

## A collaborative product commerce approach to value-based health plan purchasing

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### **Abstract**

**Purpose** – Collaborative product commerce (CPC) techniques are being applied with greater frequency in the health care sector. The purpose of this paper is to explore the potential barriers to their success in influencing cost and quality.

**Design/methodology/approach** – The health care supply chain (SC) is analyzed and five national health initiatives attempting to apply CPC techniques are described.

**Findings** – Five national-level programs designed to improve health care quality and control costs use a variety of CPC techniques to create incentives and/or disincentives to influence suppliers' behavior. Six barriers to success are identified that threaten healthcare CPC initiatives. They include: widespread resistance to change; information system limitations; the Health Insurance Portability and Accountability Act (HIPAA); the required time investment; lack of commitment to CPC principles; and the sustainability of the CPC business model.

**Research implications/limitations** – Investigation into the barriers to success is warranted to develop evidence-based solutions to improve effectiveness of CPC approaches in health care.

**Practical implications** – No national health care initiative to date can be described as an unqualified success in terms of its ability to align the SC. Nevertheless, individually, and to some extent collectively, the aforementioned programs are making some headway.

**Originality/value** – This work is one of the first to present information on how collective CPC efforts are taking shape in health care and to describe key national-level projects currently underway in the field. Such information can offer policymakers and employers insight into how CPC techniques might improve effectiveness in health benefit contracting.

**Keywords:** Health services, Supply chain management, Patients, Safety, Strategic alliances Paper type General review

### **Article:**

#### **Introduction**

Over the past 20 years, large companies and coalitions of smaller firms have applied supply chain management (SCM) techniques to their purchasing function in order to better manage costs and increase the quality of organizational inputs (Heckmann et al., 2003). SCM was developed in the manufacturing sector and relies on close coordination with producers to make systematic improvements to the flow of organizational inputs (Cook et al., 2001). Over time, SCM techniques have evolved to meet the needs of service organizations, including those in the health care sector for purchasing medical supplies (Gilbert, 2001; Burns, 2002). Now, large employers, coalitions, and the federal government are applying SCM techniques to their health care contracting and purchasing functions (Goldberg, 1999).

The impetus for changing purchasing strategies stems from the return of double-digit insurance premium inflation (Fuhrmans, 2003) and growing concerns over medical errors specifically and health care quality in general (Committee on Quality of Health Care in America, 2001). The perception among many employers is that practice variance among suppliers (i.e. hospitals and physicians) is contributing to uneven quality and increases premium inflation rates from the supply chain's (SC) downstream side. Although many employers wish to address these two issues, few individual organizations, outside the Centers for Medicare and Medicaid

Services (CMS), have the market leverage to influence provider behavior in dramatic ways in the short term. In addition, consumers (i.e. employees, retirees, and dependents) have not been effectively integrated into the SC's feedback mechanism for monitoring quality and controlling the costs that drive premium rates. Therefore, employers have begun to band together and collectively re-examine how their health care purchasing practices influence costs and quality.

The purpose of this paper is to describe how SCM principles are taking shape in the health care benefits sector and identify potential barriers to success they may encounter. This paper has four sections and begins with an overview of SCM and how key health care stakeholders link into the chain. Next, the particular form of SCM being used by employers, collaborative product commerce (CPC), is described. Third, an overview of five national health related CPC programs is provided. Lastly, the reasons why CPC may or may not be an effective national strategy for controlling health care purchasing inflation and improving care quality are discussed. This work contributes to the literature by presenting information on how collective SCM efforts are taking shape in health care. Second, it provides a brief overview of several "high profile" projects currently under way. Such information can offer policymakers and employers insight into how CPC techniques might improve effectiveness in health benefit contracting.

### **Supply chain management and health care purchasing**

SCM is a purchasing philosophy devoted to discovering tools and techniques that increase operational effectiveness and efficiency throughout product and service delivery channels. It looks to align incentives across the SC, focusing on the end-users' desired product characteristics. Rather than merely purchasing goods or services from suppliers, SCM addresses the entire process of how products are designed and sourced to improve quality and reduce costs. The SCM approach recognizes that there are complex networks involved in delivering services arrayed from the initial input to the end customer, and that some of the SC's key links are often beyond the purchaser's direct influence. As such, health care has a number of barriers to readily implementing SCM solutions (McKone-Sweet et al., 2005). The health care services SC viewed from a large-scale purchaser's (employers, coalitions, state Medicaid programs, and CMS) perspective is depicted in Figure 1. Each tier or link in the SC is discussed in turn beginning with the raw inputs – physicians' services.

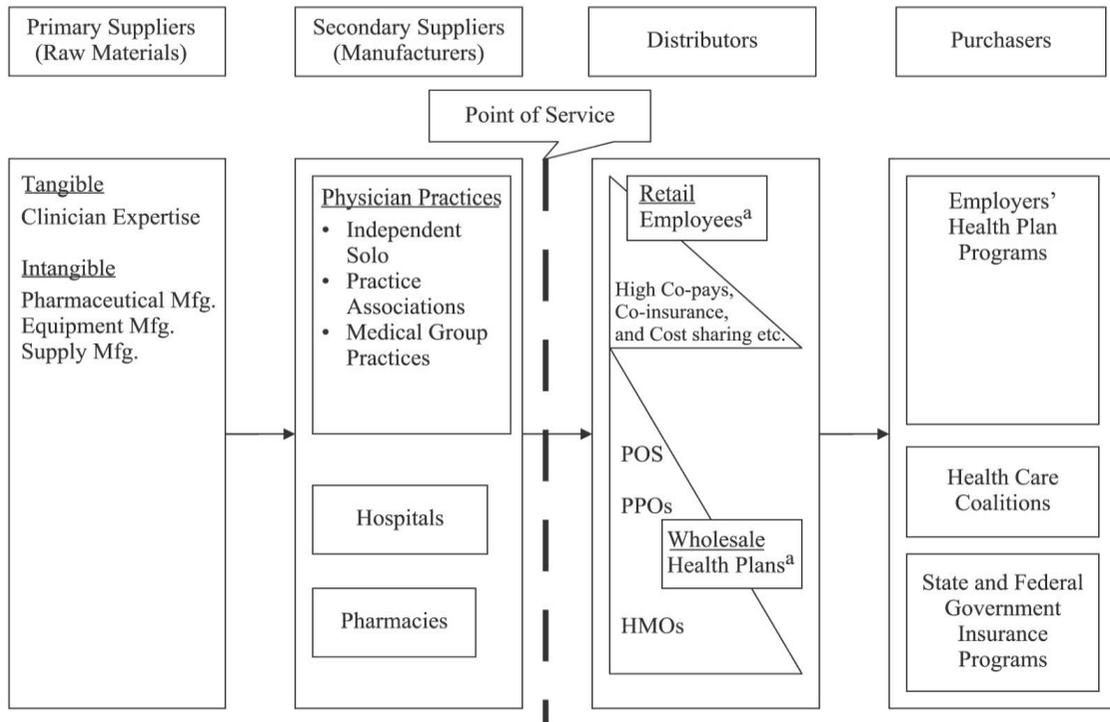
#### ***Primary suppliers: physician services***

Like many products, health care is a blend of tangible (physical goods) and intangible (services) inputs. From a purchaser's perspective, physicians' services represent the most significant set of raw materials that go into the health care SC (see Figure 1). Doctors are the first link in the SC (primary suppliers) because most medical services and charges originate from their direction. Whether it is admitting a patient to the hospital, ordering a diagnostic test, writing a prescription, or conducting an examination, doctors are at the headwaters of the SC's service stream and direct more than 64 percent of all healthcare spending (National Health Statistics Group, 2004). Indeed, physicians' roles in determining costs has led to the observation that "[T]he most expensive piece of medical technology is a doctor's pen" (Lamm, 1993). Their initial diagnoses and treatment regimens play a significant role in determining costs and monitoring quality further downstream in the SC. However, there are two intermediate SC links between physicians and health benefits purchasers.

#### ***Secondary suppliers: medical group practices, hospitals, and pharmacies***

The next tier of suppliers in the health care SC is equivalent to the refineries and production facilities that take in the raw inputs and fabricate them into usable goods in the manufacturing sector. In the health care sector, doctors input their services into a variety of fabrication centers that augment them for resale. Most physicians "package" their medical expertise for sale to purchasers through their own practices. A practice's size and form can vary widely dependent on market factors, medical specialty, and physicians' preferences. There have been attempts to consolidate this sector and increase practice uniformity in some domains, but these nationwide efforts have not been effective to date (Richardson et al., 2002). Nevertheless, because so many health care decisions flow through practice-level mechanisms, it remains an attractive target for SCM intervention.

**Figure 1** The health care purchasing supply chain from an employer's perspective



**Notes:** <sup>a</sup>Among health plans and employees different risk sharing agreements with employers exist. Lower elements of the pyramid indicate greater risk bearing

The most frequent target among purchasers for cost and quality initiatives are hospitals. Hospitals are a significant consumer of physician inputs, combining them with nursing, laboratory services, housing, and other goods and services to create the largest sub-industry in the sector. Broad service variety, severity of illnesses, and complexity of the clinical tasks hospitals engage in makes them susceptible to concerns surrounding quality. The hospital sector's high volume and significant cost per process, coupled with rising quality concerns, makes it a natural choice for SCM interventions.

Other “manufacturers” also take in physicians’ raw inputs and integrate them with other activities to create new goods and services to be distributed. Pharmaceuticals in particular have been a rapidly growing segment of the health care market, as well as a source of concern surrounding medical errors (Bates et al., 1999) and inflationary pressures (Greenwald, 2003). With respect to quality control, pharmaceutical errors occur in a number of places starting with the doctor’s writing the prescription, then the pharmacist filling the order, and finally having the drug consumed as intended (administration compliance). In addition, other factors such as drug allergies and interactions make the prescription fulfillment process susceptible to avoidable errors. As with other aspects of the SC, rapidly rising costs and quality concerns make this a SC link that employers are targeting for intervention.

One way to apply pressure to either primary or secondary suppliers is through their wholesale distributors — — consumer health plans and third party administrators – or through their direct retailer distributors – the patients themselves. Between health care service suppliers and their distributors lies the point of service delivery.

**Point of service (POS)**

The POS indicates that position in the SC where the inputs of primary and secondary suppliers are converted into activities that deliver medical care to individual patients. It is the point of actual “consumption” of health care services. In the health care SC, most POS activities take place in doctors’ offices, clinics, and hospitals (secondary suppliers).

It is important to notice that from an employer's perspective, as illustrated in Figure 1, the health care POS is inherently misaligned. In most SCs, the POS would occur between the distributor and purchaser tiers. This illustrates the dysfunctional effect of health care's third-party payment mechanism (i.e. logistics providers; Meade and Sarkis, 2002) on normal SC dynamics. The intervening SC link between suppliers and purchasers are the health plans and beneficiaries.

### *Distributors: health plans and beneficiaries*

Health plans and beneficiaries serve as the wholesale and retail distributors, respectively, of health care services to employers. Health plans are the wholesalers using their large purchasing power to negotiate volume discounts from the upstream side of the SC. Beneficiaries, employees and their covered dependents collectively represent a retail aspect of the SC controlling smaller increments of the service delivery flow and costs. The benefit employers receive from these distribution centers is the health of its workforce.

The SC's distribution tier has been the focus of many initiatives to control costs and improve the care quality. This is a natural leverage point because health plans and beneficiaries form the interlocking link between employers and health care system's suppliers. Health plans have historically received the most attention, but "consumer driven" initiatives are garnering significant attention in the market place (Herzlinger, 2004). Each actor is considered in turn.

"Health plan" is a broad term to describe the continuum of organizational and risk-bearing arrangements employers use to provide their beneficiaries with healthcare coverage. At one end of the continuum are third-party administrators (TPAs) that provide contracting and billing services for self-insured employers with no risk bearing function. At the spectrum's other end are health maintenance organizations (HMOs) that bear all or a significant share of the risk related to insuring a population and actively coordinate some aspects of patient care. HMOs and managed care organizations successfully controlled health care inflation during the 1990s. However, their effectiveness seems to have run its course as providers and consumers convinced legislators and employers to negate the principal mechanisms used to reduce service demand – capitation, selective contracting (gate keeping), and service review (Altman and Levitt, 2003). Lacking these cost controls and other factors; there has been a return to double-digit premium inflation. Nevertheless, health plans continue to be an important SC element in most initiatives to better coordinate care with among key stakeholders – beneficiaries in particular.

Beneficiaries are the target of increasing attention from health benefits managers seeking SCM solutions to cost and quality concerns. Similar to physicians, because they decide when and where to seek care, beneficiaries play a role in every cost generating activity that occurs across the SC and potentially have significant power to reduce expenditures and improve quality. However, beneficiaries historically have had little reason to exercise that power, with few direct incentives to reduce their demand for services, attempt to control costs, or discriminate among providers based on quality. In this respect, it is contrary to their self-interest to support SCM efforts and increasing uncertainty about changing benefits aggravates the situation (Watson, 2004). Therefore, many SC initiatives are seeking to more closely align the beneficiaries' and their benefactors' (purchasers) incentive systems to take advantage of beneficiaries' power to affect costs and quality.

### *Purchasers: employers, health care purchasing groups, and government agencies*

Large employers, collectives of smaller employers, and government agencies are facing extraordinary economic pressures to control health care inflation and are searching for an effective means to do so over the long-term. They also have a vested interest in ensuring their constituents receive quality care and that health plans demonstrate that continuous quality improvement is occurring. Despite strong incentives for providing cost-effective benefits to their constituents, none of these major sources of health benefit financing has successfully addressed either the cost containment or quality problems endemic to the US health care system. There are three common purchasing behaviors that employers and government agencies engage in that are problematic from a SC perspective:

1 focusing solely on a plan's price rather than its performance;

2 the use of transaction-based rather than outcome-based payment systems; and

3 the failure to effectively engage the consumer (beneficiaries) in making quality care a priority (Midwest Business Group on Health, 2003).

As an alternative to retrenchment in narrowly based purchasing approaches, some health care benefits managers are adopting state-of-the-art SCM tools. Collaborative product commerce (CPC; Velocci, 2001) in particular is taking hold across a number of firms, coalitions, and government agencies as they manage their health care purchasing activities. The following sections describe and inventory the techniques that health care policymakers and benefits purchasers who are interested in increasing the value of their health care investments may use in a CPC approach to SC management.

### **Collaborative product commerce (CPC)**

The CPC approach differs from previously developed SCM tools in two significant respects. First, it is collaborative across organizations that rely upon common suppliers or service consumers with similar demands. Such collaboration has been necessary in industries such as telecommunications where common technological standards have been desirable, mandated, or both. However, if medical errors and quality are to be effectively addressed, there is a need for the adoption of uniform standards of care, systems approaches to implementing those standards, and a common reporting protocol (Kohn et al., 2000). Collaboration is necessary because no single purchaser, with the possible exception of the federal government, has sufficient market leverage to affect numerous providers and demand adherence to such standards.

The second major difference is that CPC processes are transparent to every stakeholder in the SC. By design, the CPC approach uses an open communications platform that reaches beyond the specific SC within which a single purchaser is embedded. Instead, effective communication must occur across disparate purchasers, often competitors in other business areas, who buy managed care products from the same or closely comparable insurers. Integral to the CPC framework are a shared workflow and common visibility of process, analysis, and outcomes. Equally important is the creation of a single information framework – in an online environment – that can be used by all stakeholders. To accommodate these unique aspects of CPC there are three enterprise-wide capabilities essential to implementing such an approach.

### ***Collaboration management***

Collaboration management provides decision-making processes and systems infrastructure for identifying, negotiating, and executing a partnership's business strategies (Williams and Stemper, 2002; Nollet and Beaulieu, 2005). Key issues that organizations seeking to implement the CPC approach often face include:

- attracting and qualifying partners;
- negotiating shared cost agreements; and
- integrating partner contributions into the process (Ford et al., 2004).

Collectively, these activities constitute a business plan in a new collaborative.

In health care purchasing markets, such initiatives are emerging, but they are far from being the industry standard. Health insurance purchasing collaboratives have tended to be local in nature and are frequently used by groups of small employers to create large enough risk pools to get pricing comparable to larger firms. Expanding collaborations beyond a common local market of suppliers creates the issue of how to compare health plan products when they are bidding on different populations of employees or are operating under

different economic or regulatory conditions. Therefore, creating a common instrument and effective distribution channel is critical if a CPC is to succeed on a large-scale basis. In doing so, a broader set of benchmarks and comparisons can be made.

**P1.** Health care payers will come together across multiple markets to maximize their purchasing power.

#### *Developing a common data and technology foundation*

The need for process transparency in the CPC approach makes the communication of comparative data critical to achieving the initiative's goals and maintaining membership trust. In effect, one of the principal goals of CPC is to achieve some form of common data standards. Therefore, a necessary precursor to establishing a collective standard is for the collaborative members to reach some consensus on the nature of SC data, how it is to be maintained, and how the data is transformed into information outputs.

**P2.** Health care payers will come together and design common data collection standards and reporting protocols.

#### *Product lifecycle and innovation management*

Product lifecycle management is a critical aspect of CPC that can result in exceptionally high resource use if not handled correctly (Williams and Stemper, 2002). It is critical that processes for improving any given products be done as parsimoniously yet comprehensively as possible. A thorough lifecycle design includes plans to upgrade or rotate reporting modules through a given market. In particular, product managers should create an organizational format that incorporates multi-disciplinary teaming to ensure product consistency and compatibility with existing reporting module elements. Further, there should be a clear evaluative component with each new standards introduction with predetermined performance measurement strategies.

In health plan assessment efforts, new reporting modules have generally taken the form of expanded surveying efforts. For example, CAHPS now has a counter part for studying hospital quality – H-CAHPS. Because assessment products have at their core the need for scientific reliability and validity, they must adhere to certain principles. Namely, the instruments themselves must be based on empirical evidence and they, in turn, must then be subjected to scientific investigation. The need for reliability and validity gives rise to potential difficulties in managing product lifecycles. First, some innovations may not survive through a normal product lifecycle if they fail to yield scientifically sound findings or do not gain wide market acceptance. Another type of problem arises if products are adopted without rigorous testing, since such products could displace superior technologies. Either case would result in a significant loss of resource investment, perhaps undetected in the latter example. Further, goodwill among those firms reporting may erode if they come to believe that their reporting efforts are not being put to their best use or are not accurately reflecting the quality of their programs.

**P3.** Collaborative purchasing coalitions will systematically refine and expand their health care quality improvement and cost efforts in a cyclical fashion.

#### **Methods**

In order to examine the applicability CPC and its tenets, a case study approach is employed. Case studies are particularly useful when the research goal is to gain a holistic understanding of how dynamics unfold in real-life settings (Yin, 1994). Thus, this study was semi-inductive in nature, using an existing framework to explain findings emerging from the data. Each study begins with a description of the organization and its key players are provided. The area of the health care supply chain they are attempting to influence is identified. Finally, the CPC approach they are employing is described.

The organizations studied were purposefully selected to assess CPC interventions targeting each link in the SC. Five of these efforts were identified for inclusion in this analysis (for a summary of these efforts see Table I).

Inclusion criteria included a multi-market presence, explicit intent to improve quality and control cost, and the availability of third-party assessments of the initiative. In addition, each organization has received a significant amount of national media attention and made extensive amounts of information available through the internet. In addition to describing CPC tools used by the organizations, potential barriers to successful SCM were identified across the cases. The results of the case analysis are presented next.

### Results – nationwide CPC case studies

Collectively, these efforts target suppliers at every tier of the SC and use a variety of CPC techniques to create incentives and/or disincentives to suppliers depending on their response to the program. The programs are described in the following sections starting with the “Bridges to Excellence” effort which targets physicians and their practices (primary and secondary suppliers) and ending with the National Business Coalition on Health’s eValue8 project, which targets Health Plans and Consumers (distributors).

#### *Bridges to Excellence*

Bridges to Excellence was launched in 2003 by a coalition of large employers and health plans, which includes Ford Motor Co., General Electric Co. and Verizon Communications Inc. and contains elements of activity consistent with all of the study propositions. Evidence of P1 is found in the variety of organizations that have come together for this initiative. The program currently targets physicians (primary suppliers) and their practices (secondary suppliers). The initiative relies upon a Six Sigma quality feedback methodology (Brantes et al., 2003) and “pay-for-performance” to improve clinical quality. P2’s standardized data collection and reporting protocols are central to the Six Sigma methodology. The Bridges to Excellence program rewards physicians who implement certain measures, such as diabetes patient registries or standardized protocols proven to reduce medical errors. Initially, the program has targeted diabetes treatment and physician office management; provisions for cardiac care are to be added in the future. As these programmed expansions are introduced the Bridges initiative will demonstrate P3’s cyclical improvements.

**Table I** National Initiatives to Modify and Improve the Health Care Supply Chain using Collaborative Product Commerce

Characteristics	Bridges to Excellence	The Leapfrog Group	Initiatives The Premier Quality Incentive Demonstration	HEDIS	eValue8 RFI
<b>SC foci</b>	Primary and secondary suppliers – physicians and their practices	Secondary suppliers – hospitals	Secondary suppliers – hospitals	Distributors – health plans	Distributors – health plans
<b>Principal sponsor</b>	A coalition led by large employers	A coalition led by large employers (The Business Roundtable)	Centers for Medicare and Medicaid Services (CMS)	NCQA	National Business Coalition on Health
<b>Mechanisms for changing the SC</b>	A Six Sigma approach to quality coupled with direct rewards to physicians for improving diabetes care and increasing practices’ safety mechanisms (e.g. adopt clinical IT systems, increased patient education, DM)	Partnering employers are asked to commit to purchasing principals that take two primary forms: (1) create incentives to steer employees to use better scoring facilities; and (2) pay hospitals for improved performance	Provides financial incentives to hospitals that demonstrate quality performance improvement in a number of areas related to acute inpatient care	Primarily through the use of consumer report cards	Program produces standardized health plan information using a common RFI. Purchasers can compare information in a variety of ways (e.g. to select plans for inclusion in benefits, negotiate rates, or to create consumer incentives)
<b>Propositions illustrated</b>	<i>P1, P2 and P3</i>	<i>P1 and P2</i>	<i>P2</i>	<i>P2</i>	<i>P1 and P2</i>
<b>Scope of initiative</b>	500,000 employees in Boston, Cincinnati and Louisville, KY	More than 690 urban hospitals have reported their progress	279 hospitals reporting in 2003 with 300 more slated for 2004	Over 200 Commercial HMOs	Approximately 90 plans responded in 2003
<b>Website</b>	<a href="http://www.bridgestoexcellence.org">www.bridgestoexcellence.org</a>	<a href="http://www.leapfroggroup.org">www.leapfroggroup.org</a>	<a href="http://www.cms.hhs.gov/quality/hospital/">www.cms.hhs.gov/quality/hospital/</a>	<a href="http://www.ncqa.org">www.ncqa.org</a>	<a href="http://www.nbch.org">www.nbch.org</a>

Bridges to Excellence addresses the cost control aspect of CPC in a philosophical manner. The underlying presumption, drawn from observing CPC efforts in other industries, is that “higher quality leads to lower costs, and there is absolutely no reason to believe that health care is an exception to that rule”, according to Dr Arnold Milstein of Mercer Consulting (Prince, 2003, p. 5). The same belief that improved quality and future cost savings can be attained through better monitoring and management is shared by the next effort.

### *The Leapfrog Group*

The Leapfrog Group, founded in 2000, is a consortium of more than 135 Fortune 500 companies and other large public and private health care purchasers providing benefits to more than 33 million Americans. This broad consortium illustrates P1’s collaboration across markets. The program targets hospitals (secondary suppliers). Its goal is to recognize and reward America’s hospital industry for taking big leaps forward in patient safety by addressing the three types of errors referenced in the Institute of Medicine’s report “To err is human” (Kohn et al., 2000). The three initial Leapfrog Group safety practices include:

- 1 computerized physician order entry (CPOE);
- 2 staffing intensive care units (ICU) with trained specialists known as intensivists (IPS); and
- 3 evidence-based hospital referral (EHR) for five high-risk surgeries and two high-risk neonatal conditions.

These safety practices illustrate P2’s standardized quality measures. The Leapfrog Group’s three evidence-based practices have the potential to save up to 58,000 lives and prevent up to 522,000 medication errors each year (Birkmeyer et al., 2000).

The Leapfrog Group’s effort is designed to promote patient education, patient incentives, and provider rewards to drive improvements in care quality and safety. Leapfrog’s strategy has two prongs. First, purchasing principles include educating and informing employees (distributors in the SC) about preventable medical mistakes and the importance of Leapfrog’s recommended hospital patient safety practices (the “Leaps”). This is done primarily through the use of “report cards” that detail hospitals’ compliance and progress on instituting the current Leaps (see the organization’s website at [www.leapfroggroup.org/consumer\\_intro1.htm](http://www.leapfroggroup.org/consumer_intro1.htm)).

The second prong of Leapfrog’s strategy is to reward hospitals (secondary suppliers) that implement significant safety improvements either with direct payments for instituting CPOE, with directed market share, or some combination of the two. The group has developed a sophisticated actuarial model surrounding the CPOE initiative and is seeking to implement it in targeted markets. The reward strategy is based on increasing compliant facilities market share. This reward concept works in conjunction with the education strategy because it relies upon consumers (beneficiaries) choosing higher quality hospitals. Under this approach, the employers create tiered co-payment and coinsurance systems among hospitals that give incentives to beneficiaries that use better scoring hospitals. Conversely, Leapfrog’s reward strategy can be characterized as a penalization strategy, in that having market share shifted away and receiving negative publicity penalizes non-compliant facilities. The next effort has a more singular focus, targeting hospitals exclusively.

### *The Premier Quality Incentive Demonstration*

Beginning in 2003, The Centers for Medicare & Medicaid Services (CMS) began testing the effects of rewarding hospitals for providing better care. In conjunction with the Premier alliance of non-profit hospitals, about 300 facilities (secondary suppliers) across the country will submit to quality appraisals on five clinical areas for three years. The agency partnered with Premier because its Perspective Online performance tool offers more clinical measures than any other database currently available. Use of this online tool illustrates a standardized approach to clinical quality management consistent with P2. Participation is voluntary, but hospitals with the best results will get a monetary incentive from CMS (Becker, 2003).

Similar to the Leapfrog strategy, the CMS/Premier program uses both rewards and disincentives to attempt to improve quality. Hospitals performing in the top 10 percent in five clinical areas (coronary artery bypass graft, heart attack, heart failure, hip and knee replacement and pneumonia) receive a 2 percent bonus payment through Medicare and hospitals in the second 10 percent receive a 1 percent bonus (Gebhart, 2003). Institutions that have not improved during the course of the three-year demonstration lose 1 percent of their Medicare funding. The three year pilot project will cost the between \$7 and \$8 million in direct financial incentives (McGee, 2003). The Premier/CMS program is not the only one to address government-covered populations; the NCQA's HEDIS project addresses Medicaid and private insurance products.

### *The Health Plan Employer Data and Information Set*

The Health Plan Employer Data and Information Set (HEDIS) is administered by the NCQA and is a health plan report card targeting distributors' SC. The report card is a patent example of P2's standardized data and reporting formats. Plans that perform well receive NCQA accreditation, which is a requirement of many employers, Medicare, and Medicaid. HEDIS is among the oldest SCM tools currently available to health care purchasers. It is a series of measures to help large commercial purchasers of health care monitor quality at the plan level. HEDIS's potential influence lies in the ability of purchasers to compare, in uniform terms, one health plan to another and individual health plans over time. The measures in HEDIS are related to public health concerns, access to care, consumer satisfaction, utilization patterns, organizational stability, and costs. The burden then rests with purchasers to make use of the information in selecting plans, negotiating contracts, and setting rates for beneficiaries. However, there is little evidence to support the suggestion purchasers are making use of the information for those purposes (Scott, 1998; Rose, 1998; Reese, 1999). Like HEDIS, the final initiative to be profiled targets the purchaser tier of the SC.

### *The eValue8 collaborative*

The eValue8 collaborative began in 2000 with eight coalitions (hence eValue8) sponsored by the National Business Coalition on Health, and, like Bridges to Excellence, shows tentative movement to join all three study proposition areas. Since its inception, the number of firms and coalitions participating has grown to 18 in 2003, illustrating P1's wide-ranging market collaboration. The broad aim of the eValue8 collaborative is to improve the quality of services provided by health plans and create a value-based purchasing system using a single national quality standard. Use of this single standard aligns with P2's common reporting protocols. Specifically, the eValue8 collaborative is attempting to change the way employers and purchasing coalitions compare and contract with health plans. The eValue8 request for information (RFI) was used to assess 86 health plans in 21 states during the spring of 2003.

The eValue8 RFI is a standardized, web-based questionnaire used to create health care performance reports for HMOs and PPOs (Paranjpe, 2003). The RFI reports performance in several key areas including: member and provider communications, disease management, behavioral health, and financial stability. Each of these areas constitutes a module of information. In the three years it has been used, NBCH has added new modules, such as asthma disease management assessments, and refined existing modules to reflect the most recent scientific standards in each successive year, thus exhibiting cyclical improvement posited in P3. In addition, the RFI incorporates and builds upon the standards set by NCQA (HEDIS) and the Joint Commission for the Accreditation of Healthcare Organizations (JCAHO). Similar to HEDIS, eValue8 is premised upon purchasers making effective use of the data in rewarding better performing plans and penalizing poorer scoring ones. The following section addresses barriers to success faced by the CPC initiatives.

### **Barriers to success for current national CPC initiatives**

To paraphrase Leo Tolstoy, "All successful CPC initiatives are alike; all unsuccessful CPC initiatives fail in their own unique way". While the tenets of SCM and CPC make sense in theory, it may not be possible to realize the related benefits because implementation is extremely difficult and health care has management challenges that make it different from other services sectors (Fotler, 1981). Many barriers that are common to

CPC are more pronounced along the healthcare stream of services. Six barriers to success that threaten healthcare CPC initiatives include:

- 1 widespread resistance to change;
- 2 information system problems;
- 3 the Health Insurance Portability and Accountability Act (HIPAA);
- 4 the required time investment;
- 5 lack of commitment to CPC principles; and
- 6 the sustainability of the CPC business model.

### *Widespread resistance to change*

There are a variety of reasons for healthcare suppliers to be resistant to change. One common theme that contributes to resistance is that stakeholders from every part of the SC feel constrained in modifying their behavior (Nichols et al., 2004). Recognition and agreement among stakeholders that there are systemic problems reinforces the belief that most individually targeted efforts are futile.

The resistance problem does not necessarily start at the primary supplier level, clinicians, but it does exist there. Doctors and nurses are reticent to abandon decades-old ways of doing things and may perceive that the benefits from many changes are not worth the costs. Providers may be technophobic or unwilling to relinquish autonomy to automated decision support systems. Some may be too busy or focused on their own priorities to see the importance of quality initiatives or cost control to their work. Still others may be so knowledgeable about systems and business processes that they have their own ideas about what is best for their organization and seek to implement those plans rather than common initiatives.

Among secondary suppliers, hospitals are concerned about changes that are not demonstrated to be cost-effective or that compete with other priorities. Hospital administrators face a number of competing agendas in making capital expenditure decisions and political pressures can carry as much influence as cost-effectiveness analyses. For example, a radiology department may wish to purchase the latest imaging equipment in order to maintain parity with a department across town, although the community does not warrant the additional capacity. Nevertheless, the administrator has an important constituency to maintain and they may induce the additional demand that eventually justifies the end. Therefore, administrators too prefer to take a wait-and-see attitude to costly programs that come at the expense of other more tangible alternatives and inherently burden their upstream suppliers.

At the distributor level, consumers are also resistant to change. Empirical studies indicate that large quality differences are required to make consumers indifferent to changes in provider access (Harris, 2002). Consumers prefer to have a wider selection and do not necessarily differentiate on quality. From a health plan's perspective, changes are often accompanied with additional administrative overhead and burdens. Further, plans often lack sufficient leverage with any given provider to institute change. Many CPC initiatives are relying upon improved information systems and increased communication to solve the resistance barrier, but information systems themselves constitute a barrier.

### *Information systems*

Health care is one of the most information-intensive of all industries. Millions of information transactions occur and are recorded annually resulting in billing documents, care instructions, prescriptions, and a host of other critical actions (Landro, 2003). There are huge sums of money involved and lives hang in the balance.

“Yet the actual technologies used to collect, manage, and distribute most of our medical information remain the pen, paper, telephone, fax, and Post-it note” (Kleinke, 2003, p. 276).

There are numerous barriers to successful information technology implementation across the SC. They include technical and infrastructure obstacles, initial implementation costs, provider resistance, current reimbursement structures, and lack of uniform standards that would allow products from different vendors to work together. Other industries have been able to adopt common standards either through the dominance of a few companies or by government mandate. Neither has occurred thus far in health care. With respect to possible industry solutions, the vendors that supply health information systems are numerous to begin with, growing in number, and prone to mergers, acquisitions, and failures. As the industry sector seeks stability among participants, physicians (primary suppliers) and administrators (secondary suppliers) frequently are left with “legacy systems” containing data that is incompatible with new products (Lumpkin, 2000). Despite these setbacks, government regulations and requirements do seem to be making some headway, but also create new limitations.

### ***The Health Insurance Portability and Accountability Act (HIPAA)***

The 1996 Health Insurance Portability and Accountability Act (HIPAA) is both a facilitator and barrier for the development of integrated CPC initiatives. As a facilitator, HIPAA rules establish the first uniform set of definitions for more than 400 data fields and those fields’ content. While these codes may serve as the basis for a larger set of standards that extend all the way to a full electronic medical record, the process for making this transition is still fluid. However, HIPAA does have specific provisions regarding the sharing of any data already.

Contrary to the name of the legislation, the most far-reaching aspects of HIPAA relate to protecting the health information of individuals, with regulations restricting the collection, sharing, transfer and use of health related information. HIPAA has specific implications for employer sponsored health and benefits programs, both in terms of how employers can access and use information regarding employee health, as well as how contracted vendors can use and share such information (Stanton et al., 2003). Given the very nature of CPC relies on the open sharing of information this legislation adds both cost and time delays to any initiative.

### ***Lack of time investment by employers***

Time factors serve as another significant barrier to successful CPC initiatives. The effort associated with these initiatives typically requires considerable time and involves significant investments in resources from employers. At the end of the SC, top management in major public corporations must pay attention to Wall Street, and, as a consequence, to short-term performance. That in turn means that health care initiatives with an uncertain internal rate of return (IRR) are eschewed in favor of other more tangible product development efforts. Second, the primary impetus for change, healthcare inflation, is cyclical in nature (Heffler et al., 2003). Double-digit inflation this year may be a cause for action, but next year’s negligible change means that funding for the CPC initiative can be better spent elsewhere. Therefore, initiatives come and go with little time for changes to take hold or demonstrate significant value. This phenomenon plays into the hands of the SC stakeholders who are resistant to system changes, believing that employers lack the commitment to see change through.

### ***Lack of commitment to CPC principles***

Many large employers lack the organizational commitment to see CPC initiatives through to a profitable or effective end. In part this stems from the fact that the initiatives typically originate from the human resources (HR) department rather than an operational unit. This creates three distinct problems:

- 1 health care benefits management is not viewed as being a core business and does not get the backing or consistent attention of the organization’s top management team;

2 surprisingly little is known about the value received for expenditures on these programs, and this lack of evidence has perpetuated the inactivity status quo (Scanlon et al., 2006); and

3 the benefits staff typically ranges from 2.5 full-time-equivalent (FTE) employees at firms with less than 1,000 employees, to ten FTEs for firms with more than 5,000 employees (Huth, 2001).

The lack of staff leads to CPC work being given a low priority among the many other tasks the HR staff must execute. The net effect of these phenomena is that health benefits CPC initiatives are not important to anyone in the organization with the wherewithal to implement them fully. Therefore, the business case is difficult to support at the organization level and even more onerous to demonstrate at the collaborative level.

### ***Concerns surrounding the CPC business model for health care purchasing initiatives***

The collaborative aspect of CPC initiatives creates some of the largest barriers to success originating from the end consumers' perspective. Central to the ability of collaborating purchasers to aggregate sufficient market power to improve efficiency along the SC is the need for scale. Many in the private sector do not believe that employers possess the ability to push the system toward efficiency and quality operating unilaterally or even in small groups in most markets.

In surveys of the eValue8 RFI project and The Leapfrog Group's market leaders nearly every respondent believes that the sustainability of the project hinges on three things happening. The first is the rapid expansion of the number of employers and coalitions participating in the initiatives. Both groups felt that significant marketing would be required to increase the number of purchasers actively engaged in the CPC initiative. Second, they felt that most initiatives' members had not taken the next logical step in the CPC process and created incentives, or disincentives, to other stakeholders for better SC performance. Lastly, many employers were concerned that the time and money they were contributing to third-party initiatives were not going to yield demonstrable results in the foreseeable future. The net result of these concerns and other aforementioned barriers leads to several possible conclusions on the possibility of success.

### **Conclusions**

No national health care initiative to date can be described as an unqualified success in terms of its ability to align the SC. Nor have any fully developed all three study proposition conditions that would characterize a completely functional collaborative. But individually, and to some extent collectively, the aforementioned programs are making some headway. In fact, some of the programs are joining forces at the national level. In addition, some employers are using the national programs in concert in local markets to influence the SC. Therefore, a macro-level form of CPC may be emerging as these efforts coalesce and evolve.

The current study is a broad qualitative evaluation of several programs designed to be descriptive, rather than confirmatory, in nature. To this extent it is very limited in its ability to assess the five national efforts' impacts on the marketplace. Future studies may overcome this limitation through empirical analyses of discreet health outcomes and costs over time.

Our study contributes to the SCM literature in four ways. First, the study fills information gaps about the CPC principles that are shaping purchasers' efforts to improve quality and control costs in the health care sector. Second, it delineates and graphically depicts the barriers to effective program implementation CPC-based efforts are likely to encounter. Third, the paper describes five nationwide programs currently in the market place. Lastly, the work suggests some important issues that SC and health services researchers may wish to explore.

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