems and Web Applications</strong></td>
<td>The processes that are used to determine the ROI or value associated with an MIS are complicated, and there is no general agreement between researchers and practitioners about the best method of arriving at a value statement.</td>
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### Value-based Purchasing

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<tr>
<td><strong>Case Example 1:</strong> eHealthInsurance</td>
<td>This Web site promotes selection of health insurance for individuals, families, and small businesses for research, analysis, comparison, and purchase of health insurance products that meet consumers' needs.</td>
<td>The result is transparency of information about a broad array of health insurance plans (stated 180 health insurance companies), including a selection of price and benefit options, availability of customer service representatives via a toll free number, online chat, email, or fax.</td>
<td>eHealthInsurance is geographically located in 50 states.</td>
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<tr>
<td><strong>Purchasing Consortia and Cooperatives</strong></td>
<td>The purpose of purchasing consortia and cooperatives is to allow small employers to have the kind of purchasing clout that large employers have in their negotiations with health plans.</td>
<td></td>
<td>Many programs are geographically specific.</td>
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<tr>
<td><strong>Case Example 1:</strong> The Council of Smaller Enterprises</td>
<td>The Council of Smaller Enterprises (COSE) in Cleveland, Ohio, is a group purchasing program that includes advocacy on legislative and regulatory issues, and networking and educational resources for Northeast Ohio’s small businesses. COSE is not a prototypical purchasing co-op because a single health plan has accounted for nearly all of its sales (although COSE now offers a choice of two independent health plans and a number of plan types). The employers, rather than individual employees, choose the health plan.</td>
<td>There is no evidence that this model would be effective in different locations or with different health plans.</td>
<td>The Council of Smaller Enterprises is regionally located in Cleveland, Ohio.</td>
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## Value-based Purchasing

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<td><strong>Case Example 2</strong>&lt;br&gt;The Disease Management Purchasing Consortium (Advisory Council)</td>
<td>The Disease Management Purchasing Consortium provides contracting assistance in disease and population management. The consortium provides 70% of all current contracted or implemented outsourced disease and population management programs. They include 86 health plans, 18 private and public sector employers/retirement systems, 2 unions, and 12 state Medicaid programs, covering a total of 80,000,000 lives.</td>
<td>This consortium also has 67 organizational associate members that have an interest in disease management, including vendors, pharmaceutical companies, venture capital firms, regulatory and governmental bodies and trade associations, periodicals, consulting firms, academic medical centers, and executive recruiters.</td>
<td>No geographical limitations are apparent for The Disease Management Purchasing Consortium.</td>
</tr>
<tr>
<td><strong>Case Example 3</strong>&lt;br&gt;The Washington Prescription Drug Purchasing (WPDP) Consortium</td>
<td>The Washington Prescription Drug Purchasing (WPDP) Consortium, administered by the Washington State Health Care Authority, was created by the 2005 Legislature to allow state agencies, local governments, businesses, labor organizations, and uninsured or underinsured consumers to pool their purchasing power to get better prices on prescription drugs.</td>
<td>The WPDP Consortium offers a free WPDP discount card that offers consumers (residents of Washington State) discounts on all prescription drugs (with no drug formulary or preferred drug list) at WPDP participating pharmacies, at prices comparable to those paid by large insurance companies that reimburse pharmacies for member purchases.</td>
<td>This consortium is limited to Washington State.</td>
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### Section 14 • Endnotes


CMS Hospital Pay-for-Performance Workgroup with Assistance from the RAND Corporation, Brandeis University, Booz Allen Hamilton, and Boston University. “U.S. Department of Health and Human Services Medicare Hospital Value-Based Purchasing Plan Development.” (January 2007). Note: The principles developed are consistent with the National Quality Forum’s “Comprehensive Framework for Hospital Care Performance Evaluation”. (2003).


END SECTION 14
Wellness and Health Promotion

**Definition:** Organizations sponsor on- or offsite wellness programs to promote good health or identify and correct potential health-related problems. Comprehensive wellness programs support primary, secondary, and tertiary prevention efforts. Primary prevention efforts target populations that are generally healthy, and include programs that encourage exercise and fitness, healthy eating, weight management, stress management, seat belt use, moderate alcohol consumption, recommended adult immunizations, and safe sex. Secondary prevention programs target individuals who are considered to be at high-risk due to behavior or abnormal health indicators, and include hypertension screenings and management programs, smoking cessation telephone quit lines, weight loss classes, and reduction of financial barriers to obtaining prescribed medications. Tertiary prevention programs target individuals who have chronic diseases. (Interventions for tertiary disease prevention were presented under the Disease Management Market Model.) Wellness promotion interventions may be delivered at the worksite, school, or community (e.g., signs to encourage stair use, health education classes); at other locations (e.g., gym membership discounts, weight management counseling); or through a health benefits plan (e.g., flu shots, cancer screenings).

Evidence of impact and effectiveness of wellness and health promotion programs is mixed, with variable return on investment (ROI), depending on which programs, policies, and interventions are employed.

A recent study found that health care costs decrease by approximately $3.27 for every dollar spent on wellness programs and that absenteeism-related costs fall by about $2.73 for every dollar spent. The Steps to a Healthier Austin program realized a return on investment of $2.43 for every dollar spent on a comprehensive wellness program. While one study suggests cost savings of $600 to $800 per employee, other studies indicate that the program must continue for two to three years to realize an economic benefit, although cost savings may be realized more quickly.

Note: Employers considering wellness programs and associated interventions need to be familiar with HIPAA and other relevant state and federal regulations regarding patient privacy and discrimination.

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### Wellness and Health Promotion

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<th><strong>Employee (Patient) Incentives</strong></th>
<th><strong>What does the intervention intend to address?</strong></th>
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<td>Incentives are financial or nonfinancial inducements linked to specific behaviors. Incentives may be either desirable rewards or undesirable consequences. Incentives are valued that are flexible, relatively simple to comprehend, and easy to administer.</td>
<td>A key objective of incentives is to motivate individuals to initiate action and maintain the new behaviors until their own internal reinforcement takes over to sustain the positive change. If the incentive rewards and rules are well designed, it is hoped to produce a positive change in behavior in the target population.</td>
<td>• Success of incentives may vary by incentive size. No studies were found analyzing the differential impact of levels of incentives. • In many cases, incentives were a component of a wellness program and were not evaluated independently. • Use of incentives may positively impact: ○ Completion of vaccination regimen</td>
<td>• Incentives are suitable for diverse market conditions. • These programs are very broadly applicable across populations, diseases/conditions, and geographic areas.</td>
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## Wellness and Health Promotion

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<td>A 2004 National Worksite Health Promotion Survey indicated that 26% of employers use some form of incentives to promote employee participation. Typically, the higher the dollar value of an incentive, the higher the participation levels. The monetary value of incentives typically ranges from just a few dollars to several hundred dollars. The most common type of incentives are activity-based awards (Completion of a health risk assessment (HRA), participation in program activities), and achievement-based awards (measurable changes in health status or activity). Incentives can take the form of cash, gift cards, coupons, merchandise, time off, awards and recognition, drawings or lotteries, preferred benefit plan designs, premium and copay reductions or increases, and contributions to flexible spending accounts (FSA) and health savings accounts (HSA). Some examples include incentives for the reduction of certain indicators, such as BMI, cholesterol, and for lack of participation in wellness initiatives.</td>
<td>• Amount of physical activity, • Participation in tobacco cessation programs, • Participation in disease management programs, and • Participation in wellness programs.</td>
<td>Financial incentives may be more effective than non-financial. Larger financial incentives may be more effective than smaller.</td>
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### Other Comments
- Some individuals may attempt to beat the system. Some incentives may inadvertently reward unhealthy behaviors. For example, a per-pound weight loss incentive with no limits may encourage unhealthy or hazardous weight loss practices.
- Incentives may also create a dependency, such that when the reward is removed, the desired behavior ceases.
- Employers who want to link certain incentives (e.g., premium discounts, rebates, lower deductibles, and copayments) with their health care plan may need to follow the HIPAA Final Nondiscrimination Rules, a federal law that became effective on February 12, 2007.
- Employers can currently offer a premium discount of up to 20% based on a worker’s ability to hit certain health benchmarks. That discount may go as high as 50% with passage of pending federal legislation.
## Wellness and Health Promotion

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<td><strong>Optimizing the Work Environment</strong></td>
<td>Many workers have easy access to energy-dense (i.e., “empty-calorie”) foods and beverages. In combination with sedentary jobs, lack of physical exercise, and other factors, high-calorie and fatty foods contribute to weight gain, obesity, and lower productivity. Workplace injuries account for, at times, a substantial component of corporate health expenditures from lost productivity and health care costs. Reducing the number of injuries through employee education and the provision and maintenance of equipment translates into reduced health care costs and increased employee productivity.</td>
<td>• Provision of nutrition information with and without a behavioral component is associated with weight loss and lowered cholesterol. • Nutrition education is cost-saving by reducing health care costs related to obesity. • Increased availability of healthier snack items in vending machines with modest price reductions is associated with 10-42% increased consumption. • Provision of fruit is associated with significantly increased consumption. • Improvement in ergonomics is associated with fewer employee absences.</td>
<td>• These interventions are suitable for diverse market conditions. • These programs are very broadly applicable across populations, diseases and conditions, and geographic areas.</td>
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## Wellness and Health Promotion

### Intervention Areas and Case Examples

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<th>Onsite Health Clinics and Coaches</th>
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<td>Onsite health clinics provide basic outpatient care, including immunizations, screening, and exams as well as education and information provision to an employee group.</td>
<td>Lost time from work due to injury, illness, and physician’s visits may significantly impact employee productivity. Onsite health clinics increase the accessibility of basic health care for employees, with the goal of increasing appropriate use, reducing health care costs, providing continuous wellness promotion, and disease management services. Health coaches focus on the screening, education, and support components of wellness and disease management programs.</td>
<td>• Return on investment (ROI) of clinics may be comparable to similar services delivered in the community, but is dependent on size of facility and use. • Onsite clinics may be more cost effective than community clinics, when factoring in health care cost and productivity losses from labor lost visiting clinics in the community. • Onsite nurse practitioners reduced health care costs in one study.²¹</td>
<td>• These interventions are suitable for diverse market conditions. • These programs are very broadly applicable across populations, diseases and conditions, and geographic areas. • Larger employers are more likely to realize cost-savings from onsite, inhouse clinics and coaches.</td>
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### Case Example 1: Quad/Graphics²²

Quad/Graphics, headquartered in Southeastern Wisconsin, has 12,000 employees. In 1991, the company began to provide onsite primary health care for its employees and their dependents with one physician provider. Quad/Graphics eventually incorporated its health services into a wholly owned subsidiary, Quad/Med. Currently, Quad/Med’s onsite clinics are located on each Quad/Graphics campus. QuadMed has Alcohol and Other Drug Abuse and Employee Assistance Program functions integrated into its clinics.

Quad/Graphic’s motto is “We’ll keep you well; and by the way, if you get sick, we’ll take care of that, too.” They aim to reduce health care costs by providing employees and their dependents with easily accessible, full-service primary care clinics which operate on the latest evidence-based recommendations and practices. Quad/Graphics is self-insured and the health care benefit is structured so that employees have an incentive to use the onsite clinics; 80% of Quad/Graphic’s employees and their dependents do so.

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<td>Self-reported high-use of clinic services.</td>
<td>High employee satisfaction with services.</td>
<td>Clinic patients meet recommended guidelines for treatment at rates greater than the national average on a number of targets.</td>
<td>Employee medical costs average about 30% lower than other employers in the state of Wisconsin.³³</td>
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<td>Annual health care costs are estimated to be 17-19% below average per employee than for other Midwest employers.³⁴</td>
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## Wellness and Health Promotion

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<tr>
<td>Other Comments</td>
<td>QuadMed provides a broad range of primary care services, including family practice, internal medicine, pediatrics, and obstetric/gynecologic services delivered onsite both by board-certified physicians and physician extenders. Selected specialties include dermatology; ear, nose, and throat; orthopedics; and general surgery. QuadMed also uses an online health portal. QuadMed has its own full-service pharmacy, with prescriptions shuttled to sites that do not yet have an onsite pharmacist.</td>
<td>- Physical activity and exercise are associated with improvements in health and health indicators, including reduced Body Mass Index (BMI), reduced weight, lowered blood pressure, lowered cholesterol, reduced risk for cardiovascular disease, and increased energy and well-being. - Improvements in health status and indicators is believed to improve health outcomes, reduce health care needs, and reduce health care costs.35 - Improved health leads to increased worker productivity and presenteeism and reduced rates of absenteeism.</td>
<td>These programs are very broadly applicable across populations, diseases/conditions, and geographic areas, including countries.</td>
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### Exercise and Physical Activity Promotion and Programs

- **Initiatives to promote exercise and physical activity include:**
  - Discounted gym memberships;
  - Delivery of exercise programs targeted to populations or diseases;
  - Urban design and land use policies;
  - Creation of outdoors areas for exercise or activity;
  - Promotion of site-specific physical activity options, such as use of stairs, parking options to encourage walking; and
  - Provision of onsite exercise facilities.

- **These programs and initiatives may target healthy individuals or those with health conditions.**

- **What does the intervention intend to address?**
  - Physical activity and exercise are associated with improvements in health and health indicators, including reduced Body Mass Index (BMI), reduced weight, lowered blood pressure, lowered cholesterol, reduced risk for cardiovascular disease, and increased energy and well-being.

- **What is the research evidence regarding impact of intervention?**
  - Improvements in health status and indicators is believed to improve health outcomes, reduce health care needs, and reduce health care costs.35

- **How applicable to which types of markets?**
  - Improved health leads to increased worker productivity and presenteeism and reduced rates of absenteeism.
  - Worksite exercise programs have been shown to reduce:
    - Blood pressure,
    - Cholesterol,
    - BMI,
    - Blood glucose,
    - Use of disability leave,
    - Low back discomfort, and
    - Absenteeism.
  - Some studies have shown that workplace fitness activities, including online interventions to promote activity, can lead to cost savings.
  - Larger employers may find more cost savings related to higher cost interventions.

  - **Studies indicate that the following workplace interventions are effective in increasing employee physical activity:**
    - Prompts to increase stair use,
    - Access to places and opportunities for physical activity,
    - Comprehensive worksite approaches, including education, employee and peer support for physical activity,
    - Incentives, and
    - Access to exercise facilities.

  - **A recent survey of employers offering wellness programs found a majority, primarily large employers, believe the program has positively impacted employee health and reduced costs.**36

  - **Efficacy of exercise programs is influenced by**
### WELLNESS AND HEALTH PROMOTION

<table>
<thead>
<tr>
<th><strong>INTERVENTION AREAS</strong> AND <strong>Case Examples</strong></th>
<th>What does the intervention intend to address?</th>
<th>What is the research evidence regarding impact of intervention?</th>
<th>How applicable to which types of markets?</th>
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</thead>
<tbody>
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<td>participation, location of exercise areas/facilities, level of employer encouragement, design of program, participant co-morbid conditions, and target population level of awareness, among others.</td>
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<td>Some studies have found limited, no, or contradictory evidence of effectiveness of workplace programs on BMI, pain, low back pain, use of sick leave.</td>
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<td><strong>Other Comments</strong></td>
<td>Employers should select interventions that provide choice, allow for preferred learning style, allow a broad number of employees easy access and affordability, are individually tailored, and meet privacy and nondiscrimination requirements.</td>
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<td>Worksite participation may be affected by quality/extent of the exercise facility available, and individual inhibitions to exercising around co-workers.</td>
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<td>Financial or other incentives to encourage participation and success attaining health outcomes goals are often used and can affect positive change.</td>
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<td><strong>VACCINATION PROGRAMS</strong></td>
<td>Employee absence from work and lost productivity due to vaccine-preventable illness are significant financial burdens on employers.</td>
<td>Establishing a Vaccination Day with workplace-provided vaccinations may increase up-take of vaccinations substantially.</td>
<td>The programs are not market specific. They are very broadly applicable across populations, diseases and conditions, and geographic areas.</td>
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<td>Vaccination programs aim to increase the number of employees vaccinated for illnesses including influenza and pneumonia in order to reduce health care cost and utilization, reduce employee use of sick leave, and increase productivity.</td>
<td>Email reminders and information regarding influenza and influenza vaccines increased employee rate of crowd avoidance behavior during illness.</td>
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<td>During the winter, employee absence due to influenza-related illness may be as high as 50% of all absences.</td>
<td>Vaccination of working adults for influenza may be cost saving in terms of days absent from work and lost productivity.</td>
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<td>Influenza vaccination may result in substantial health and productivity benefits.</td>
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<td>Employer coverage of vacation cost is associated with more successful programs.</td>
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<td>Efforts to promote awareness of vaccination initiatives may increase up-take.</td>
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## Wellness and Health Promotion

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<th>How applicable to which types of markets?</th>
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<td>Tobacco Cessation Programs and Interventions</td>
<td>Employee absence from work and lost productivity due to smoking related illness are significant financial burdens on employers. Cessation programs aim to increase the number of employees quitting or reducing smoking in order to reduce health care cost and utilization, reduce employee use of sick leave and increase productivity. Early cessation has been associated with reduced mortality from smoking.</td>
<td>• In many studies, cessation programs were a component of more comprehensive wellness programs, and effectiveness of stand-alone cessation programs was not evaluated. • Individual counseling and group therapy for tobacco cessation have been shown to improve rates of successful cessation among participants. • Smoke-free workplaces are effective at reducing smoking, reducing risk of heart attack, and increasing the number of quit attempts. • Internet-based worksite smoking cessation program may increase rates of quitting among participants. • Continued support for recent quitters may be necessary to maintain their abstinence from smoking. • Women may have differing experiences than men in worksite cessation programs. Effort may need to be made to prospectively monitor women in these programs and evaluate for factors affecting their rates of cessation. • Overall cost to employer of a pharmacotherapy benefit was estimated in one study to be $0.13/person/month.</td>
<td>These interventions are not market specific. They are very broadly applicable across populations, diseases/conditions, and geographic areas.</td>
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<td><strong>Use of tobacco is associated with negative health outcomes, including chronic obstructive pulmonary disease (COPD), emphysema, bronchitis, lower quality of life</strong> and lung cancer. Further, second-hand smoke negatively impacts the health of those exposed. Interventions to reduce employee tobacco use include non-smoking policies, incentives to quit, and provision or facilitation of cessation programs and pharmacotherapy. One survey of employees found interest in contests, incentives, and free samples of nicotine replacement products as employer interventions to promote tobacco cessation. Cessation programs may be offered through worksite clinics – be discounted, incentivized, or contractually arranged.</td>
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ENDNOTES


3 Ibid., Goetzel, Ron and Ronald Ozminkowski. (2008).


ALTARUM INSTITUTE integrates objective research and client-centered consulting skills to deliver comprehensive, systems-based solutions that improve health and health care. A nonprofit serving clients in the public and private sectors, Altarum employs more than 350 individuals and is headquartered in Ann Arbor, Michigan with additional offices in the Washington, DC area; Sacramento, California; Atlanta, Georgia; Portland, Maine; and San Antonio, Texas.

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Altarum Institute demonstrates and is sought for leadership in identifying, understanding, and solving critical systems issues that impact the health of diverse and changing populations. Altarum is acknowledged as a valued, collaborative, and collegial institute of the utmost competence and integrity.

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