Improving the Quality of Workers' Compensation Health Care Delivery: The Washington State Occupational Health Services Project

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IMPROVING THE QUALITY AND COST-EFFECTIVENESS OF health care has become a central focus of the nation's health policy agenda. Studies conducted over the past two decades on different patient populations and on varied types of medical care (preventive, acute, and chronic) have consistently documented quality-of-care problems (Chassin and Galvin 1998; Schuster, McGlynn, and Brook 1998). These problems have included the failure to provide care judged to be needed (Starfield, Powe, Weiner, et al. 1994; Weiner, Parente, Garnick, et al. 1995; Brechner, Cowie, Howie, et al. 1993), as well as the delivery of care considered medically unnecessary or inappropriate (Restuccia, Kreger, Payne, et al. 1986; Chassin, Kosecoff, Park, et al. 1987; Bernstein, Hilborne, Leape, et al. 1993; Graboys, Biegelsen, Lampert, et al. 1992). A wide array of organized efforts and formal initiatives has been developed to improve the quality of health care (Marciniak, Ellerbeck, Radford, et al. 1998; Center for Health Studies 2000). In addition, literally hundreds of treatment guidelines, practice parameters, and clinical pathways have been developed in an effort to improve health outcomes and enhance quality (Woolf 1990; Hayes 1994; Chassin 1993).

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Within the field of workers' compensation, the quality of occupational health care has been a longstanding concern. Studies indicate that the outcomes of care for workers' compensation are worse than the outcomes for similar procedures provided for non-work-related conditions (Greenough and Fraser 1989; Javid 1992; Katz, Lew, Bessette et al. 1998). This article discusses some of the important challenges confronting the workers' compensation system in regard to improving quality, and describes how Washington State has responded to these challenges through a series of collaborative research and policy initiatives involving the Washington State Department of Labor and Industries (DLI) and the University of Washington (UW) in partnership with the business, labor, and provider communities.

Workers' Compensation: Background and Key Challenges

Workers' compensation provides payment for medical care needed to treat occupational injuries or illnesses, replaces a portion of lost earnings arising from temporary disability, and provides indemnity benefits for workers with permanent impairment. Most workers' compensation programs are administered and regulated at a state level. However, U.S. government employees are covered under separate federally administered programs. Employers are required by law to have workers' compensation insurance; nonetheless, different jurisdictions vary widely in how workers' compensation benefits are provided. The extent of benefits, specifics regarding access to care, and who directs that care (employer, worker, or physician) are not consistent across states (Burton 1995). States may allow coverage through employers' self-insurance programs, through private insurance carriers, or through state-fund programs (Eccleston 1995). In six states, including Washington, employers that are not self-insured are required to purchase workers' compensation insurance through a state fund. Nationwide, private insurance carriers account for approximately half of the total workers' compensation payments, with the other half evenly divided between state funds and self-insured employers. In 1996, aggregate workers' compensation costs on a national basis were approximately $44 billion, or $390 per covered worker. Medical care accounted for $17.3 billion, while indemnity payments for lost wages totaled $26.7 billion (U.S. Census Bureau 1999). Throughout the 1980s,

workers' compensation costs rose rapidly, exceeding the annual rate of increase in general medical expenditures (Telles 1993). The rate of increase in workers' compensation costs slowed during the first half of the 1990s, but recent data suggest that this favorable cost trend may be ending (National Council on Compensation Insurance 2000).

Not only are treatment outcomes worse for workers' compensation than for general medical care (Greenough and Fraser 1989; Javid 1992; Katz, Lew, Bessette, et al. 1998), medical costs for the treatment of similar conditions are higher (Baker and Krueger 1995; Johnson, Baldwin, and Burton 1996). Serious and costly disability poses another problem for workers' compensation. Research indicates that 5 to 10 percent of the injured workers with back problems or musculoskeletal injuries who suffer long-term disability incur 75 to 85 percent of total workers' compensation costs (Hashemi, Webster, Clancy, et al. 1997; 1998). Yet the workers' compensation system has paid relatively little attention to the important issue of disability prevention. Workers who are unable to return to productive employment within three to six months of an injury have a dramatically reduced chance of ever returning to the workforce (Cheadle, Franklin, Wolfhagen, et al. 1994). The majority of these cases involve noncatastrophic injuries that should not become disabling (Cheadle, Franklin, Wolfhagen, et al. 1994). The personal and financial consequences of this disability burden are great (Fulton-Kehoe, Franklin, Weaver, et al. 2000).

Employers and workers' compensation insurers have responded to the cost and quality problems by initiating case management, by adopting cost containment approaches such as fee schedules and inpatient case-based reimbursement procedures, and, more recently, by developing managed care programs. These strategies have tended to focus on short-term utilization and cost control objectives. Less attention has been paid to addressing the more fundamental, underlying problems in the workers' compensation health care delivery system that have resulted in excessive worker disabilities, poor quality of care, and high costs. For example, case management is rarely integrated within the occupational health care delivery system and usually focuses on managing costly cases once a worker has suffered significant disability rather than on disability prevention. Similar limitations are evident with regard to the use of managed care. Large employers in Florida can direct injured and ill workers to non-occupational-medicine preferred provider organization (PPO) networks. Because these PPOs have agreed to provide care on

a discounted fee-for-service basis, they may generate some initial cost savings for employers. However, these managed care approaches fail to address the long-term outcomes and disability consequences unique to occupational diseases and injuries.

Our research and policy investigations, described in more detail below, have highlighted four key challenges we believe must be addressed in order to improve quality within the workers' compensation system in Washington State. These same challenges would apply to other workers' compensation systems and also have relevance for general medical care.

1. Appropriate administrative and financial incentives have to be developed to encourage the delivery of care that will lead to improved health outcomes, while maintaining the worker's freedom to choose a provider. In Washington State, injured or ill workers by law have the right to choose any licensed medical, chiropractic, osteopathic, or naturopathic physician for their treatment of work-related injuries or illnesses. Even in states that allow employers to direct care to designated providers, workers can often choose other providers after the first 30 days. Thus the challenge is to craft incentives that will promote improved quality while maintaining patient choice.
2. A second challenge concerns the appropriate level of system intervention. The impact of occupational injuries often transcends the worker, or even the employer. High rates of occupational injuries resulting in a significant disability burden can have a broader impact on the productivity of a community. Further, to be effective, efforts to improve quality and prevent injury have to involve multiple employers as well as a large proportion of a community's physicians. These factors argue for adopting a community-based public health approach to quality improvement and injury prevention. While desirable, this community approach introduces additional challenges in the form of program design and implementation issues.
3. The incidence of occupational injuries in most communities is relatively low. During any year, approximately 10 to 15 percent of all workers will sustain an occupational injury, but the majority of these injuries are not serious and involve little lost work time. The average family practice physician may see two or three patients per month with an occupational injury. Given the low numbers

of injuries and the diffuse nature of treatment, developing interventions that prevent injured workers from "falling through the cracks," and thereby developing serious long-term disability, presents a predicament. It would be costly and inefficient to use educational strategies for all community physicians. A more targeted approach is called for that can provide correct incentives to promote better quality, yet also provide a mechanism for timely identification of patients who may be at risk for serious long-term disability. Thus, the challenge is to develop quality improvement mechanisms that can reach large numbers of physicians and also provide appropriate case identification for the small percentage of patients at risk for serious disability.

4. Finally, quality improvement initiatives within workers' compensation must recognize the special characteristics and political context of this system. The distinguishing features of the workers' compensation system results from how benefits are paid (Franklin, Lifka, and Milstein 1998) and the nature of the historic legal agreement between employers and workers that established the workers' compensation system (Raville and Escarce 1999). Employers were required to pay the cost of medical care and to replace a fraction of workers' lost earnings. In return, workers agreed to accept limitations on the tort damages available to them. To be successful, policy changes and program initiatives involving workers' compensation must address the differing—and often conflicting—interests of employers and workers. The challenge here is to develop and sustain effective employer-worker partnerships that create opportunities for quality improvement initiatives within the workers' compensation system.

Our experience in developing quality improvement strategies to meet these challenges is described below. We begin by briefly reviewing the policy environment in Washington State that permitted large-scale policy studies to be conducted, which then provided the foundation for our current quality improvement efforts.

Washington State's Policy Environment

A number of key factors facilitated the initiation of the policy studies that laid the groundwork for our quality improvement initiative. These

factors include: (1) good relations between the Department of Labor and Industries and key stakeholder groups in the business and labor communities, (2) formal ties between the DLI and the medical and chiropractic communities, (3) a close collaborative partnership between the DLI and University of Washington health services researchers, and (4) the availability of population-based data systems containing detailed information about injuries, medical care services, lost work time, and disability payments. The DLI's relations with the business, labor, and practitioner communities helped ensure broad support for the policy studies. Its collaborative partnership with UW allowed it to make use of faculty resources to ensure that the policy studies were rigorously designed and implemented in a scientifically sound manner. The data systems maintained by the DLI afforded the research team access to detailed claims data for the population of workers insured through the DLI. In combination, these factors provided an ideal environment for conducting the policy studies.

An additional factor of importance to our quality improvement initiative was the regulatory environment of Washington State, which made it possible to obtain exemptions from regulations for the purpose of systematically pilot-testing policy changes, gleaning experience from them, then using the results to inform future tests and policy refinements. A Stanford University study of the 20th century's most successful and visionary corporations reported that their success could in large measure be attributed to innovation, evaluation, and testing regardless of whether a given initiative itself was successful (Collins and Porras 1994). The key to sustained success turned on "experimenting" with innovations and then applying what was learned to future efforts.

Two pilot studies helped inform and shape our current work. The first, the Long-Term Disability Prevention Pilot, was an administrative intervention that randomized more than 8,000 employers and 10,000 claims in two regions of the state into two different claims administration groups (McDonald, Wolfhagen, and Franklin 1998). The "intervention" group consisted of intensive claim management involving reduced caseloads and early access to services, while the comparison group consisted of standard claims management in use at the time. Although this administrative intervention improved satisfaction with service, it demonstrated no significant reductions in time-loss (disability) costs or medical expenses.

The second pilot project, known as the Washington State Workers' Compensation Managed Care Pilot Project, was a delivery system

intervention that changed how care was organized and coordinated. As discussed below, the project demonstrated important effects on both medical costs and disability costs.

Washington State Workers' Compensation Managed Care Pilot Project

In 1993, as part of the statewide health reform effort, Washington State initiated the Managed Care Pilot (MCP) Project. The pilot project was designed to assess the effects of providing injured workers medical treatment through designated occupational health care networks under managed care arrangements. The DLI was assigned responsibility for the MCP. Both the reimbursement method and organization of care were changed through the MCP.

- The method of payment was changed from traditional fee-for-service, based on the DLI fee schedule, to experience-rated capitation, whereby the participating health plans assumed financial risk for the medical care services provided to injured workers under the MCP. Each firm enrolled in the MCP paid a capitation rate according to a formula that took account of its past claims experience and risk status.
- The delivery of care at the clinic level was changed from the traditional model, in which the worker could choose to see any willing authorized attending doctor, to an occupational medicine model, in which care is provided by a limited network of physicians who have some training in occupational medicine and work under the supervision of an occupational medicine medical director. This model emphasizes coordination of care and ongoing follow-up aimed at getting the injured worker back to work in a timely manner.

The DLI selected two health plans through a competitive bidding process, which sought organizations with a high level of occupational health care expertise and organized delivery strategies that could meet the unique needs of injured workers and employers. Enrollment in the MCP by employers was voluntary. Employers wishing to enroll in the MCP had to follow a protocol that gave employees an opportunity to vote for or against enrollment. If employees were unionized, their legal union representative could decide whether to authorize participation

in the MCP. For nonunionized firms, a majority of the employees who voted had to vote affirmatively to authorize participation in the MCP. If a majority of voting employees did so, all employees were bound by the vote and had to obtain medical care for the treatment of injuries through the MCP.

Eventually 120 employers, with approximately 7,000 workers, enrolled in the MCP. The primary requirement for participation was that workers injured between April 1, 1995, and March 31, 1996, had to receive medical care through designated occupational health care networks for a period of nine months after the illness or injury. If the claim was still open after nine months, the worker reverted to the normal fee-for-service arrangement and was free to obtain care from any provider. The 120 MCP firms were matched to 396 comparison firms, with 12,000 workers, whose injured workers received standard fee-for-service care. Injured workers treated within the occupationally focused managed care plans were compared with injured workers in fee-for-service plans with regard to satisfaction, health outcomes, and medical and disability costs.

The evaluation found no meaningful differences between managed care and fee-for-service patients in health outcomes (Kyes, Wickizer, Franklin, et al. 1999). However, it did find important and statistically significant differences favoring managed care patients (see figure 1) in medical and disability costs (Cheadle, Wickizer, Franklin, et al. 1999).

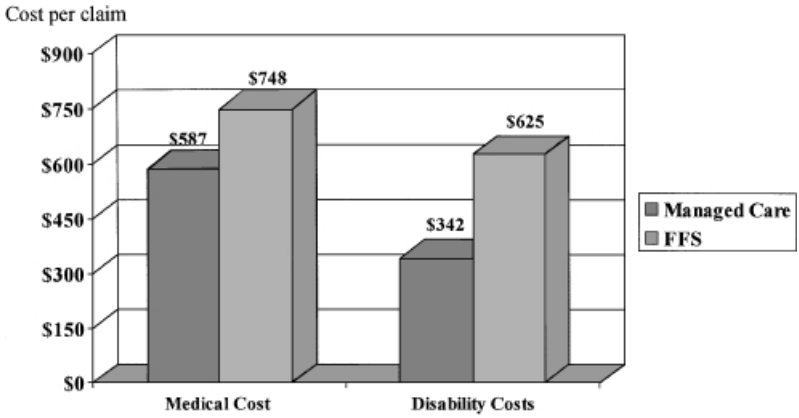

FIG. 1. Washington State managed care pilot project: differences in medical and disability costs between managed care and FFS patients. *Source:* Adapted from Cheadle, Wickizer, Franklin, et al. 1999.

On average, medical costs per claim were 22 percent lower for managed care patients ($587 versus $748). The reduction in disability costs was even greater. This difference resulted primarily from fewer managed care patients being placed on disability (disability payments begin after four days of lost work time). Whereas 14.7 percent of the injured workers in the managed care group received time-loss (disability) payments, 19.2 percent of fee-for-service patients did so. Moreover, managed care patients on disability had lower disability payments than fee-for-service patients ($2,332 versus $3,446).

The managed care plans were not at risk for disability payments, only for medical costs. The capitation rate did not include disability payments; rather, the DLI made them in the usual way. What then explains the lower disability costs among the managed care group? We believe the explanation lies in improved integration and coordination of care and in more frequent communication achieved by the managed care plans through the occupational medicine model (Wickizer, Franklin, Plaeger-Brockway, et al. 1997).

Sparks and Feldstein (1997) described the occupational medicine model and the coordinating function played by the primary occupational medicine physicians (POMPs) working within this model thus:

> [O]ccupational medicine physicians possess unique core competencies in recognition and prevention of occupational illness, injury and disability, knowledge of workplace hazards and job duties, and understanding of the workers' compensation system. . . . All of the care management was coordinated by the POMP and the front-line nurse case manager in the clinic. . . . Occupational medicine specialists have always provided some form of coordinated care for injured workers. The differences in the MCP, however, was that the POMP's were responsible for coordinating and tracking care for patients whether or not they received their initial care through the occupational medicine clinic.

The MCP made extensive use of treatment guidelines and protocols, which were used concurrently as well as retrospectively to perform utilization management functions. Integrated case management was an important feature of the MCP. As Sparks and Feldstein (1997) noted:

> Proactive case management, beginning at care initiation, was provided by the nurse case manager in consultation with the POMP. The case management was performed from the clinical delivery site rather than

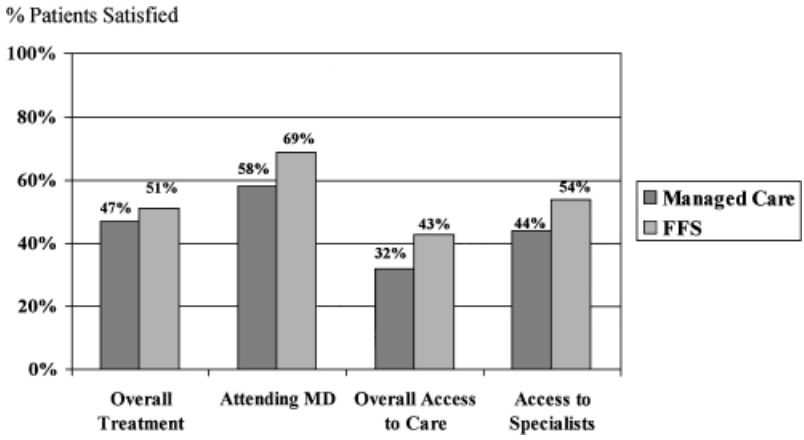

FIG. 2. Washington State managed care pilot project: differences in satisfaction among managed care and FFS patients. *Source:* Adapted from Kyes, Wickizer, Franklin, et al. 1999.

by the insurance company or the employer, and the nurse case manager was the patient's advocate. The success of the care coordination and the employers' perceived improved quality of communication was, in part, dependent on the skills and personality of the nurse case manager.

The cost savings achieved through managed care came at the price of reduced patient satisfaction (figure 2). Managed care patients were less satisfied than their fee-for-service counterparts with treatment overall, but the disparity in satisfaction was greater with regard to access to care. The lower satisfaction among managed care patients probably resulted from two factors: (1) restrictions placed on provider choice and (2) the limited number of occupational health care clinics operated by the managed care health plans.

Long-term Follow-up of Patients Treated in the MCP

The results of the MCP evaluation showed that a managed health care delivery system, based on an occupational medicine model, could reduce short-term medical and disability costs without compromising the quality of care. Left unanswered was the important question of long-term effects. Early return to work may have increased the risk of reinjury

among managed care patients, with attendant consequences for long-term health and employment outcomes.

With funding from the Robert Wood Johnson Foundation's Workers' Compensation Initiative, we conducted a two-year follow-up study to assess the long-term health and employment outcomes, and the medical and disability costs of workers treated through managed care compared with workers treated in fee-for-service settings. We found no evidence to suggest that early return to work, observed for managed care patients relative to fee-for-service patients, had any important effect on long-term health or employment outcomes (Kyes, Wickizer, and Franklin, 2001). At two years postinjury, the functional status, level of employment, and wages among managed care and fee-for-service patients were similar. Medical and disability costs per claim increased for both groups, but the magnitude of the increase was greater for fee-for-service patients, in both relative and absolute terms. Medical and disability costs for managed care patients rose from $587 to $678 (16 percent) and from $342 to $414 (21 percent), respectively, while the same costs among fee-for-service patients rose from $748 to $934 (25 percent) and from $625 to $922 (48 percent).

Since the MCP evaluation was not based on a randomized trial, we cannot be absolutely certain that the differences in costs did not result from some unmeasured confounding factor. However, the MCP evaluation carefully matched the managed care and comparison firms on factors known to affect injury risk and costs, and the mix of injuries was similar in the two groups (Cheadle, Wickizer, Franklin, et al. 1999). Thus, there is no evident reason to believe that the observed differences in costs would be due to a serious problem of bias.

Post-MCP Policy Analyses

The findings of the MCP evaluation and long-term follow-up study presented the DLI with a challenge. As a "worker choice" state, Washington Industrial Insurance Laws guarantee workers freedom of choice to select their own attending physician. Although tangible benefits to workers could be documented from the MPC data, the Industrial Insurance Law precluded directing workers to defined occupational health networks after the study ended. As a step toward identifying approaches and programming design options that would build on the MCP and respond to

the challenges discussed earlier, the DLI initiated a policy project to identify innovative, network-based occupational health programs under development or in operation elsewhere (Schulman, Schwartz, and Wickizer 1997). To gather information for the project, a UW research team conducted key informant telephone interviews with occupational health analysts, program managers, researchers, and administrators around the country. The interviews covered the structure of the service delivery system, primary prevention activities, disability prevention, return to work, dispute resolution, performance assessment, and the use of incentives to encourage patient and employer participation in occupational health networks.

Information gathered through the interviews indicated considerable variation in the approaches used to develop occupational health network delivery systems. Because of the lack of rigorous evaluation, the research team was unable to assess the merits of particular approaches or specific programs, but several useful insights emerged from the study. First, the majority of informants stressed the importance of early intervention to reduce the risk of long-term disability. Second, informants consistently noted the importance of return to work as the key priority in the development of new occupational health delivery programs. Third, informants often acknowledged the importance of primary injury prevention but cited cost and the lack of appropriate incentives within the delivery system as barriers to conducting primary prevention activities. Fourth, informants stressed the need to have occupational medicine physicians overseeing the delivery of care within an occupational health network, and emphasized the importance of offering appropriate incentives to encourage provider and patient participation in these networks.

The findings and experience gained from these pilot studies and analyses helped focus attention on the preeminent importance of a health delivery incentive model as a future strategic direction for improving health outcomes and preventing disability. This, in turn, led to the initiation of a major, ongoing policy study known as the Occupational Health Services project.

The Occupational Health Services Project

The first component of the Occupational Health Services (OHS) project was a 12-month policy study (Wickizer, Shulman, Schwartz, et al. 1998) that sought to identify specific policy options and recommendations

the Department of Labor and Industries could use to develop a quality improvement initiative. A second goal was to secure agreement with the business and labor communities regarding specific project objectives of this initiative. An advisory group, consisting of a statutory business and labor subcommittee on health that met periodically throughout the project, was established for the study. The OHS project was guided by the following aims:

- Retaining the voluntary nature of the worker's ability to select providers.
- Expanding the capacity of occupational medicine delivery systems.
- Increasing provider accountability for delivery of efficient and effective care with improved outcomes.
- Improving worker and employer satisfaction.
- Encouraging participation in new delivery systems through the use of economic incentives.

Over the course of the project, the research team conducted a series of activities to generate the policy options. These activities included conducting key informant interviews with occupational health clinicians, administrators, and researchers; convening expert panels consisting of medical and chiropractic physicians to discuss specific quality improvement methods that could be implemented within the state workers' compensation system; and performing extensive literature reviews.

The information gathered through these activities was systematically presented to the advisory group for review and comment. To help guide these discussions, the research team developed a conceptual model (figure 3) that represents a continuum of care corresponding to different levels of clinical efficiency (Donabedian, Wheeler, and Wyszewianski 1982). As defined by Donabedian, clinical efficiency embodies quality as well as costs, and represents medical care treatment patterns that achieve the greatest gain in incremental health status for a set expenditure level. For our purpose, costs include both medical and disability expenses. Figure 3 represents a hypothetical population of health care providers treating patients with similar occupational injuries or illnesses. Some providers—by virtue of their practice style, understanding of occupational medicine, and therapeutic skills—would render care in a way that would be expected to yield more clinically efficient outcomes than other providers.

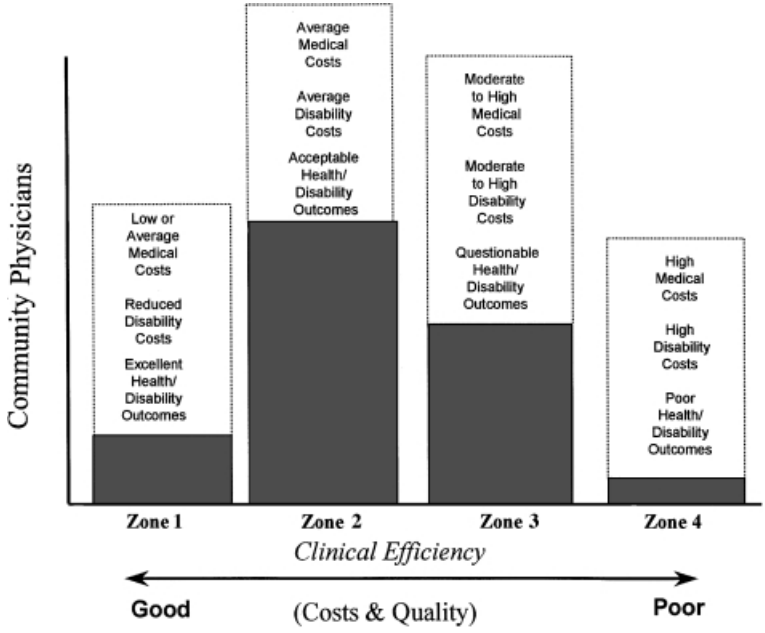

FIG. 3. Continuum showing different zones of clinical efficiency for a hypothetical population of community physicians treating similar injured workers.

Providers whose treatments are highly clinically efficient fall into zone 1 in figure 3. Treatments in this zone would be characterized by low or average (medical and disability) costs but above-average outcomes. Physicians with occupational health expertise whose clinical practices emphasize return to work and disability prevention may provide care that yields clinically efficient outcomes characteristic of zone 1. The majority of providers fall into zone 2, providing care at average cost and yielding acceptable outcomes. Zone 3 represents care that is of moderate cost but which yields questionable outcomes. An example of this type of care might be extended rehabilitation, which may add to costs but not ultimately improve patient outcomes. Zone 4, the farthest to the right on the continuum, represents care that is costly but yields poor health outcomes. Physicians who perform potentially inappropriate invasive surgical procedures fall into zone 4 (Franklin, Haug, Heyer, et al. 1994; Franklin, Fulton-Kehoe, Bradley, et al. 2000).

The model shown in figure 3 served as a heuristic device that helped clarify and shape our thinking about potential quality improvement

approaches. The focus of many past quality assurance efforts, at the DLI and elsewhere, has been on zone 4 care, that is, physicians who provide care that is clearly inappropriate or unnecessary. While useful, this does little to improve the overall level of quality or clinical efficiency among the majority of physicians, whose care falls in zones 2 and 3. The DLI's purpose was to develop quality improvement approaches that could potentially reach the most community physicians providing occupational health care. We recognized that a different approach would be needed to address the more serious quality problems for the small percentage of physicians in zone 4.

Ultimately, the OHS research team recommended, and the advisory group approved, a set of core strategies intended to provide the basis for a quality improvement initiative that would be designed and implemented over six years and subjected to rigorous evaluation. These core strategies, described in more detail by Wickizer, Shulman, Schwartz, and colleagues (1998), are outlined below.

Strategy 1: Develop Systems to Track Worker and Employer Satisfaction with Occupational Health Care

Within the worker's compensation field, there is limited understanding of the factors associated with patient satisfaction or of the specific sources of dissatisfaction, and even less understanding of employer satisfaction. At the same time, research shows that patient satisfaction is related to compliance with medical care recommendations (Sherbourne, Hays, Ordway, et al. 1992), provider continuity (O'Brien, Petrie, and Raeburn 1992), and a lower propensity to sue for malpractice (Hickson, Clayton, Entman, et al. 1994). Although research in the general medical domain has found reasonably high levels of satisfaction among the general patient population (Miller and Luft 1994), workers' compensation patients tend to have high levels of dissatisfaction, as in Washington State (see figure 2).

Strategy 2: Develop an Outcome Tracking System to Monitor Provider Performance

Developing a mechanism to track patient outcomes was central to the overall objective of quality improvement and to the specific aim of improving provider accountability. While considerable work had been

done to develop health outcome and functional status measures for patients receiving general medical care, less developmental work had occurred within the workers' compensation area. Further, outcomes other than patient functional status—such as return to work—are relevant for worker's compensation, and feasible methods for tracking these outcomes had to be identified and tested. Thus, initial exploratory work had to be performed to examine the following questions: (1) Which conditions or treatment should be tracked? (2) Which measures should be used? (3) How can a mix of self-reported and administrative data be used to track outcomes? (4) How should adjustments be made for case severity? (5) How should the outcome information be communicated to providers, workers, and employers?

Strategy 3: Develop Centers of Occupational Health and Education to Promote Improved Quality of Care, Timely Return to Work, and More Effective Primary Injury Prevention

A key aim of the OHS project was to expand the capacity to deliver high-quality occupational health services. Analysis suggested this aim could be furthered through the development of community-based Centers of Occupational Health and Education (COHEs). Two COHEs were to be developed initially on a pilot basis. These pilot centers would: (1) use administrative data provided by the DLI to monitor occupational health care provided by community physicians in order to identify cases potentially at risk for long-term disability and thus in need of intervention; (2) engage in primary injury prevention activities with employers in the community; and (3) provide ongoing mentoring of community physicians to help them improve the quality of care provided to injured workers and foster more timely return to work. The pilot centers would also have the capacity to provide direct occupational health services, based on an occupational medicine model.

Strategy 4: Develop New Contracting and Payment Mechanisms, Based on Performance Standards

Improving provider accountability within the workers' compensation system was a major goal of the OHS project. After considering several

strategies, the OHS research team decided that this goal could best be met through performance-based contracts. By establishing clear expectations for the desired level of care and linking these expectations to contract mechanisms, performance-based standards provide significant potential to improve quality (Christian and Zampini 1990). The team envisaged two types of contracts: center-based contracts between the DLI and the organization(s) serving as the pilot Centers of Occupational Health and Education, and provider-based contracts between the COHEs and community physicians. The center-based contracts would set forth the COHEs' responsibilities in regard to performance of activities such as physician mentoring, care monitoring, disability prevention, and primary injury prevention. The provider contracts would establish performance standards based on quality (process) indicators and, in addition, allow the DLI to reimburse physicians for activities considered important for improving health outcomes, such as communicating with employers.

Strategy 5: Develop Strategies to Improve Administrative Efficiency and Reduce the Administrative Burden on Providers

The workers' compensation system imposes significant administrative burdens on physicians in the form of billing requirements, referral approval procedures, and utilization management processes. The DLI's claims management system relies on written reports and telephone contact between physicians and claims managers, and many physicians perceive aspects of the current system to be burdensome and unresponsive to the needs of injured workers. Failure to obtain the required DLI treatment authorization can result in unnecessary delays, which may increase the risk of disability and ultimately increase lost work time and disability costs. By improving administrative efficiency, the DLI could further the goal of quality improvement. During the MCP project, the managed care plans successfully took on the responsibility for performing claims management functions. If certain procedural constraints were reduced by increasing the center's or physician's authority, physicians participating under contract in the quality improvement initiative could be relieved of significant administrative burdens.

Ongoing Research and Development Activities

The analysis and recommendations of the initial phase of the OHS study enabled the DLI to obtain funding from the Washington State legislature to support preliminary research and developmental (R&D) work over a two-year period beginning in July 1999. The R&D work is focusing on three conditions that account for the majority of workers' compensation claims and total costs: low back sprain, carpal tunnel syndrome, and fractures. The University of Washington team is developing satisfaction and outcome tracking systems and quality indicators for use in creating performance-based contracts, while the DLI team is designing the pilot Centers of Occupational Health and Education. Highlighted below are some of the important features of this current research and development activity.

Worker and Employer Satisfaction Surveys

The worker and employer satisfaction surveys are designed to gather information through structured telephone interviews. The surveys include both closed- and open-ended items. The key content areas covered in the surveys are shown in table 1. As indicated, the worker satisfaction survey is organized around the concept of an episode of care, which begins with the injury event and includes occupational health care services obtained by the worker to restore function and return to work. The employer satisfaction survey focuses on physician-employer communication, and elicits information about the nature and frequency of this communication and about other aspects of the workers' compensation system of concern to employers.

The worker survey will provide important baseline information on worker satisfaction and will identify the sources of greatest dissatisfaction and in greatest need of attention. Data generated by the employer survey will provide useful benchmark information as well as other valuable information for planning the quality improvement initiative. The sampling plan calls for 800 workers and 300 employers to be selected at random on a statewide basis for interviewing.

Outcome Tracking

The development of an outcome tracking system represents a key aspect of the quality improvement initiative. Much of the R&D work

TABLE 1
Content Areas of Worker and Employer Satisfaction Surveys: Washington State Occupational Health Services Project

Survey	Organizing theme	Content areas
Worker satisfaction survey	Episode of care	Injury event Initial treatment Follow-up care Specialty referrals Return to work Job modification Employment status Recovery
Employer satisfaction survey	Physician-employer communication	Health care provided to employees Return to work Job modification Job safety programs Claims management processes

within this area focuses on the design of outcome surveys, which will gather prospective data on functional status, return to work, and related outcomes. Patients within four injury groups—low back sprain, upper extremity fractures, lower extremity fractures, and carpal tunnel syndrome—will be surveyed initially within two to six weeks after filing a claim and again six months later. The outcome surveys include generic measures of functional status from the SF-36 as well as condition-specific functional status measures, such as the Roland Morris Low Back Pain Questionnaire. It is anticipated that 1,200 injured workers will be surveyed, 300 in each of the four injury groups.

In addition to providing important outcome benchmark information for the quality improvement initiative, the outcome survey will enable us to validate some of the quality indicators by correlating them with prospective outcome data. The survey, however, will serve another significant purpose. Relying solely on outcome surveys for evaluation and patient monitoring is impractical due to budget and time constraints. Efficient, low-cost methods have to be identified that can be used on a wider, ongoing basis to assess patient outcomes, such as disability days and return to work. One approach is to use administrative

data for this purpose. The DLI maintains data on time-loss days for all workers' compensation claimants; the Washington State Department of Employment Security maintains data on employment and earnings. These administrative data may provide valuable information for monitoring patient outcomes in workers' compensation cases. Thus, the R&D agenda includes research activity to determine the feasibility of using a mix of administrative and self-report data for monitoring patient outcomes.

Quality Indicators

As part of the R&D agenda, the UW research team is developing quality indicators that will (1) establish expectations for the delivery of occupational health care through the performance-based contracts, and (2) provide information to aid the Centers for Occupational Health and Education in developing quality improvement activities. Quality indicators will be developed for each of the three major conditions on which the preliminary R&D work focuses—low back sprain, carpal tunnel, and fractures. To identify existing knowledge, the UW research team is gathering pertinent information from published treatment guidelines and the clinical literature, and convening focus groups consisting of clinical experts, practicing physicians, and researchers to help identify and review potential quality indicators.

An example of the types of quality indicators considered important for workers' compensation is shown in figure 4. Time from injury to first visit, appropriate documentation of exposure history, and elapsed time to claim allowance (the time it takes for a claim to be certified as work-related and hence covered under workers' compensation) represent quality indicators that are considered important process measures in workers' compensation. These quality indicators, in turn, influence time-loss duration, a key outcome for our quality improvement initiative and for workers' compensation in general.

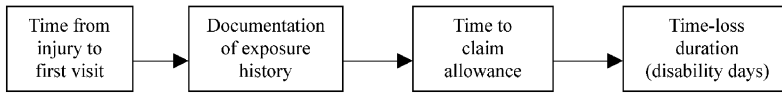

FIG. 4. Washington State Occupational Health Services Project: illustrative quality indicators.

Quality indicators are often developed using expert opinion without empirical validation. Implementing standards of care based upon these quality indicators then becomes difficult because clinicians question the validity of the standards. To the extent possible, we will validate our quality indicators by establishing their relationship to treatment outcomes, based on our prospectively gathered outcome survey data and on existing administrative data.

Community-based Centers of Occupational Health and Education

Implementing delivery system improvements that will be effective in improving patient outcomes requires enhanced partnerships and coordination between providers, labor, employers, and the workers' compensation payers and regulators. Dimensions for delivery system improvements include increasing the occupational health expertise of attending physicians who see injured workers only occasionally, improving coordination of care and return-to-work strategies, and establishing administrative and financial incentives to ensure that appropriate services are reimbursable.

The DLI will establish Community-based Centers of Occupational Health and Education to help advance a more systematic organization of care delivery for occupational health conditions. The COHEs are expected to offer attending physicians in the community rapid access to clinical expertise through a variety of methods, including occupational health clinical experts, case consultations, clinical guidelines, Internet-based information about best practices, and regular interactive continuing education opportunities.

At present, the care delivery process for injured workers is underdeveloped, and practices vary widely among physicians because of a lack of knowledge of, and interest in, the best practices in occupational health. Lack of physician interest in developing occupational health skills may result from insufficient attention to developing and promoting clinical leaders, guidelines, education, or financial incentives. Only a minority of physicians has occupational health expertise and thus knowledge of the importance of communicating with employers regarding return-to-work issues, job modification, administrative procedures involving workers' compensation, and related issues. Non-occupational-medicine physicians' general lack of interest in occupational health may also be

attributable to the current payment structure and administrative burdens. Washington State's current RBRVS fee schedule and medical policies provide no clear incentives or methods for physicians to improve their skills in treating workers with occupational conditions. By developing formal agreements with providers, the state plans to encourage physicians to gain such skills as developing a return-to-work plan with the worker and employer, referring patients quickly to clinical specialists when progress becomes stalled or risks of disability are identified, and regularly communicating with the employer to facilitate return to work. Contracts will be aimed at providing financial incentives to promote the best practices in caring for occupational musculoskeletal disorders as well as developing disability prevention skills for return to work and for future injury prevention.

As part of the R&D work being performed to design the COHEs, the DLI team is preparing a series of review papers to examine key issues for the development of incentives and clinical management processes to improve quality. Thirteen different papers will be prepared on a range of topics including:

- Mentoring and training for community physicians
- Community-based prevention
- The functions of business and labor advisory committees for the COHEs
- Quality assurance mechanisms
- Administrative information and communication processes
- Claims administration
- Use and evaluation of incentives

These review papers will assess the current state, outline the desired future state, review options for achieving the desired future state, and present recommendations. To date, two papers have been completed: on physician mentoring and on community-based prevention. (These and other review papers will be available upon request.) Following a review of the scientific literature, the physician-mentoring paper identified and recommended four options for performing mentoring and training activities. These are: using opinion leaders plus clinical guidelines, conducting interactive continuing medical education sessions, using reminders to prompt physicians, and using academic detailing to promote improved care practices. The information and analyses contained in the

review papers will provide important guidance for the development and implementation of the COHEs and of the broader quality improvement initiative.

Improving levels of expertise and processes in the delivery of care with the COHEs and among community physicians will likely require several years and will need to proceed incrementally. We need to generate more interest in occupational health through financial and nonfinancial incentives, and to provide greater access to occupational health care expertise for consultation and training. The premise underlying our quality improvement strategy is that bringing these kinds of resources to a community will contribute to a reduction in the incidence of injury and the severity of time-loss duration, and, at the same time, improve worker and employer satisfaction with health care.

Summary and Conclusion

This article has summarized research and policy activities undertaken in Washington State over the past several years to identify the key problems that result in poor quality and excessive disability among injured workers, and the types of system and delivery changes that could best address these problems in order to improve the quality of occupational health care provided through the workers' compensation system. Our investigations have consistently pointed to the lack of coordination and integration of occupational health services as having major adverse effects on quality and health outcomes for workers' compensation.

The Managed Care Pilot Project, a delivery system intervention, focused on making changes in how care is organized and delivered to injured workers. That project demonstrated robust improvements in disability reduction; however, worker satisfaction suffered. Our current quality improvement initiative, developed through the Occupational Health Services Project, synthesizes what was learned from the MCP and other pilot studies to make delivery system improvements. This initiative seeks to develop provider incentives and clinical management processes that will improve outcomes and reduce the burden of disability on injured workers. Fundamental to this approach are simultaneously preserving workers' right to choose their own physician and maintaining flexibility in the provision of individualized care based on clinical need and progress. The OHS project then will be a "real world" test to

determine if aligning provider incentives and giving physicians the tools they need to optimize occupational health delivery can demonstrate sustainable reduction in disability and improvements in patient and employer satisfaction.

Critical to the success of this initiative will be our ability to: (1) enhance the occupational health care management skills and expertise of physicians who treat injured workers by establishing community-based Centers of Occupational Health and Education; (2) design feasible methods of monitoring patient outcomes and satisfaction with the centers and with the providers working with them in order to assess their effectiveness and value; (3) establish incentives for improved outcomes and worker and employer satisfaction through formal agreements with the centers and providers; and (4) develop quality indicators for the three targeted conditions (low back sprain, carpal tunnel syndrome, and fractures) that serve as the basis for both quality improvement processes and performance-based contracting.

What lessons or insights does our experience offer thus far? The primary lesson is the importance of making effective partnerships and collaborations. Our policy and research activities have benefited significantly from the positive relationship the DLI established with the practice community through the Washington State Medical and Chiropractic Associations and from the DLI's close association with the Healthcare Subcommittee of the Workers' Compensation Advisory Committee. This committee is established by state regulation and serves as a forum for dialogue between the committee and the employer and labor communities. Our experience thus underscores the importance of establishing broad-based support for delivery system innovations.

Our research activities have also benefited from the close collaboration between DLI program staff and UW health services researchers. The DLI staff brought important program and policy experience, along with an appreciation of the context and environment within which the research, policy, and R&D activities were conducted. The UW research team brought scientific rigor and methodological expertise to the design and implementation of the research and policy activities.

In Washington State, the DLI represents a "single payer" for the purposes of workers' compensation. As discussed earlier, Washington State, along with five other states, has a state-fund system that requires all employers that are not self-insured to purchase workers' compensation insurance through the state fund. No matter what one feels about the merits or drawbacks of a single-payer system of health care financing, the

fact is that such a system creates important opportunities for policy initiatives and for research and evaluation. Our ability to access population-based data on injured workers and to develop policy initiatives through innovation and pilot testing to assess whether proposed changes are really improvements has been critical. Understanding what works within the constraints and complexities of the system on a small scale is critical in order to bring forth policy and processes that will be of value systemwide.

Finally, we note that general medical care faces many of the same quality-related problems and challenges as occupational health care. Medical care for chronic diseases, such as diabetes, is often fragmented and uncoordinated. Misdirected incentives, ineffective clinical management processes, and the lack of provider accountability are some of the same factors that act to erode quality and compromise health outcomes for general medical care patients. While innovative quality improvement efforts have been developed for patient populations within closed systems—such as the program to improve care for diabetics at Group Health Cooperative (McCulloch, Price, Hindmarsh, et al. 1998), a large HMO in Seattle—such efforts have rarely been attempted on a community-wide basis. Our experience in developing strategies to improve quality and health outcomes for occupational health patients in Washington State on a community basis may offer useful insights to health care administrators, clinicians, policymakers, and researchers engaged in quality improvement activities elsewhere.

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