APPLICATION OF RISK CONTROL PRINCIPLES IN RELATIONS WITH THE HEALTH CARE COMMUNITY

By

Randall M. Adams, D.C.

A Research Paper
Submitted in Partial Fulfillment of the
Requirements for the
Master of Science Degree
With a Major in

Risk Control

_____
Investigation Advisor

The Graduate School
University of Wisconsin-Stout
March 25, 2002

The Graduate School
University of Wisconsin-Stout
Menomonie, WI 54751

ABSTRACT

Adams	Randall	M.
(Last Name)	(First Name)	(Initial)

(Writer)

Application of Risk Control Principles in Relations With the Health Care Community
(Title)

Risk Control	Dr. Brian Finder	March, 2002	80
(Graduate Major)	(Research Advisor)	(Month/Year)	(No. of Pages)

American Psychological Association Publication Manual, 5th Edition
(Style Manual Used in this Study)

This study examines historical and current practices and trends in the evolution of the relationships that exist between corporations and the insurance and health care industries in the context of occupational health care, prevention and wellness initiatives, and benefits. The historical implementation of prevention, health and wellness programs by industry is traced, and the development of managed care as an adaptation by the insurance industry of these workplace initiatives is discussed. The practice of occupational health is discussed, including developments in traditional medical approaches as well as emerging concepts of the role of complementary and alternative

options in the provision of occupational health services. The role of chiropractic is particularly examined.

Methodology includes literature review, professional experience of the author, review of examples of clinical settings in occupational health, personal communication and interviews with practitioners in occupational health and vocational consultation.

Corporations are identified as having the core financial stake in the development of innovative approaches to amelioration of challenges faced in protecting the health and well being of their workforce. Corporate concerns are seen historically as the source of concepts that have been co-opted by other industries, such as managed care concepts by the insurance industry, or wellness and prevention by the health care industry. Significantly, the insurance and health care industries can be seen in some respects as reactive to the innovations and demands of the corporate marketplace, rather than proactive.

Results are discussed in terms of actions corporate management systems might take to develop more effective policies and programs in their health and wellness endeavors.

ACKNOWLEDGEMENTS

There are several individuals to whom I wish to express my gratitude for their unflagging assistance in the development and research of this thesis.

First, I would like to thank my research advisor at UW-Stout, Dr. Brian Finder, who both trusted my thinking and direction in this research, and went "above and beyond the call of duty" by reviewing and directing draft revisions at times I know to have been inconvenient for him.

Second, I extend my thanks to David Gilkey, D.C., Ph.D., of Colorado State University, who advised me on the chiropractic aspects of this thesis. His advice and comments helped establish some academic boundaries to this extensive project, along with an admonishment about the future of chiropractic: "What are **you** going to do about it?"

I also express my appreciation to Richard Sarnat, M.D., David Thorpe, D.C., and John Shervey, M.S. for taking time from their busy schedules to interview and provide information from their organizations.

My mother, Viola Adams, for her unflagging love and support in everything I have ever done. My late father, Martin Adams, for his many sacrifices on my behalf.

Most of all, I am compelled to express my love, admiration, and thanks to my wife, Jan Adams, M.L.S. Her skill with computers and as a library professional, plus her patience in educating this old school boy in their use, took years off my learning curve. It is to her that I dedicate this thesis.

TABLE OF CONTENTS

PAGE

PAGE

CHAPTER I

RESEARCH PROBLEMS AND OBJECTIVES

Introduction

The need for improved controls over Worker's Compensation costs, administrative processes, and the quality of health care services is defined by the escalation of the cost of providing these services. The National Academy of Social Insurance (2001) reports that, after a period of decline in the late 1990's, expenditures for benefits and costs rose in 1999 for the second year in a row. Total 1998 costs were $52.8 billion, and rose to $54.6 billion in 1999. At the same time, there was a decline of benefits as a percent of wages by 38% between 1992 and 1999 (National Academy of Social Insurance, 2001). This cycle of increasing costs in relation to declining benefits would seem to indicate that the controls currently being utilized to contain these costs are not effecting a long-term positive change in the causative factors of workplace injuries and illnesses, or in the cost-containment strategies being applied to post-incident management or processes. These relationship trends between industry, insurers and health care organizations, and the techniques employed by each in attaining their objectives, are the primary objectives of this thesis.

The degree of control maintained by an employer over circumstances involving workers compensation (WC) issues may be viewed as a component and variable of cost containment in the overall risk control system. Many strategies are employed in order to establish controls directed at prevention of injuries and accidents and their associated

costs. These include environmental hygiene, industrial hygiene, plant engineering to minimize employee exposure to potential accident situations, ergonomic machinery and equipment design, various ‘safety’ programs and risk control initiatives, thorough maintenance procedures, training, regulatory compliance, and risk management tools. Further controls include post-incident procedures such as analysis techniques, review of training procedures, equipment redesign, and realignment of managerial systems. These controls should be easily integrated into a sound overall management scheme, and permit a high degree of direct control over variables involved in such situations (Hansen, 1993); (Ritzky, 1990); (Gabel; Mansfield, 1998); (Allen; Ritzel, 1997); (Beigbeder, 1999).

There appear to be a variety of methods by which employers and their insurers attempt to minimize the medical and indemnity costs associated with on-the-job injuries and illnesses. However, once an employee leaves the place of employment to seek assistance from a health care provider, a number of variables come into play that are not under the direct control of the employer or insurer. For example, in states with non-directed care, the employee can seek attention from any health care provider (licensed by the state) that he or she wishes. While the non-directed care system has certain benefits, such as avoidance of coercion by the employer to see the “company doctor”, it cannot be assumed that there is universal qualification amongst all providers to appropriately manage work related conditions. The family practice specialist may not have extensive knowledge of conditions of the musculoskeletal system. A sports physician may have no great expertise in respiratory disorders. A doctor of chiropractic specializing in pediatrics may be unfamiliar with the effects of neurotoxins used in certain industrial applications. Even within specialty areas that might be expected to have applicable skills for a certain

condition, the focus of a given provider within that specialty might still preclude possession of certain skills required for its management. For example, a doctor of chiropractic may have good general skills pertaining to the musculoskeletal system, but if she is board-certified in pediatrics she may not possess the correct set of skills to handle an ergonomic evaluation. It is also unlikely that every health care facility follows the administrative and clerical protocols that the WC system demands. Further, the employee has no particular reason to know that these limitations exist.

Given the bewildering array of specialists and para-professionals in today's health care environment, it is not difficult to imagine a scenario in which an employee spends considerable time in the wrong clinical facility, following inappropriate treatment protocols for an extended period of time before being referred elsewhere, all at significant loss of wages and high cost to the employer. The development of adversarial conditions, with the associated skyrocketing costs, would also be no surprise.

In addition to selection difficulties arising from specialization, there may also be problems in states with legal systems that allow employers to direct that care be provided by doctors or clinical facilities of their choice or employ. Ideally, directed care would enable an employer to develop relationships with practitioners whose skills match the need in the WC arena, and to streamline the process via best practices both clinically and clerically (Rousmaniere; Chadwick, 2001). More realistically, such relationships are a reflection of the corporate culture and its ethical foundation, and as such may give rise to a wide variety of actual practices. Some of these relationships may have more to do with financial arrangements than with clinical skills and positive outcomes. The widely held employee perception of the "company doctor" as being a hired gun of an exploitative

employer undoubtedly has enough basis in fact to perpetuate the stereotype. Even a false perception of such collusion increases the risk of allowing an adversarial situation to develop, with the ensuing upward spiral of costs (Knapschaefer, 2000) (Hedrick, 2000).

One attempt to exert greater control over the WC dilemma is a solution offered by the insurance industry. This involves the imposition of managed care systems such as Health Maintenance Organizations (HMO's) or Preferred Provider Organizations (PPO's) as a cost-containment strategy in WC. HMO and related systems can unfortunately represent a spectrum from proactive organizations that promote excellence and best-practices, to organizations whose sole cost-containment effort seems to be deep discounting of payments to providers. In the author's professional experience, these discounts can vary between 20% and 60% of usual and customary charges. Nowhere in the works of management experts such as Deming, Ishikawa, Juran or Drucker is there any mention of increasing the quality of product and performance by paying workers at a level guaranteed to be a disincentive to best efforts. Indeed, recent literature has begun to explore the concept of increasing compensation to providers as a means of encouraging best practices, better relationships, and decreasing true costs (Acheson, et al, 2001).

It has long been apparent that the systems which have evolved relative to preserving the interests of the many stakeholders involved in a WC claim have often led to contradictory, conflicting and increasingly costly outcomes. The various stakeholders may have widely different motives based on their real or perceived needs and perceptions of a specific incident. The injured worker has an obvious stake in the loss of short-term and/or long-term income, pain and suffering, future employability, and consequent personal and family effects (National Academy of Social Insurance, 2001); (Occupational

Hazards, 2001). Employers are at risk of increased costs in WC insurance premiums based on their loss experience, as well as effects on productivity, employee retention, workforce morale, and exposure to wider litigation. Employers are also forced to balance the often-conflicting legal requirements of state and federal programs (Gabel, Mansfield, et al, 1998). Insurers face the financial realities of escalating costs intrinsic to the WC and health care systems, market forces within the insurance industry, and increased legal exposure as alternative avenues of monetary recovery by the employee erode the traditional 'sole remedy' intent embodied in the legislative origins of the WC systems of the various states (Gabel, Mansfield, et al, 1998). Other stakeholders include third parties, such as subcontractors, who have in recent years been exposed to higher levels of risk by virtue of the litigation potential of tort interpretations by the legal system (Gabel, Mansfield, et al, 1998).

Much attention has been focused by the several affected stakeholder groups on defining and consolidating legal status and developing techniques of preserving their own interests. These efforts have been shown to be capable in varying degrees of either protecting narrow, exclusive interests, or of protecting a broader range of concerns with less diminution of individual stakeholder interests (Gabel, Mansfield, et al, 1998) (Allen; Ritzel, 1997) (Beibeder 1999) (Ritzky, 1990) (Hedrick, 2000).

Long-term strategic initiatives regarding the legislative controls surrounding the WC system may ultimately be necessary in order to solve the problems facing industry in the area of occupational health and workers compensation. However, there are certainly more immediate problems that need to be resolved. It appears that, in many cases, adversarial interactions among the various stakeholders in a WC issue are the only

'controls' brought into play in the management of these situations. These attempts to control clinical management are fraught with potential for abuse by all stakeholders, with consequent further loss of real manageability and subsequent spiraling costs (Hedrick, 2000) (Weinper, 1998). There may be alternative approaches to what might be termed 'soft management' in relationships with the health care community. The identification and development of these alternatives may provide a significant improvement in non-adversarial risk control and management techniques, with measurable gains in both human and financial resources. Thus, the development of positive pre-incident working relationships and strategies with local health care providers may represent an opportunity to obtain a greater degree of control over the case management of WC incidents.

Research Problems

Given the need for development of "soft management" strategies, three related problems emerge when considering interactions between industry and the health care community. These include:

1. Various organizations possess limited direct control or influence regarding the clinical management of work-related illnesses and injuries.
2. There are significant differences in the level or quality of management-related information that companies may provide to health care providers to encourage prompt resolution of clinical and administrative problems.
3. Health care providers (interpreted as primarily consisting of medical and chiropractic professionals) may not be universally qualified to integrate sound WC practices into their management of patients who suffer work-related injuries and illnesses; further, providers may vary widely in their ability to

communicate and cooperate with employers in the management of work-related disorders.

Research Questions

The research question developed from these problem statements has the following components:

- Are there examples of organizations that have attempted to develop proactive relationships with health care providers in the WC and OH setting?
- Are there examples of clinical systems that have incorporated a 'best practices' approach into their clinical and administrative management of WC/OH issues, including proactive relations with the involved employers?
- What constitutes 'best practices' in the interactions between employers and providers?
- Are there components of complementary and alternative medicine (CAM) systems that can provide a supplemental role to allopathic medical systems in the provision of services in at least some aspects of WC and OH?

Purpose and goals

This thesis will examine the relationships between industry, insurers and health care organizations, identify current practices and trends, and attempt to identify how these relationships and practices might be more fully developed. This should in turn provide insights into improved mechanisms by which to effect a higher degree of control over the milieu of worker's compensation and industrial health care.

The approaches described in this paper are a synthesis of the literature, professional conferences, and the experience of the author as a doctor of chiropractic practicing in neuromusculoskeletal aspects of the occupational health and WC arena.

Definition of technical terms

Chiropractic: "Chiropractic is the science which concerns itself with the relationship between structure, primarily the spine, and function, primarily the nervous system, of the human body as that relationship may affect the restoration and preservation of health." (Logan College of Chiropractic (2001)

Complementary and Alternative Medicine (CAM): "medical approaches not widely taught at U.S. medical schools or generally available at U.S. hospitals" (Pelletier, 1999, p125)

Managed Care: "A relatively new term coined originally to refer to the prepaid health care sector (e.g. HMO's) where care is provided under a fixed budget and costs are therein capable of being "managed". Increasingly, the term is being used by many analysts to include PPO's and even forms of indemnity insurance coverage that incorporate preadmission certification and other utilization controls." (AMSO, 2001)

Chapter II

REVIEW OF LITERATURE

Workers Compensation and Occupational Health Trends in Industry.

The multi-level endeavors to gain some measure of control over spiraling health care costs in both WC and group health situations have led to certain identifiable trends in the day to day operations of industry. An in-depth analysis of the larger scope of legislative and insurance industry initiatives is beyond the scope of this thesis. While certain aspects of these initiatives that are of immediate application may be discussed, however it is the initiatives occurring within industry itself, and in the health care professions, that will be here examined.

Tactical and strategic approaches by the employer take place within several 'layers' in an organization. The most traditional management attempts are directed at the 'front line' control on the shop floor via such tools as safety departments, regulatory compliance, and other preventive approaches. Risk managers have traditionally used the tools of insurance to reduce the level of assumed risk. Executives have sought to closely define policies and procedures in an attempt to control as many variables as possible through traditional management systems. Human resources, environmental health and risk control/safety professionals have sought to implement tactical initiatives at the operations level (Allen; Ritzel, 1997); (Beigbeder, 1999); (Ritzky, 1990); (Gabel; Mansfield, 1998). Each of these levels have the strengths of their specialized area of training, as well as possible limitations, such as poor communication between departments or inadequate understanding and integration of the various departmental

strengths. The apparent trend in industry is toward integration of the functions of these individual approaches into a more coherent and comprehensive model. The following are four examples of different levels of approach, ranging from the shop floor to the legislative systems:

1. Return-to work (RTW) programs have been in existence for some time, and documentation of the benefits of early RTW practices are readily available. A RTW program initiated by an Illinois coal mining operation demonstrated an aggressive RTW policy that provided alternative 'light duty' for a returning worker. The RTW procedures (titled Work Therapy Program by the employer) were complemented by on-site rehabilitation facilities complete with professional rehabilitation personnel. This initiative resulted in significant reduction of the economic costs of injuries compared with a control population in similar circumstances. This program focused on post-injury management, and did nothing to alter the pre-injury environment, however the savings were substantial enough to indicate that such programs have a place in the overall management system (Allen; Ritzel, 1997).
2. An approach that goes a step beyond individual RTW programs is described by Beigbeder (1999) as Integrated Disability Management (IDM). IDM is depicted as a 'win-win' scenario for both worker and employer, in that it coordinates WC case management with an aggressive RTW program and job accommodations for temporarily disabled employees, along with coordination of the insurance benefits for short and long-term disability programs. These different benefits are to be administered under a single department, lessening the confusion and conflict

intrinsic to multi-departmental involvement. Strategies and benefits include "…single-source reporting of employee absence, consistent application of medical management strategies and vocational rehabilitation, support for adherence to ADA requirements, a vigorous and active stance against fraud and system abuse, less adversarial relationships with employees, and reductions in payments for lost time from work." (Beigbeder, 1999). Building an effective IDM system involves proactive coordination to meet employee needs, and to develop effective working relations and policies with the various levels of health care providers involved in treatment. Individual communication with health care facilities is a significant component, due to the great variability of provider expertise in WC issues. The employer is seen as the only real driving force in directing these controls (Beigbeder, 1999).

3. A third approach to management of losses due to work-related injuries and illnesses occurs far removed from efforts directed at the work site. This approach advocates direct application of risk management techniques to the work force. The employee, and lower-level efforts to contain risks, are not directly addressed. Ritzky (1990) is of the opinion that, due to the dynamics of the legal system and increasing employee awareness of potentially expensive tort recourses outside the WC system, action must be taken to eliminate or minimize the tendency of employees to become a litigious and costly corporate liability. He advocates combining and coordinating the efforts of the human resources and operations departments, utilizing risk management principles. This assumes that risk management is removed from any potential infighting that may be intrinsic to HR

and operations. Risk management approaches are seen as superior to traditional HR and operations procedures in all their functions, using the risk management approach to loss exposure. In short, this approach analyses whether the risk can be eliminated, reduced, absorbed, or transferred. (Ritzky, 1990)

4. Even further removed from the shop floor is an approach that critiques the entire legal structure of the Workers Compensation system as it exists today, in the context of its historical antecedents. Gabel and Mansfield (1998) describe the evolution of several legislative and court scenarios that have seriously eroded the ability of the original WC systems to function effectively due to challenges to the fundamental concept of 'exclusive remedy'. Allowance for tort litigation, conflicting requirements of the Americans with Disabilities Act (ADA) and the Family Medical Leave Act (FMLA) with the Workers Compensation mandate, along with the increase in health and disability benefits, are viewed as producing an unresolvable complexity from a legal standpoint. Gabel and Mansfield (1998) delineate four alternatives to this situation: 1) reinforce the Exclusive Remedy Doctrine; 2) federalize the WC system to eliminate the wide disparities between state plans, and incorporate uniform and consistent application of ADA and FMLA; 3) establish a Choice/No-fault system that would allow an employee to opt for a lower-risk exclusive remedy system, or a higher risk tort system, and; 4) eliminate the Exclusive Remedy Doctrine altogether, relying instead on the tort system of old, along with the modern additions of group health, short-term and long-term disability insurances (Gabel, Mansfield, et al 1998).

The markedly different approaches to the same fundamental problem demonstrated by the above four examples suggest that the ultimate solution will not be an easy one to attain. Local "shop-floor" endeavors may be perceived as engendering a more immediate response to actions taken, while strategic approaches of risk management and legislative initiatives may have a long-term perspective that ultimately delineate activities at the local level. However, it is clear that any 'new and improved' system will be required to include all the elements discussed above.

Management Initiatives in the Workplace

Industry initiatives to control costs associated with employee health and welfare fall in general into four broad categories: human resources approaches, health care benefits approaches, lifestyle change (wellness) programs, and occupational health and safety (Collins, 1991). While all of these categories are inter-dependant, primary emphasis will here be given to the occupational health and wellness categories. There is an increasing trend toward integration of various management departments that have hitherto been treated as separate entities, as previously discussed (Collins, 2000; Rosen, 1986), due to overlapping fields of responsibility. Ultimately, the successes and lessons-learned from tactical efforts will likely be the driving forces in strategic reforms. A brief description of each category will be followed by a more in-depth analysis of the wellness and OH initiatives.

Human Resources

The human resources approach involves employee selection and development, along with the programs and policies related to wellness and health promotion. The HR

department can be an integral part of overall management strategies aimed at controlling both group health and WC costs. (Rosen, 1986; Collins, 1991)

Benefits

The management of health care benefits is also a tool used to influence overall utilization and the costs intrinsic to both group health and WC. Both of these areas of insurance are in flux, with managed care, HMO initiatives and variations on self-insurance being the strongest approaches, along with legislative manipulations of WC benefits (Pelletier, 1996 & 1998). Knapschaefer (2000) discusses several legislative aspects of falling WC costs, including revision of the definition of what constitutes a compensable condition, changes in impairment rating schemes to favor lower disability payments, and diminution of vocational retraining and other benefits. These revisions are described as opportunistic efforts by the insurance industry in various states to take advantage of a perceived crisis in WC costs to improve their position by changing the laws rather than seeking out root causes. Knapschaefer (2000) attributes the fall in comp costs over the past several years to an increased awareness and interest in safety issues by employers during a period of escalating costs. He also discusses the controversial subjects of employee intimidation tactics to discourage filing for WC benefits, cost-shifting of WC claims to group health coverage, and premium fraud (false classification of workers into lower-ranked work designations in order to obtain lower initial premiums). While the Knapschaefer article could be perceived to demonstrate a bias against the employer and in favor of the employee, the extremes of position indicate that

there is likely to be a great deal of strategic positioning by the multiple stakeholders involved in these issues.

"Managed care" is essentially the phrase that will delineate any current health insurance industry trend. It is certainly a formal arrangement in group health plans almost everywhere, at least to some degree. Pelletier (1996) views the dominance of managed care as a current reality or inevitable eventuality that varies in its influence only due to its degree of dominance and penetration in various regions. He states that it is "simply a matter of time and geographic location and, indeed, the mountain will come to you" (Pelletier, 1996, p386). The concept of the evolution of managed care from foundations established by private industry seeking solutions to rising health care costs has been explored earlier.

Managed care has been less of a presence in Worker's Compensation systems, likely due to the multi-party, government-based structures that require legislative changes to accomplish significant changes. These are subject to pressures from many interests, as opposed to unilateral policy decisions. However, bearing in mind that managed care evolved as an outgrowth of corporate initiatives, managed care can be seen as an integral component of "doing business", even without direct involvement of a specific insurance plan (Pelletier, 1996).

Despite the seeming ubiquitous presence of managed care, there has been some question as to its effectiveness at cost-containment. Rousmaniere and Chadwick (2001) report that a 2001 meeting of corporate risk and workers' comp managers in Florida was undertaking a serious evaluation of managed care's claims of cost containment versus their actual experience. This report indicates that there may be room for further evolution

of techniques in the application of managed care principles, or for corporate initiatives independent of insurance-based managed care (Rousmaniere; Chadwick, 2001).

Wellness programs

Wellness programs are initiatives directed at lifestyle behaviors that may be seen as having a direct effect upon health and well-being, such as smoking, substance abuse, obesity, poor dietary habits, or lack of proper exercise. In any given organization, 29% of employees are smokers, 15-25% are hypertensive, 20-30% are overweight, 80% are overly sedentary, 10-20% have mental health problems along with substance abuse, 30% are prone to low back injury, and 35-45% suffer from 'burn-out'. (Rosen 1986) These behaviors and conditions are seen as having a negative effect not only on individuals, but on organizations as well. The effects are noted in increased absenteeism for health problems, decreased work capacity, increased utilization of group health benefits, and increases in work related illnesses and injuries (Rosen, 1986).

Occupational health and safety

Occupational health and safety can be considered to include several fields, including toxicology, industrial hygiene, environmental epidemiology, and occupational medicine (interpreted broadly to include all health care professionals providing services to industry) (Rosen, 1986). Each of these areas represents opportunities for management to control risks, achieve regulatory compliance, and reduce costs.

A Further Examination of Wellness and Occupational Health Initiatives and Trends

Operational management has available to it a wide range of instruments to help minimize and mitigate the impact of injuries and illnesses to its employees. The

combination and degree of utilization of these various tools will vary widely from one workplace to another, as will the successes enjoyed. Of course, prevention has long been a mainstay of these efforts (Office of Disease Prevention and Health Promotion, 1993). Some preventive measures are mandated; OSHA and EPA-administered regulations in the U.S. are well-known examples. Safety committees and policies have long been a fixture in the American workplace. Depending on the size of the company, a nurse, 'company doctor" or other health care personnel may be available either on-site, by contract, or independently by informal arrangement. For at least the past twenty years, the incorporation of some variation on a "wellness program" has been a part of the American workplace (Office of Disease Prevention and Health Promotion, 1993).

Cost-containment strategies for health care costs have also been initiated. These include changes in health plan design to increase the employer's control over the type and delivery of health care services, introduction of major medical deductibles and co-insurance payments, elimination of basic coverage for certain types of care, and shifting to managed care programs or self-funded plans. The Bureau of Labor Statistics has demonstrated a direct relationship between industrial health care costs and employer cost-containment efforts (Monthly Labor Review, April 8, 1999). Thus it can be seen that employer initiatives in operational management and health care benefits can have a significant impact on costs associated with environmental health and safety.

Wellness Programs

There seems to be an increasing trend toward the use of wellness programs or other health promotion and disease prevention approaches. This makes sense in the light of management trends over the last fifty years that emphasize the need for integrated

approaches in management of all aspects of operations that can impact an organization's financial well-being (Schaarsmith, 2000).

Wellness programs and workplace-based health promotion initiatives can be specifically focused on one problem area, such as substance abuse or cholesterol screenings, or may have several components. The spectrum of offerings may include some form of on-site health status evaluation and/or treatment facility, vaccination programs (these may include families of employees as well), educational seminars (subject areas include bloodborne pathogens, low back care and lifting training, general fitness training, stretching programs, smoking cessation programs, employee assistance programs (EAP's), and substance abuse awareness training. Other programs may be specified according to industry-specific demands.

A critical issue in any such program is the ability to determine a means of measuring the outcomes of such initiatives, particularly for managers who are used to examining programs from a 'return-on-investment' standpoint. These individual findings are compatible with a large-scale outcomes analysis of the cost-effectiveness of worksite health promotion and disease prevention programs conducted by Dr. Kenneth Pelletier at the Stanford University School of Medicine. Pelletier (1996) comments on a "vast number of rigorous, randomized clinical trials…clearly demonstrating that health promotion and disease prevention within managed health care are both health- and cost-effective" (Pelletier, 1996, p380). This evaluation compared a variety of initiatives. The overall observation was that such programs have demonstrated their capacity to withstand the demands of the workplace laboratory; cost/benefit analysis has been positive, and the successes of such programs have resulted in their adoption into many corporate

management systems. In a briefing to the American Management Association, Rosen (1986) emphasizes the relationship between human capital and corporate profits, and draws from the experience of several large organizations to describe approaches to devising a "healthy corporation". This involves the integration of four major health and productivity departments; health benefits, occupational health and safety, prevention and wellness, and human resource development. The integration of these areas into one top executive level function is seen as a requirement for the "healthy company". Wellness and prevention activities are predictably considered to some of the key components to this process. The healthy company is viewed as engaging in a top-down and bottom-up management process in which commitment and involvement from the top is equal in importance to initiatives from the 'bottom' that foster a realization of ownership and valued involvement by employees. DuPont is cited as a leading example of this type of corporate culture; safety and hygiene programs are integral with its wellness and occupational health systems, including extensive activities in toxicology, industrial hygiene, occupational medicine and epidemiology (Rosen, 1986).

A 1993 publication by the Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services entitled "Health Promotion Goes to Work: Programs With An Impact" presents a wide-ranging overview of wellness programs in place at organizations that vary in size from small (eg. Mesa, Inc. with 350 employees) to very large (eg. AT&T, with 254,000 employees). While each organization had its own unique approach and applications, the common themes included multi-level involvement in program development, on or off-site fitness centers and activities, health education, programs tailored to employee's needs, and a system of incentives and

penalties. Typically, high-risk behaviors such as substance abuse and smoking were targeted. Preventive strategies included screening programs for cholesterol, blood sugar and cancer, immunization programs, HIV prevention, awareness and prevention of sexually transmitted diseases and other infectious diseases, and maternal and infant health programs. The means of evaluation for these various efforts varied from one organization to the next, however all of the organizations reviewed felt that their standards for success had been met or surpassed, whether measured in return on investment or by behavioral indices such as seat belt use or absenteeism (Office of Disease Prevention and Health Promotion, 1993).

With regard to wellness programs and workplace health promotion, Pelletier (1996) is of the opinion that the health and medical initiatives of large corporations were the precursors leading to the managed health care systems now dominant in the health insurance industry. He further states that these trends and innovations will continue to be further defined by varying combinations and coalitions of private industry and insurers, with very little offered by state government and almost nothing from the federal government (Pelletier, 1996). Thus it can be seen that industry will almost certainly be dependant upon its own ability to conceive and implement new working tools in the continuing effort to improve the performance of workplace health strategies.

Occupational Health

Health care related to the workplace is certainly nothing new. It is likely that the most ancient of societies, indeed *any* culture, would have had need of someone to patch up an injured “worker”, set bones and figure out what happened to cause the accident. In the United States, there are some 6000 physicians practicing in the field of occupational

and environmental medicine; of those, approximately 2,200 have been "board-certified" by the American College of Occupational and Environmental Medicine (ACOEM, 2001). The International Academy of Chiropractic Occupational Health Consultants lists 69 chiropractors that have been board-certified in chiropractic occupational health and ergonomics by the American Chiropractic Board on Occupational Health (Auppl, E., Executive Advisor, Council on Occupational Health, American Chiropractic Association, personal communication, March 15, 2002). Medical physicians certainly offer the widest scope of disciplines and facilities in clinical practice, while the chiropractic profession tends to be focused on the neuromusculoskeletal conditions that form the core of its clinical endeavors. Occupational health practitioners in either discipline do share a number of skills and approaches. These include expertise in environmental health and risk assessment, clinical preventive services, management and administrative strategies, medical/chiropractic issues, ongoing research and education, sociological understanding and the ability to communicate on these issues with all participants in the OH process (ACOEM, 1998; IACOHC, 2001). Thus, occupational health as a form of clinical practice has long played an integral role in workplace health issues.

Specialties in occupational health

The increasing availability of occupational health professionals in many parts of the country is likely an indication that the health care industry is responding to market pressures and perceived opportunities. These OH professionals come from many specialties. The medical profession has long had an OH certification program, although there are only a few thousand of these physicians in the US (many medical physicians practicing occupational health actually hold a Master of Public Health degree, as opposed

to OH certification). Many medical specialties, such as orthopedics, neurology and toxicology have implications in the WC arena, however these specialists are not necessarily skilled in WC practice issues. The nursing profession has an OH certification. Ergonomists, kinesiologists, physical therapists and rehabilitation specialists have long been core ancillary support in OH, while chiropractic professionals also have been involved in OH as primary care providers (ACOEM,1998; IACOHC, 2001).

The chiropractic profession has been involved in the clinical treatment of work-related disorders almost from the inception of the profession in 1896. For most of its history, this profession operated outside of or on the periphery of the medical profession, with a great deal of inter-professional antagonism. As both professions evolve and mature, many of the differences are being resolved (no attempt will be made here to define the historical quarrels between the professions). Corollary to this improving relationship is an increase of public demand for "complementary and alternative medicine", or CAM approaches. CAM is defined as "medical interventions not taught widely at U.S. medical schools or generally available at U.S. hospitals" (Eisenberg, 1998, as cited in Pelletier, 1999, p125). This change may be viewed as a cultural shift, and there is no doubt as to the demand; Pelletier (1999) states that in 1997 nearly half of the U.S. adult population sought care from CAM providers, and that there were an estimated 629 million visits to CAM providers. This was greater than the 386 million visits to all primary care doctors for that year. Expenditures for professional increased by 45% from 1990 to 1997 (Pelletier, 1999). In point of fact, consumer demand is considered to be the primary driving force for the increased integration of CAM into traditional health insurance institutions, with clinical outcomes as second most frequently cited. Pelletier

here refers to group health trends, as opposed to WC insurance. Of the CAM therapies discussed, chiropractic, osteopathy and physical therapy are the only ones licensed in all 50 US states, and are the most likely to be included under WC benefit systems (Pelletier, 1999). While osteopathy and physical therapy operate within the medical paradigm, chiropractic has tended to be a more 'stand-alone' system. However, recent trends indicate that chiropractic is being increasingly perceived as mainstream rather than alternative. A report by Gray (1998) describes chiropractic as a new benefit staple that is being sought out by a growing number of employers, and cites an increasing body of evidence that costs and outcomes can be equal or superior to medical intervention for treatment of many musculoskeletal injuries. Thus it may be demonstrated that there seems to be a baseline shift away from the allopathic paradigm in occupational health practice to include CAM as an additional resource.

Integration of traditional and CAM approaches

There is evidence that the medical and chiropractic professions are beginning to overcome their competitive tensions. There have been more realistic claims about chiropractic's strengths, much-improved supportive evidence to chiropractic efficacy in the scientific literature, plus recognition by the medical profession of some limitations to their ability to treat certain types of musculoskeletal conditions. These developments have led to attempts to integrate the two systems. Since the early 1980's there have been hospitals that have accorded clinical privileges to chiropractors (Pasternak; Lehman, 1999). The overtures of the medical profession toward chiropractic inclusion has been somewhat hampered by the technical difficulties of program implementation. Pasternak and Lehman (1999), in an examination of integration of chiropractic into a large

multidisciplinary health care organization, found that, while there was a high degree of acceptance for a collaborative effort, there were several factors that impeded smooth implementation. These included resistance among some support and administrative staff in a few departments, poor cost analysis procedures, lack of effective billing and collections procedures, and failure to provide full medical staff status to the participating chiropractors (a compromise arrangement that contributed to some misunderstandings) (Pasternak & Lehman, 1999). Thus it may be understood that, despite barriers and biases that have been identified in earlier attempts, there is interest among some health care systems in examining the integration of chiropractic into the mainstream health care community.

The chiropractic profession and occupational health care

The presence of the chiropractic profession as a large-scale participant in the community of health care providers means that it has a significant impact on the health care industry and business community. It should be apparent that any evaluation of occupational health and WC systems would be incomplete without a systematic examination of the current and potential role of chiropractic in "industrial medicine".

It may be safe to speculate that there is a great deal of misunderstanding and misinformation about the chiropractic profession in many quarters, and conflicting perceptions about the efficacy of its procedures and practices. Since certain aspects of the profession's contributions to the health care world will be here discussed, it is desirable to provide some background information to assist those unfamiliar with chiropractic. If corporate decisions are to be made concerning the 'management' of chiropractic in a benefits package, it makes sense to develop a fundamental understanding of the

profession. Appendix A provides some basic information about the chiropractic profession in terms of educational and licensing requirements, brief discussion of its theoretical and philosophical foundations, and the structure of the profession (brief review of specialties requiring board-certification, and other certificate programs). There will also be provided some comparison of chiropractic and medical education.

The development of a chiropractic board-certified specialty in occupational health and ergonomics in recent years suggests that the profession is seeking to more precisely define and establish its role in the area of "industrial medicine". The increasing body of knowledge being generated in this field allows for examination by other professions, and should promote an evidence-based analysis of the profession's potential in the OH field by entities outside of chiropractic. Such analysis might introduce an entirely new dynamic into how business approaches the packaging of its health and WC insurance purchases. One such approach will be explored in Chapter IV, in the example of Alternative Medicine, Inc. of Chicago.

Occupational health as a medical/chiropractic specialty

Perhaps the most visible initiative arising in the health care industry is the emergence of occupational health clinics (medical and chiropractic) and hospital departments. Occupational health nursing can also be included here, and is often marketed independently. The larger medical OH clinics and hospital departments tend to be multi-disciplinary, drawing on several areas of medical expertise, plus occupational therapy, physical therapy, rehabilitation therapy, psychology, industrial hygiene, ergonomics, respiratory therapy, audiology and many others. Several medical specialties have been identified as having direct application to OEM. These include cardiology,

dermatology, emergency medicine and surgery, ear, nose and throat, hematology and oncology, infectious disease, musculoskeletal specialties such as orthopedics or sports medicine, neurology, opthalmology, psychiatry, reproductive medicine, and, toxicology (ACOEM, 1998). There have been examples of incorporation of chiropractic professionals into these medical settings as well. Independent chiropractic occupational health clinics tend to be much smaller in scope, and focus clinically on musculoskeletal disorders, along with worksite initiatives and consulting. Chiropractors specializing in OH are required to be conversant in the same core competencies as medical professionals, as these competencies are necessary for the general practice of OH, whatever the clinical specialty may be. (These core competencies include diagnosis, differential diagnosis, treatment protocols, collaboration and referral procedures, and administrative protocols.) (ACOEM, 1998)

The chiropractic occupational health specialty is a post-doctoral diplomate degree program that expands upon the core neuromusculoskeletal skills of the chiropractic professional. The curriculum includes subject areas such as applied ergonomics, pre-placement physical examination, injury prevention, physical rehabilitation, stress management, diagnosis and treatment of cumulative trauma disorders, chronic pain syndrome, workplace hazardous materials issues, OSHA and other regulatory issues, environmental toxicology, and administrative concerns in occupational health practice. There is also an independent research or applied project required in order to be eligible to sit for the board examination and final award of the diplomate credential, Diplomate of the American Chiropractic Board of Occupational Health (DACBOH). (IACOHC Communications for Members, 2001). There are currently an estimated 2100 DC's that

have completed the first phase of this program. Approximately 90 have completed the full program; of these, 69 have been awarded the DACBOH credential (Auppl, E., Executive Advisor, Council on Occupational Health, American Chiropractic Association, personal communication, March 15, 2002).

Given the range of specialty skills required in OH services, it is to be anticipated that no one specialty or general area of practice will be expert in all potential competencies. However, in addition to the clinical areas of practice, any practitioner in OEM would be expected to have competency in areas such as public health, prevention, epidemiology, and toxicology. Familiarity with the regulatory environment, management, administrative and legal aspects of OEM are also necessary (ACOEM, 1998). Any variation on occupationally-oriented health care facilities, no matter the scope of practice, will include not only clinical interventions and rehabilitation procedures, but will almost of necessity provide workplace-oriented services as well. These may range from evaluation of an individual worker's work environment to a complete facility evaluation in combined effort with the employers environmental safety and health coordinator, including trend analysis of injuries and illnesses, job process/hazard analysis, ergonomic assessments, etc. (ACOEM, 1998; IACOHC, 2001).

The demands of "industrial medicine" have required the development of revised or new clinical and administrative procedures by health care organizations. Clinical procedures are being influenced by a variety of factors. These include changes in demand by the public (discussed in the Chapter I), insurance industry initiatives and pressures (notably the shift toward managed care principles) (Pelletier, 1996), and the trend toward an "evidence-based practices" approach coupled with the use of outcomes assessment

tools and best-practices consensus. Evidence-based practice (EBP) is defined as "clinical decision-making based on (1) sound external research evidence combined with individual clinical expertise and (2) the needs of the individual patient" (Bolton, 2001). EBP is seen as expanding research capabilities beyond certain confines of the 'gold standard' of randomized controlled trials (RCT's). While well-designed RCT's do much to reduce systematic biases in data, there has been some concern expressed over its limitations in a "real world" setting (an RCT may hold internal validity, but not external validity). Certain types of quantitative research lend themselves well to RCT's, however in clinical situations the variables may be much more difficult and numerous to control or fully understand. For example, the qualitative system allows the researcher to include observations of a patient's perceptions and motivations to enhance the evidence gained from the more empirical RCT's. Observational and qualitative research techniques are being increasingly accepted as viable alternatives to RCT's in such situations (Bolton, 2001).

Outcomes research is an observational process that derives significant quantitative information by including data about real life situations that affect patients as a means of devising a clinical approach that has the flexibility to accommodate practical realities. The goal is to determine what works in a real life setting, as opposed to what works under tightly controlled research parameters. As an example, the Back Pain Outcomes Assessment Team (BOAT) was established at the University of Washington School of Medicine to evaluate what types of treatment strategies were showing the best results for this very common problem. Their findings included observations that have refuted standard doctrine and become accepted practice. For example, the BOAT found that

spinal fusion surgery is not superior to other surgical procedures for certain degenerative conditions of the spine, and that these procedures have more complications, and longer hospital stays and costs. They also found that spinal traction for sciatica and herniated disks, special corsets, TENS (Transcutaneous Electrical Nerve Stimulation) treatment for chronic low back pain, and bed rest as therapy are of limited value (Deyo, 1994). While great care must be taken to design outcomes studies so as to avoid biases and to develop meaningful data sets, the use of outcomes research is increasingly seen as an adjunct to the RCT in developing a "best-practices' decision-making process (Bolton, 2001).

The combination of evidence-based practices, RCT's and outcomes research would seem to be a useful combination in light of pressures on the health care industry (and in occupational health particularly) from outside sources (such as insurance and other business interests) to move quickly on devising more effective treatment systems. The drive for measurable outcomes, feedback and 'continuous improvement' common in the tools that many industrial management systems use to evaluate all initiatives, including occupational health, make the adaptability of evidence-based practice attractive. In the U.S., a fiscal year 2000 report from the Agency for Health Care Policy and Research reflects the impetus for these initiatives in its ongoing research agenda; outcomes research and the establishment of Evidence-Based Practice Centers (EPC's) are prominent in that agenda. AHCPR has also established a National Guideline Clearinghouse Internet site for evidence-based clinical practice guidelines as a resource for health care professionals (AHCPR, 2001). Clearly, outcomes research and evidence-based practice are becoming the established 'best-practices'. The author can attest via casual observation over several years that EBP's, outcomes-based research and derivative

outcomes assessment tools such as the Oswestry or Roland-Morris disability indices have become increasingly accepted by practitioners in chiropractic and medicine, and have proved useful in directing individual case management.

Occupational health clinics and consultation services

While there have long been private consultants offering assistance to employers in the development of management approaches for their WC clinical issues, a more recent trend has been the emergence of occupational health clinics that offer what are essentially consultation services. These may be included under the umbrella of the clinic or hospital department, as a separate consulting business associated with the clinical entity, or an occupational health consultation business operating with no direct clinical association. An example of a consulting business associated with a clinic is afforded by an organization known as Work Med, in Fayetteville, New York. Work Med is the OH consulting arm of a chiropractic clinic operating as a multidisciplinary privately owned occupational health corporation. This organization offers both clinical and occupational health services. The Work Med medical network emphasizes timely access for the injured worker, return-to-work protocols, control of lost time from work and WC cost-containment. Their occupational services include records review and prioritization, monitoring of regulatory compliance issues, ergonomic interventions and training, several prevention programs, pre-placement screening, DOT physicals, drug/alcohol testing, on-site multi-disciplinary treatment, and independent medical exams (Thorpe, D., personal communication, March 14, 2002).

An example of a larger medical OH clinic is that of the Marshfield Clinic Occupational Health department in Eau Claire, Wisconsin. This clinic has three full-time medical physicians (two with Master of Public Health credentials), an industrial hygienist, nurse practitioner, and case managers specializing in risk control and other administrative aspects of OH. The clinic emphasizes prompt injury treatment, RTW programs, industrial hygiene functions, rehabilitation, ergonomics, and health promotion and wellness programs (Marshfield Clinic Occupational Health advertising pamphlet, 2001).

These trends in clinical practice and in occupational health as a specialty area may be viewed as responses to the 'market demands' of injury and occupational illness that have made health care a long time fixture in the workaday world, as well as responses to the demands of employers and insurers for more streamlined and cost-effective procedures.

Summary

It can be seen that there are workplace health care and related initiatives arising from various levels of industrial/business management structure, and from the insurance and health care industries. Legislatures and/or juridical systems may also be seen as responding to (if not initiating) the same pressures that drive the private sector initiatives. The trend in these initiatives, at least from the private sector, seems to be toward a managerial integration of these initiatives into more coherent and cohesive working units. This process may be viewed as the natural evolution of ideas into action, and a more mature expression of these actions as a result of ongoing experimentation and evaluation.

Chapter III

METHODOLOGY

Restatement of Purpose and Goals

This body of research will examine the relationships between industry, insurers and health care providers, and to identify current trends and best practices in those relationships. An examination will be made of representative examples of initiatives in these relationships taken from the workplace, insurance, health care, and from the viewpoint of an independent consulting group.

Research Problems

- Various organizations possess limited direct control or influence regarding the clinical management of work-related illnesses and injuries.
- There are significant differences in the level or quality of management-related information that companies may provide to health care providers to encourage quicker resolution of clinical and administrative problems.
- Health care providers (interpreted as primarily consisting of medical and chiropractic professionals) may not be universally qualified to integrate sound WC practices into their dealings with patients who suffer from work-related injuries and illnesses; further, providers may vary widely in their ability to communicate and cooperate with employers in the management of work-related disorders.

Research Questions

- Are there examples of organizations that have attempted to develop proactive relationships with health care providers in the WC and OH setting?
- Are there examples of clinical systems that have incorporated a 'best-practices' approach into their clinical and administrative management of WC/OH issues, including proactive relations with the involved employers?
- What constitutes 'best practices' in the interactions between employers and providers?
- Are there components of complementary and alternative medicine (CAM) systems that can provide a supplemental role to allopathic medical systems in at least some aspects of WC and OH?

Research Design

Information from groups representing different stakeholders in WC will be evaluated. This will include data and perspectives from the corporate arena, insurance industry, health care industry and from an independent consultant. Information will be taken from published studies, published and private interviews, and the professional experience of the author. These perspectives will be analyzed for their successes and compatible components, and an attempt will be made to synthesize a management format by which a risk control or other management department might more easily evaluate, select and develop relations with individual practitioners or clinics in their local health care community.

Information regarding workplace benefits, health and wellness initiatives is necessarily taken from database research. Information regarding specific occupational

health consultants or insurance initiatives as herein described is based on information provided by individual communication with the principals in those businesses; additionally, use was made of previously published articles by, and communication with, those individuals. Personal communications were semi-structured in order to allow for a free exchange of ideas and information.

The information gathered will be evaluated for common elements and observations that will enable the observer to formulate an approach to the management of workplace health and benefits issues that can include ‘best practices’, innovations and successes from each of the described areas. There are several themes that will be particularly watched for. These include workplace, health care provider and insurance trends that break from the traditional roles and perceptions, such as CAM inclusion in wellness and prevention programs, experience with CAM inclusion in managed care approaches, and observations by consultants in occupational health and related areas.

Chapter IV

RESULTS AND DISCUSSION

Workplace Initiatives

A study assessing the implications of a worksite health promotion program in a global telecommunications company examined the results of a wellness program as reflected in a comparison of short-term disability benefits claimed by a subject (participant) group versus a control (non-participant) group. This four-year study described a 5% decrease (from baseline) of days lost to short term disability (STD) by participants, compared to a 15% increase for non-participants over the same time period. Extrapolation of results to the entire non-participant group indicated a potential savings of $1,371,600 over a two-year period, not including medical expenses or costs of project delays and replacement workers. Costs to the employer for the reimbursement program for health club memberships and other covered activities was up to $450 per employee. There were 450 employees were classified as participants, with a potential cost of $405,000 (450 X $450 X 2years). The benefit:cost ratio would then be 3.3:1; a $3.30 savings for each $1 invested (Serxner, 2001). Evaluation of STD patterns is only one means of measuring outcomes. Serxner comments that very few studies have used this measurement, with changes in absenteeism being a more common basis.

The New York-based chiropractic clinic/OH consultant group Work Med was previously mentioned in Chapter II. Dr. Thorpe kindly provided an example of one of their programs. A comprehensive ergonomics program instituted at a ball-bearing manufacturer with 350 employees was able to achieve a 13% reduction in recordable

accidents, and a 28% decrease in WC cases over a four-year period. Combined medical, lost time compensation, and total injury costs were brought to approximately 36% below the previous eight-year average. There was a reduction of experience rating from 8.39 to 4.26, and in severity rate from 3.86 to 0.98, while cost per hour went from $ .98 to $ .01 (Thorpe, D., personal communication, March 14, 2002). Dr. Thorpe indicated that rather immediate, measurable results can be accomplished when the right tools are used, and the corporate culture is proactive.

An Insurance Industry Initiative

An innovation in the traditional managed care gatekeeper system is exemplified by the approach of Alternative Medicine, Incorporated (AMI), a Chicago-based independent practitioners association. AMI was developed by Richard Sarnat, M.D. (President of AMI) and James Zachman (CEO). AMI evolved from several premises (Sarnat, 2001) (Devitt, 2/12/01; 2/26/01; 3/22/99):

- Allopathic medicine is crisis-oriented health care, with poor skills in prevention or wellness processes. This is viewed as leaving an unexplored void in the operating principles of managed care organizations.
- The realization that the National Institute of Health allocates only 1% of its budget for research on prevention, while “lifestyle choices” create or aggravate 50-75% of illnesses.
- Pharmaceuticals are the fourth leading cause of death in the United States
- There is an intrinsic fault in embracing a system that has the highest level of expenditure for health care, yet is ranked between 20th and 37th in outcomes assessment by the World Health Organization.

These observations led the AMI principals to the conclusion that traditional allopathic medicine, intertwined with traditional insurance approaches, was filling only a portion of the real need in modern health care. They were also aware of the data cited earlier in this text regarding the high rate of non-reimbursed utilization of CAM procedures in today's health care market. Their conclusion was that, under carefully constructed circumstances, a CAM approach would have the potential to at least partially fill the gaps left by the traditional system. While AMI operates in the group health arena, as opposed to workers compensation, the overall operating premises would seem to be applicable to the WC arena as well (Devitt, 1999; 2/12/01; 2/26/01) (Sarnat, 2001).

AMI selected a panel of chiropractic providers who fit certain pre-determined criteria; they must first be providers with an interest in working in a multi-disciplinary managed care model, their educational background and practice preferences must be in line with evidence- and outcomes-based practice, and they must be willing to train to the same standard as their medical colleagues in order to function as primary care physicians. Doctors of chiropractic (DC's) were chosen since they are licensed as primary care providers (with some limitations) in all 50 U.S. states, and the profession has a long history of embracing alternative care concepts. (The concept of chiropractic as primary care gatekeeper was explored in depth in a policy statement by the American Chiropractic Association Political Action Committee in 1992, and argued similar observations that were embraced by AMI) (Cianciulli, 1992) AMI contracted with Blue Cross/Blue Shield (BC/BS) of Illinois to offer their >800,000 enrollees the option of selecting an approved DC as their primary care provider. These DC's would be

responsible for initial patient evaluation and subsequent interventions, including referral for allopathic procedures as appropriate. BC/BS did the data tracking, which was designed to evaluate outcomes and expenditures, along with patient satisfaction and the degree of acceptance by the medical community.

AMI placed no limitations placed on utilization of chiropractic procedures, or on the DC's options to refer. In fact, patients were encouraged to seek a high frequency of treatment, and to participate in the wellness and prevention concepts embraced by the AMI network. The hypothesis was that if wellness and prevention were given high priority, there should be a higher savings realized over time due to reduced overloading and expenditure on the allopathic "side" (Devitt, 2/12/2001; 2/26/2001). BC/BS's analysis strongly supports the validity of that hypothesis, as will be shown. Dr. Sarnat confirmed that trend over the subsequent 24 months of data-gathering; he also indicated that the data are so compelling that gatekeeper systems in other areas have sought to integrate AMI's system after this relatively short period of evaluation (Sarnat, J.; personal communication, March 15, 2002). These outcomes also support the observation offered by Dr. Sarnat that, if a managed care system is providing the right access to the right system of care for each individual patient, outcomes should improve and costs should decrease (Devitt, 1999). Employers in the plan area have also been very receptive to the AMI concept. Mr. Zechman commented in an interview (Devitt, 1999) that one large employer felt the program would significantly impact absenteeism and loss of productivity. Their goal was a 10% reduction of productivity losses, which an internal study indicated was in the "hundreds of millions of dollars" (Devitt, 1999).

The first eighteen months of data supplied by BC/BS HMOI demonstrated the following results (Sarnat, 2001):

- A 60% (approximate) decease in hospitalizations for the AMI group, as compared to normative vales for allopathic groups in the network
- An 85% reduction of outpatient surgery and procedures
- A 56% reduction in pharmaceutical usage

The success of the AMI approach would indicate that many of the trends identified in this thesis are beginning to evolve into a workable system: management systems that first developed the internal wellness and prevention systems that the insurance industry embraced and expanded, and a health care industry that has evolved both the necessary allopathic skills to deal with crisis situations, as well as the CAM systems whose strength is in the chronic "lifestyle" conditions and wellness concepts that the allopathic system has only recently begun to explore.

A Relevant Case Study

A WC case involving a dental assistant provided some idea of the barriers that exist to effective WC practices amongst some employers. This dental assistant had endured an increasing degree of upper extremity and hand paresthesias over several months. The presenting signs and symptoms were consistent with carpal tunnel syndrome, along with a cervico-brachial syndrome (degenerative changes in the structure of the cervical spine were contributory to the carpal tunnel symptoms). The patient felt that these symptoms had developed gradually, and were certainly worse at (and after) work, however she was uncertain of primary origin. The nature of her work, which included a great deal of fine grasping and postural accommodations, made a repetitive

stress disorder seem likely. A data base search quickly confirmed the endemic nature of CTS and cervical disorders amongst dental personnel, and provided insights as to the management of these individuals. These strategies included clinical treatment, certain exercises and stretches, ergonomic evaluation of tools and postures, and training in body positioning, along with proper break intervals (including alternating days of duty types). When the employer representative was approached with this information, there was an immediate refusal to accept any possible relation of the condition to work activities, a questioning of this practitioners ability to treat the condition, and an adamant refusal of an offer to perform a no-cost on site evaluation, or to modify the working situation in any way (the employer was a HMO-operated dental facility, and personnel were required to perform a certain number of procedures within specific time frames.). Treatment was successful as evaluated by outcomes analysis tools and patient symptomatic improvement, with a reluctant acceptance by the employer of a return-to-work strategy that allowed treatment and recovery to proceed with no lost days from work. Due to the fact that no significant accommodations were made by the employer, it was noted that the root cause of the problem had not been addressed, and that the patient was likely to continue to experience recurrences of the syndrome that might lead to surgical intervention. The patient did indeed experience an exacerbation at a later date that was again resolved non-surgically, however the overall situation still remains unchanged.

While the patient's clinical outcomes were adequate, her situation represents a worst-case scenario in which the employer's HR representative had a negative attitude about employees filing for WC benefits, along with a bias against chiropractic health care providers. The employer had apparently provided the HR representative with no training

or system by which to maximize the situation with which she was presented, nor were any interpersonal communication skills evident that might have allowed for a professional interaction. The relative success of the intervention was due in large part to the determination of DN to overcome the physical condition and maintain her ability to continue in her dental career. The contrast of this "management system" with that of other proactive approaches is self-evident.

Observations From an Independent Consulting Group

It may be useful to approach these issues from the viewpoint of a consultant practicing in the field of vocational consultation. John Shervey, of John Shervey and Associates, Inc., Seattle WA, has practiced in this area for over twenty years. He holds a BS (1978) in Rehabilitation from the University of Wisconsin-Stout, and a MS (1979) in Rehabilitation, with a Work Evaluation Emphasis. Mr.Shervey's experience includes three years as an Industrial Fitness Program Manager with the State of Washington Department of Labor and Industries. He has experimented with a variety of initiatives with clients that include large construction organizations, aerospace, insurance, and boat fabricators. He has specialized in early intervention program development over the past fourteen years. An interview conducted in March of 2002 provides insights into several areas of concern. The main points of this interview are as follow:

1. In response to a question concerning the types of interventions demonstrating the best results, the following observations were offered:
    - Most injured workers will by choice or necessity return to work as quickly as possible. This is independent of the quality of intervention offered by either the employer or a health care provider.

- Keeping in mind the first point, it is observed that excellent medical intervention affects outcomes in a relatively small percentage of cases. The best medical providers understand that there are multiple aspects to treating injured workers. Regardless of discipline, they usually follow a "sports medicine" model that requires active participation of the injured employee (not called a patient), and serve as a "coach" that requires reasonable levels of activity, sets reasonable expectations and requires reasonable efforts of the injured worker as well as providing excellent medical services. This means there are many excellent medical technicians who are not good providers of industrial medicine.
- Employers who possess a good to excellent attitude and return-to-work process will significantly outperform an employer who is not accommodating, regardless of the quality of medical support.

2. In a discussion on physician/health care facility reimbursement, the concept of offering a "bonus" above usual and customary levels was approached by Mr. Shervey as a means of lowering overall WC case costs. The question was one of how this idea was implemented:
    - A theoretical example was offered: an injured worker paid $100 per day, a medical report taking 15 days to receive costs $1500. That cost added to and exam costing $400 to $600 totals up to $2100.
    - If the same report is generated in 7 days, the "time-loss cost" drops to $700. Even if the employer agrees to pay $800 for the examination, the

total would be $700 plus $800, for a total of $1500. In essence, the exam costs nothing.

- The real cost driver is the time delay that puts an injured worker in limbo while the employer awaits the paperwork. Mr. Shervey observes that "the length of time off work or inactive is a greater determining factor as to length and cost of disability than the seriousness of the injury itself."
- The concept of paying more to drive down costs requires the participation of health care providers who truly understand the multi-factorial nature of the WC system, and who do not possess the professional cultural barriers that inhibit the fulfillment of the critical administrative/clerical components of the WC cycle.

3. The issue of provider specialty credentials and dedicated OH clinics brought a response that reiterated the need for a fundamental understanding by those providers of the WC milieu, as follows:
    - "To be honest with you, I'd have better success with a witch doctor that understood the need to be responsive request consultations when needed, kept workers active and also understood that the politics of Industrial Insurance are different than other "patients" than medical (personnel) with any "great" credentials who are self-centered".
    - High-performance providers are still dependant on a proactive employer to drive the process.
    - Providers must be able to stand their ground when confronted by customers (workers) as well as those who pay (employers).

- Insurance companies have no fiscal reason to improve things.
- Employers must understand they have to focus on improving, not reducing, services to cut costs.

4. Questions regarding advantageous clinical/provider situations, successful vs unsuccessful interventions elicited a common response:
    - The employer is always the key factor. A dedicated upper management system that is willing to invest the time and resources necessary to allow a functional early intervention program to succeed, develop the understanding and skills necessary for lower-level management and employees that are key to these efforts, and can develop effective relations with health care providers will be the key to survival of the effort.

Summary

The central role of the employer/industry in the initiatives geared to the control of WC and health care costs is at the core of the issues reported above. This was also a recurring theme in the Chapter II literature review. That central role, which can be viewed as reflective of the corporate culture, is what determines the response of the other "players". Insurers and health care organizations can be viewed as responsive to the demands and needs of their industrial customers. Thus, a precise assessment and definition of a corporate culture, and of those needs and demands by the employer would seem to be a vital component of any management attempt aimed at WC and health benefits costs.

Chapter V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Restatement of Purpose

This thesis has examined the relationships between industry, insurers and health care providers, particularly in the systems of delivery and management of health care benefits, whether group health or worker's compensation. An attempt has been made to identify trends and best practices in those relationships.

Problem Statements

- Various organizations possess limited direct control or influence regarding the clinical management of work-related illnesses and injuries.
- There are significant differences in the level or quality of management-related information that companies may provide to health care providers to encourage quicker resolution of clinical and administrative problems.
- Health care providers (interpreted as consisting primarily of medical and chiropractic professionals) may not be universally qualified to integrate sound worker's compensation practices into their dealings with patients who suffer work-related injuries and illnesses; further, providers may vary widely in their ability to communicate and cooperate with employers in the management of work-related disorders.

Research Questions

- Are there examples of organizations that have attempted to develop proactive relationships with health care providers in the WC and OH setting?

- Are there examples of clinical systems that have incorporated a 'best-practices' approach into their management of WC/OH issues, including proactive relations with involved employers?
- What constitutes 'best practices' in the interaction between employers and providers?
- Are there components of complementary and alternative medicine (CAM) systems that can provide a supplemental role to allopathic medical systems in the provision of services in at least some aspects of WC and OH?

Summary of Data Collected

There have been identifiable trends in the health care, insurance and industry/employer areas examined. These can be summarized as follows:

- ***Health care industry trends***
  - Continued response to the demands of industry as to health and wellness, prevention, and acute care approaches.
  - Continued response to the demands of managed care in the form of utilization of evidence-based and outcomes-based practice guidelines.
  - Increasing development of facilities and professional that specialize in occupational health or related areas of practice.
- ***Insurance industry trends***
  - The general trend is toward increased reliance on and development of managed care-type products. This includes attempts to improve the current 'product'.
- ***Trends in industry***

- Continued implementation of wellness and prevention programs, and an increasing reliance on these approaches as a means of containing losses and exposures that lead to higher insurance costs.
- Increased communication with health care providers in WC case management, and wellness/prevention program developmet.
- Continued use of managed care approaches, while at the same time recognizing some problems intrinsic to managed care, and searching for improved or novel insurance approaches.

A discernible theme in this body of research has been that the 'support industries' of health care and insurance have been shown to be responsive to the demands and developments originating in the industrial/business world in the development of their own 'products".

Results and Discussion

The interactions between industry and the health care community present a unique set of problems in the management of WC issues. Certain conclusions may be drawn concerning the problem statements proposed in Chapter I:

- Organizations often possess limited direct control or influence over the clinical management of work-related illnesses and injuries, but there do exist methods by which a management system may extend its each into this area. This may be done directly, via pre-established relationships and/or protocols with a health care provider or organization, or indirectly via wellness and prevention programs, and EH&S management.

- Organizations may not effectively communicate essential information to health care providers, but it may be concluded that HR or other representatives can improve their communication to health care providers through such expediencies as timely telephone follow-ups, provision of pre-established information packets containing facility and job descriptions, RTW options, pertinent forms and points of contact. Some of this information may be placed at the disposal of health care facilities in anticipation of potential problems.
- Health care providers may vary greatly in their individual or group capacity to effectively participate in the resolution of WC issues. The trend toward clinical entities that specialize in occupational/industrial health care may be seen as an attempt to anticipate needs in the workplace. Coordination of clinical management by providers who have expertise in these matters can help to ensure that injured employees receive the correct type of care in a timely manner. These facilities can also ensure that the peculiar administrative needs of Worker's Compensation cases can be met. In regions where dedicated occupational health facilities are unavailable, physicians will still be called upon to provide health services to industry. While those physicians may anticipate the demand by voluntarily developing the necessary skills and facilities, industry may also "prepare the ground" by addressing their particular requirements with local health care facilities and providers. As previously discussed by Pelletier (1996), the healthcare marketplace will respond to the demands of industry.

It may be seen that the research questions can be answered affirmatively:

- Organizations do exist that have attempted to develop proactive relationships with health care providers in their WC and OH settings. The many examples of wellness and prevention initiatives, along with OH and EH&S programs all involve some degree of outreach by industry to the health care community.
- There are examples of clinical systems that have incorporated a "best-practices" approach in their clinical and administrative management of WC/OH issues. These seem to be emerging as individual and practice groups that have incorporated appropriate clinical skills along with an understanding of the particular administrative demands of "industrial medicine". These practitioners may not necessarily be part of a specialized OH practice, however these OH-dedicated practices would logically be aware of those issues.
- "Best practices" in employer/provider interaction may not be easily defined. Workplace situations may vary enormously, and access to providers with the best credentials or skills may not be available. Evaluation of current and emerging trends does indicate that the burden lies primarily on the employer. No one else has the degree of knowledge or self-interest necessary to define organizational resources and needs, and past history has shown that industry has been the first to develop initiatives to meet their own internal needs. It has been shown that developments in the insurance and health care systems can be seen as responding to those workplace initiatives in the form of managed care insurance programs and occupational health specialty practices. Even though

these developments may seem to be co-evolutionary, it can be seen that the demand from industry is what drives initiatives in the ancillary support organizations.

- Complementary and alternative medical (CAM) systems, when utilized appropriately, may provide a useful and cost-effective adjunct to the traditional allopathic medical approaches in OH and WC. The experience of clinical and consulting groups in chiropractic, and the large-scale initiatives of AltMed with BC/BS-Illinois provide examples of what may be seen as an emerging trend in OH and managed care. The emergence and recognition of the role of CAM providers in preventive health care, wellness roles, and acute care as appropriate fills a gap left by the more crisis-oriented allopathic system. It would seem to be reasonable for any employer to investigate the possible application of CAM practices to their overall management of OH and EH&S issues.

Summary

There are several summary statements to be drawn from the body of evidence presented:

- The several interested groups or stakeholders in WC and workplace health-related issues have developed what might be termed heuristic strategies to deal with their own concerns. These strategies may include an industry's EH&S, human resources, risk management, and general administrative efforts. Also included are various insurance industry responses to industrial demands, the rising costs associated with health care, and legislative/regulatory issues. Responses of the health care industry to demands and pressures from

employers and insurers are also evident. These varying responses may be of narrow self-interest, or may be of significant cooperative overlap with the initiatives of other stakeholders

- The control of costs and losses from work-related injuries and illnesses is dependent on the strategic and tactical efforts made by management in the development of systems that include components such as insurance initiatives, wellness/prevention programs, involvement of occupational health professionals in both clinical and workplace initiatives, and high quality risk control/management systems.
- The provision of health care in the WC setting requires a unique set of skills that are not universal in the health care professions. These skills involve functional multidisciplinary systems that enhance the process of handling an injured employee by compressing the time frame of in-processing, evaluation, treatment, rehabilitation/return-to-work processes, and final disposition regarding disability ratings, retraining, etc. These skills also include an administrative system that maintains a tight control over the requisite paper flow of WC situations.
- There are many examples of organizations that have developed proactive management systems for their EH&S, wellness and prevention programs, and for relations with the health care providers involved. The techniques have been well documented. While they vary in emphasis and nomenclature, the methodology does not vary substantially.

- There are patterns of "best practices" that are common to the organizational interactions between industry and the health care community. These include health care systems that are responsive to the requirements of industry, and conversant in the "language" of practice in the occupational health setting. Industrial efforts at establishing wellness and prevention systems as internal controls over losses, insurance industry responses to those initiatives, and clinical approaches that embrace outcomes- and evidence-based practice systems along with managed care realities represent a true integration of "best practices" in the WC arena.
- Integration of CAM into this system may be an essential component of its overall success.

The historical evidence and trends in the control of the incidence of and costs associated with work related injuries and illnesses indicates that there are several avenues of approach to this monumental problem. Initiatives have been examined from the perspective of employers, insurers and the health care community. Each perspective has had successes. Industry has long recognized the value of preserving its investment in its most valuable resource: its employees. The initiatives toward wellness and prevention programs, and the involvement of OH professionals in the overall risk control/management scheme are indicative of the willingness of some exemplary management systems to innovate and devise creative solutions for thorny problems. The development of managed care theory and principles by the insurance industry can be seen as a recognition of and response to the successes of those industrial initiatives. The

emergence of occupational health specialties and their ancillary para-professional and administrative functions may also be seen as a response to the need and demands of the marketplace and insurance realities. The lines between traditional boundaries of group health insurance, WC insurance, OH systems and industrial initiatives are beginning to blur. This situation in all likelihood reflects the trend toward integration of all aspects of internal and external management into a more cohesive functional unit.

Recommendations

The trend toward integration of these internal and external management aspects, and the fact that historically most initiatives have originated or been driven by the demands of industry, suggests that further evolution of these initiatives will also be a factor of workplace demand and innovation. It would therefore seem that employer relations with the health care community will require that the employer initiate the dialogue. The use of pre-packaged job descriptions, return-to-work opportunities, and WC forms to send along to the health care provider with an injured employee can give the provider quite a lot of information at a glance. However, it may be the working relationship with the provider, emphasizing a mutual understanding of the needs and responsibilities of all parties to a WC claim, that produces the best results. That working relationship may be enhanced by several methods:

- Initiate dialogue sessions with area providers in order to inform them of where problems exist, and to ask for help in solutions. Inform them of administrative competencies such as time frames of reporting or return-to-work processes that will help you and make them more valuable to you as well.

- Establish protocols for communication of administrative and clinical information pertinent to workplace health and WC issues.
- Extend invitations to providers to tour facilities and meet pertinent staff at all levels of authority. It may be helpful to invite providers to participate in presentations or round table discussions with managerial and employee groups.
- Undertake an evaluation of the credentials and training of health care providers serving a business's area. It may be productive to find out who has pertinent skills, and who doesn't. This type of evaluation will of course vary a great deal in complexity with the size of a business, or the population density in its geographic area of operations. It may be helpful to remember the observations of several authors cited in this study that performance may supersede credentials, and that an industry has the most direct financial interest in enhancing the performance of health care providers. Ongoing evaluation of actual experience with an individual provider or provider organization will be a necessary component of this process, and may provide an opportunity to encourage better performance via constructive dialogue.
- It would seem to be appropriate to include insurers in overall evaluation of management initiatives. Their experience and insights may be helpful. It may also be noted that the 'purchaser' of the insurance product has a direct interest in informing the insurer of their requirements, including the corporate culture or attitude pertaining to health programs and worker's compensation claim control. A corporate policy that is proactive in these issues may conflict in a

costly manner with an insurer policy that is reactive and suppressive in its cost-containment efforts. The purchaser, as the party writing the check, may be seen to have some degree of influence over these processes.

Limitations and Biases

This study has been an attempt at an overview of issues relevant to the roles and trends of industry, insurers and health care providers in the occupational/industrial health arena. It should not be viewed as a comprehensive analysis, since such an undertaking would be far beyond the scope of this thesis, as any single component of the subject matter could (and probably does) fill volumes.

There is also a limitation in that employee groups were not included in this evaluation. This by no means should be interpreted as a dismissal or diminution of these groups or individuals as participants in the processes herein described. Indeed, the influence of unions and employee organizations should be viewed as key participants, in that it is their health and well being that is directly affected. They are also directly involved in the evolution of the various internal and external mechanisms described above, whether by involvement in collective bargaining or by other means of inclusion in the corporate process.

The fact that the author is a practicing doctor of chiropractic establishes the possibility of a professional bias.

Suggestions for Further Research

There are four general areas of need for further research:

1) Further examination of organizations such as Alternative Medicine, Inc. to confirm the success and viability of insurance initiatives that include CAM as integral components of their structure.

2) Examination of industry trends and innovations that may shape future responses by the insurance and health care industries
3) Continued evaluation of CAM in an attempt to determine which components demonstrate the best outcomes and application in the industrial health context.
4) Evaluation of the clinical and economic performance of clinical organizations that specialize in occupational health.

REFERENCES

Agency for Health Care Policy and Research. Fiscal Year 2001 Research on Health Care Costs, Quality and Outcomes (HCQO). http://www.ahcpr.gov/about/cj2001/hcqo0a.html Retrieved July 16, 2001.

ACOEM, (1998) *American College of Occupational and Environmental Medicine*. http://www.acoem.org/general/backgnd.htm Retrieved December 17, 2001.

ACOEM (1998) *American College of Occupational and Environmental Medicine*. http://www.acoem.org/paprguid/guides/comp.htm Retrieved December 17, 2001.

Allen, R.G.; Ritzel, D.O. (1997) An Injury & Cost Assessment of a Coal Mining Company's Return-to-Work Program. *Professional Safety*, Sep97, Vol. 42 Issue 9, p24

AMSO. (2001) *American Medical Specialty Organization* Retrieved February 5, 2002 http://www.amso.com/terms.html

Atcheson, S.G.; Brunner, R.L.; Greenwald, E. J.; Rivera, V.G.; Cox, J.C.; Bigos, S. J. (2001). Paying Doctors More: Use of Musculoskeletal Specialists and Increased Physician Pay to Decrease Workers' Compensation Costs. *Journal of Occupational and Environmental Medicine*, 43:672-679

Beigbeider, S. (1999) Disability Management—Improving Employee Health and the Company Bottom Line. *Journal of Property Management*, May/Jun99, Vol. 64 Issue 3, p98

Bolton, J.E. (2001) The Evidence in Evidence-based Practice: What Counts and What Doesn't Count? (Commentary) *Journal of Manipulative and Physiologic Therapeutics* Vol. 24, Number 5, June 2001

Cherkin, D.C.; Phillips, R.B.; Mootz, R.D., et al. (1997) Chiropractic in the United States: Training, Practice, and Research. *U.S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research*, Rockville, Maryland. AHPCR Pub. No. 98-No2.

Cianciulli, A. E. (1992) Chiropractic: A Primary Care Gatekeeper. *Foundation for Chiropractic Education and Research* (booklet)

Collins, B. S. (1991) Workplace Health Promotion: Approaches, Examples and Trends. *Wellness Perspectives*, Fall91, Vol. 8 Issue 1, p29

Devitt, M. (1999) DC's as Primary Care Providers in Managed Care. (interview) *Dynamic Chiropractic*, March 22.

Devitt, M. (2001) DCs as Primary Care Providers: Interview with James Zechman, Part I. *Dynamic Chiropractic*, Feb. 12.

Devitt, M. (2001) DCs as Primary Car Providers: Interview with James Zechman, Part II. *Dynamic Chiropractic*, Feb. 26.

Deyo, R.A.(principle investigator) (1994) Back Pain Outcomes Assessment Team (BOAT). *Grant Number HS 06344, University of Washington School of Medicine.* http://www.ahcpr.gov/clinic/medtep/backpain.htm

Gabel, J. T.; Mansfield, N. R. (1998) The New Relationship Between Injured Worker and Employer: An Opportunity for Restructuring the System. *American Business Law Journal*, Spring98, Vol. 35 Issue 3, p403

Hansen, L. (1993) Safety Management: A Call For (R)evolution. *Professional Safety* March, p16-21

Hedrick, S. F. (2000) Eleven Obstacles to a Good Workplace Safety and Health Program. *Safety + Health*, April, p36

IACOHC Communications for Members (newsletter). Chiropractic Occupational Health & Applied Ergonomics Postgraduate Education. *International Academy of Chiropractic Occupational Health Consultants Communications for Members*, Summer 2001, p3.

IACOHC (2001) *International Academy of Chiropractic Occupational Health Consultants.* http://www.iacohc.org

Johnson, W.; Baldwin, M. (1999) The Costs and Outcomes of Chiropractic and Physician Care for Worker's Compensation Back Claims. *Journal of Risk & Insurance*. June, Vol. 66 Issue 2, p185

Knapschaefer, J. (2000) A Look at Workers' Compensation: What's Reducing Costs – and Why? *Safety & Health*, April, p32

Logan College of Chiropractic (2001) *Academic Catalogue 2001-2002*

Manga, P.; Angus, D. E.; Papadopoulos, C.; Swan, W.R. (1993) A Study to Examine the Effectiveness and Cost-Effectiveness of Chiropractic Management of Low-Back Pain. *Pran Manga and Associates*, Ottawa, Ontario, Canada.

Monthly Labor Review, Bureau of Labor Statistics, April 8, 1999 Wysiwyg://24/http://stats.bls.gov/opub/ted/1999/Apr/wk1/art04.htm

National Academy of Social Insurance-Publications. (2001) Worker's Compensation Benefits Decline as a Percent of Wages for Seven Years in a Row. *Press release*, May 22. http://www.nsai.org/publications2763_show.htm?doc_id=57955

Nyiendo, J.; Haas, M.; Goodwin, P. (2000) Patient characteristics, practice activities, and one-month outcomes for chronic, recurrent low-back pain treated by chiropractors and family medicine physicians: A practice-based feasibility study. *Journal of Manipulative and Physiologic Therapeutics*, May, Vol. 23, No. 4

Occupational Hazards (unattributed). (2001) Workers' Comp Update. *Occupational Hazards*, Aug, Vol. 63 Issue 8, p23

Office of Disease Prevention and Health Promotion. (1993) Health Promotion Goes to Work: Programs With an Impact. Public Health Service. *U.S. Department of Health and Human Services, Washington, D.C.*

Overman, S. (1996) Alternative Cures for Workers' Comp Injuries. *Occupational Health & Safety*, April, p48

Pasternak, D. P.; Lehman, J. J. (1999) Can Medicine and Chiropractic Practice Side-by Side? Implications for Healthcare Delivery. *Hospital Topics*, Spring99, Vol. 77 Issue2, p8

Pelletier, K. R. (1996) A Review and Analysis of the Health and Cost-effective Outcome Studies of Comprehensive Health Promotion and Disease Prevention Programs at the Worksite: 1993-1995 Update. *American Journal of Health Promotion*, 10(5): 380-8

Pelletier, K. R. (1998) Life With the New Roommate: Alternative Medicine Moves In With Conventional Medicine. *Healthcare Forum Journal*, Nov/Dec, Vol. 41 Issue 6, p34

Pelletier, K. R.; Astin, J. A.; Haskel W. L. (1999) Current Trends in the Integration and Reimbursement of Complementary and Alternative Medicine by Managed Care Organizations (MCO's) and Insurance Providers: 1998 Update and Cohort Analysis. *American Journal of Health Promotion*, 14[2]: 125-133

Ritzky, G. M. (1990) The Politics of Employment: How to Keep People From Becoming a Corporate Liability. *Business Horizons*, Jul/Aug, Vol. 33 Issue 4, p42

Rosen, R.H. (1986) Healthy Companies: A Human Resources Approach. *American Management Association Membership Publications Division*, 135 West 50th Street, New York, N.Y. 10020

Rousmaniere, P.; Chadwick, D. (2001) Managing Workers' Comp. *Best's Review*, Nov, Vol. 102 Issue 7

Sarnat, R. L. (2001) The Future Is Now. *Total Health Magazine*, 2001 Vol. 23, No. 2

Schaarsmith, J. (2000) ISO 14000 Lowers Environmental Risks. *Business Insurance*, 07/10/2000, Vol. 34 Issue 27, p12

Serxner, S.; Gold, D. (2001) How Health Promotion Outweighed STD Costs; *Business & Health*, June, Vol. 19 Issue 6, p25

Stano, M. (1993) The Economic Role of Chiropractic: An Episode Analysis of Relative Insurance Costs for Low Back Care. *Journal of the Neuromusculoskeletal System*, Vol. 1, No. 2, Summer

Stokols, D.; Pelletier, K. R.; Fielding, J. E. (1995) Integration of Medical Care and Worksite Health Promotion. *Journal of the American Medical Association*, April 12, Vol 273, No. 14

Weinper, M. (1998) Bringing Managed Care to Workers Comp. *Business Insurance*, 05/25/98, Vol. 32 Issue 21, p31

APPENDIX A

CHIROPRACTIC EDUCATION AND ECONOMICS

Introduction

It has been the author's professional experience that very few people outside of the chiropractic profession actually know in any detail what level of training and education is required in order to receive the Doctor of Chiropractic degree. It is not uncommon for the public or medical professionals to be only marginally aware of what the practice of chiropractic entails, the professional scope of practice encompassed by licensure in their state, or of the fact that the profession also includes several specialty areas. To illustrate, the author was asked by the continuing education committee of a hospital in his area to do a presentation on chiropractic to the medical staff, with a comment to the effect that "We don't really know what you guys do!" There was a great deal of interest, some honest skepticism, and a small degree of overt hostility displayed among the participants. The skepticism and hostility was tempered by the fact that two of the medical doctors were indeed patients in the authors' clinic (and admitted such to their peers), and by anticipation of the professional climate. Significantly, the medical professionals in that gathering were interested in what the practice of chiropractic entails, but suffered under numerous misconceptions and biases. These misconceptions and biases are common in the public at large, and even among many chiropractic patients. The fact that these exist, and that chiropractic is indeed a significant presence in the industrial health care environment, suggest that, 1) the chiropractic profession has done an inadequate job of educating the professional and lay public about chiropractic, and; 2) employers and other parties involved in the payment for or delivery of health services

have a human and financial stake in developing a better understanding of the realities of a profession that is almost universally a part of their health benefits package (Stano, 1993). While it would be impossible to present a detailed analysis of chiropractic education and practice in this Appendix, a brief overview will be offered that should enable the interested reader to better understand the profession, along with additional resources should the need arise for greater detail. Unless otherwise noted, the information in this appendix is derived from a U.S. Department of Health and Human Services publication entitled "Chiropractic in the United States: Training, Practice, and Research" (Cherkin, Reed, Mootz, et al, 1997). The reader is referred to that publication for a more complete overview.

Chiropractic Education

There are currently sixteen chiropractic colleges in the United States, all of which are accredited for professional curriculum by the Council on Chiropractic Education (CCE). According to a review of current college catalogues by the author on January 27, 2002, all but one of these colleges (Sherman College of Straight Chiropractic) are currently accredited by regional academic accrediting bodies such as the North Central Association of Schools and Colleges (the US Dept. of Health & Human Services report indicated that only thirteen of the colleges were so accredited in 1997). None of the colleges require an undergraduate degree for admission, although several admit degreed students preferentially. All but two require a minimum of 90 semester hours of a CCE-approved pre-chiropractic course of study (Sherman College of Straight Chiropractic and the two Life Chiropractic College campuses require only 60 semester hours, by the author's review of admissions criteria). This compares to an average of 100.9 semester

hours for medical school admission. According to the HHS study, four colleges will soon require a bachelor's degree for admission, and six State Licensing Boards require a bachelor's degree in addition to the chiropractic degree for licensure.

Chiropractic education typically consists of a four academic year program, averaging 4822 total contact hours. An average of 30% of the contact hours are in the basic sciences, generally including anatomy, physiology, pathology, biochemistry, microbiology and public health. The remaining 70% of the average contact hours involve education in general clinical sciences, and course-work specific to chiropractic clinical competencies.

Cherkin (1997) et al offer the following comparison of medical and chiropractic education and training:

- Program length
  - Chiropractic: 4 years, 4800 contact hours
  - Medical: 4 years, 4667 contact hours, plus additional residency (typically 3 years)
- Selection of students
  - Chiropractic: minimum 2 years pre-chiropractic (78% enter professional training with a prior degree)
  - Medical: minimum 3 years pre-med (most complete 4 or more years)
- Prerequisites
  - Chiropractic and medicine preparatory studies overlap significantly (biology, inorganic and organic chemistry, physics, humanities)

- Curriculum
    - The general educational requirements are described as similar between medical and chiropractic programs, with the greatest variance occurring in the structure of clinical clerkships. Medical students receive more hours of clinical contact, while chiropractic students receive training in chiropractic clinical procedures that have no medical equivalent. The authors felt that the major difference was one of didactic teaching and clinical experience.

Thus it can be seen that many similarities exist in the basic scientific education of medical and chiropractic students, with divergences occurring in the clinical areas of training.

There are also several specialty areas in chiropractic that require either a residency program at a chiropractic college, or participation in an approved continuing education program sponsored by a chiropractic college. These training programs qualify the participant to sit for the examinations offered in specific areas by the National Board of Chiropractic Examiners (NBCE).

The NBCE-certified examinations lead to designation of Diplomate in a specialty field. These include:

- Rehabilitation
- Nutrition
- Sports Injuries
- Radiology

- Occupational Health
- Orthopedics
- Pediatrics
- Clinical Neurology
- Family Practice
- Clinical Sciences

There are additionally numerous certificate programs offered either by chiropractic colleges or their affiliates, or by private entities.

Divisions Within the Chiropractic Profession

Anyone who has examined the chiropractic profession will be aware that, besides the usual conflicting opinions evident in any profession, there is a fundamental division within chiropractic that causes confusion to both the outsider and the insider. This is the split between two groups that can be considered to represent "philosophy-based" versus "science-based" chiropractic. Western States Chiropractic College provided a succinct description of this division in their 2002 catalogue and information packet. Due to its clarity, this two-paragraph description will be quoted rather than presented in abbreviated form:

"The chiropractic profession is often divided into two factions: philosophy-based (often called "straight" chiropractic) and science-based ("mixer" chiropractic). The straight element of the profession is best described as subscribing to and practicing according to the belief that the chiropractor should limit his/her efforts to the detection and adjustment (removal) of misalignments (subluxations) of the spine. The broad (mixer) element includes this component, but with the added responsibility of more

complete diagnosis, prognosis, and general assessment of other needs of the patient such as nutritional advice, exercise, life style modification, and/or collaborative assistance from other health care providers.

"Each chiropractic college fits somewhere between these two poles. The straight colleges generally use the phrase "separate and distinct" to establish a clear disconnection from other health care professions, especially contemporary medicine. They seek to limit care to detecting and correcting a spinal subluxation to allow the flow of "innate intelligence". The broader colleges include additional therapies, with heavy emphasis on identifying the patient's condition (diagnosis) and a willingness to refer to or collaborate with other health-care providers for the good of the patient. All colleges produce graduates who help their patients; the major differences are in their perceived professional responsibilities."

While this division may be viewed by some as a reason to question the profession as a whole, it can be pointed out that in the context of research for this thesis, the effectiveness of chiropractic procedures in terms of outcomes and costs were not segregated on that basis. That type of analysis has not been done, to the best of the author's knowledge. It can be noted that one group, Alternative Medicine, Inc., based their selection of chiropractors for their program in part on the prospective participants' academic background and orientation toward a collaborative health care approach (Sarnat, J.; personal communication, March 15, 2002). An organization that is evaluating their chiropractic component may be well advised to consider their organizational needs in their analysis of chiropractic providers, with the realization that clinical outcomes are apparently unaffected by a chiropractors 'group affiliation".

Cost-effectiveness and Outcomes of Chiropractic Care

The relative cost-effectiveness and clinical outcomes may be viewed as the ultimate arbiter of chiropractic inclusion in the industrial health care process. There have been many studies examining these areas, with somewhat mixed results. Four well-designed studies were chosen for this review. All examined outcomes and costs relative to low back pain. Johnson (Arizona State University), Baldwin (Department of Economics, East Carolina University), and Butler (University of Minnesota Industrial Relations Center Chair) (1999) derived their data from a workers' compensation insurance company (the Zenith Insurance Company). Miron Stano (1993), of the School of Business Administration, Oakland University, Rochester, Michigan evaluated comparative costs for 8928 patients with nine common lumbar and low back conditions. Nyiendo (Professor, Research Division, Western States Chiropractic College), Haas (Interim Director of Research, Western States Chiropractic College) and Goodwin (Professor emeritus, Department of Family Medicine, Oregon Health Sciences University) (2000) performed a one-month outcomes assessment on 93 chiropractic and 45 medical patients with chronic, recurrent low back pain. A 1993 study headed by Pran Manga, Ph.D. (Professor and Director, Masters in Health Administration Program, University of Ottawa), was commissioned by the Ontario (Canada) Ministry of Health. This is still the most extensive evaluation of outcomes and cost-effectiveness, and performed an overview of epidemiologic and health economics literature, and extensive literature review of chiropractic and medical efficacy for treatment of low back conditions.

The conclusions drawn in these four studies are strikingly similar. Johnson and Baldwin (1999) conclude that the overall health-care and indemnity costs for the work-related lower back conditions followed in their study were lower for the chiropractic patients; they view either system as equally effective, with no clear advantage by either relative to costs or outcomes, and that "In effect, chiropractors and physicians are close substitutes as care givers for non-surgical cases of work-related back pain".

Nyiendo, et al (2000) found greater improvement in their chiropractic cohort, proposing several alternative explanations. These included possibly greater efficacy of treatment procedures, and/or the greater degree of personal interaction and knowledge transfer typical in the chiropractor-patient relationship. They found this to be consistent with previous studies of patient satisfaction measurement.

Stano (1993) addresses the increasing demand for alternative health care services as an economic phenomenon, in that he found a high rate of chiropractic utilization despite low insurance coverage (at the time of the study) and a history of organized resistance to the profession by organized medicine. He observed that a willingness to pay is associated with expected value or benefits. Stano also suggested that "cost-effectiveness studies of alternatives to medical treatment of low back conditions which exclude chiropractic therapies are neglecting a substantial component of the health services market for these conditions…that DC's are used as a first contact resource by many patients. As such, the DC's performance as a gatekeeper including his of her role as an alternative care gatekeeper needs to be examined." Stano also found a high differential in cost effectiveness, with medical service costs for the same conditions often more than

double that of chiropractic, and that there were lower rates of surgery and hospitalization with patients in the chiropractic group.

The Manga study (1993) found a great amount of evidence in their large-scale literature review that supported the conclusions that chiropractic care can be both cost-effective and efficacious in its outcomes in both group health and worker's compensation scenarios. Manga et al emphasize the safety of chiropractic procedures vs medical, as well as the high potential for cost savings by transferring management of low back conditions (the focus of their study) to chiropractors from medical physicians. They contend that major savings could be accomplished due to "fewer auxiliary costs, fewer hospitalizations, and a significant reduction in chronic problems and disability" (Manga, 1993, p 79). (The reader is referenced to the experience of Alternative Medicine, Inc., described in Chapter IV.) Manga also criticizes traditional medical therapies for low back pain, stating that "The literature declares them in most instances ineffective, and some even harmful. It is surprising to discover how "unscientific" traditional therapies for LBP are and, further, how slowly clinical research affects actual medical practice. Most low-bask surgery is not founded on evidence from randomized or even non-randomized clinical trials". (Manga, et al, 1993, p 80) This study was commissioned by the Ontario Ministry of Health with a view to policy recommendations. There were eight major recommendations and suggested reforms, presented here in abbreviated form:

> "1. There should be a shift in policy now to encourage the utilization of chiropractic services for the management of LBP…"

> "2. Perhaps the most important change the government should initiate immediately is offer full coverage under the Ontario Health Insurance Plan for the cost of chiropractic care for patients with low-back pain."
>
> "3. We recommend that chiropractors be employed by tertiary hospitals in Ontario" , and that "Hospital privileges should be extended to all chiropractors for the purpose of treatment of their own patients who have been hospitalized for other reasons, and for access to diagnostic facilities relevant to their scope of practice and patient's needs."
>
> "4. Since LBP is of such significant concern to worker's compensation, chiropractors should be engaged at a senior level by Worker's Compensation Board to assess policy, procedures and treatment of workers with back injuries."
>
> "5. Chiropractic services should be fully integrated into the health care system."
>
> "6. The government should make the requisite funds and resources available for further clinical evaluation of chiropractic management of LBP…."
>
> "7. Chiropractic education in Ontario should be in the multi-disciplinary atmosphere of a university with appropriate public funding."
>
> "8. Finally, the government should take all reasonable steps to actively encourage cooperation between providers, particularly the chiropractic, medical and physiotherapy professions. Lack of cooperation has been a major factor in the current inefficient management of LBP." (Manga, et al. 1993, p 81-82)

This detailed review should, in the author's opinion, be carefully considered by any organization seeking to enhance its health care benefits offerings.

Each of these studies also calls for more extensive research into these issues, whether funded publicly or privately, due to the general trend of findings that strongly suggest a high potential for cost savings and positive outcomes in chiropractic health care.

Summary

This brief presentation of chiropractic education, cost-effectiveness and efficacy should not be considered to be exhaustive or definitive. The profession is perceived to be in a process of continuing academic and clinical evolution that has developed an increasing body of literature capable of withstanding the scrutiny of science, and that has demonstrated an ability to participate effectively in the highly competitive health care environment. The success to date of this evolutionary process supports the conclusion drawn elsewhere in this text that the potential savings in costs and human suffering, and improvements in general and occupational health processes, may be missing a significant opportunity if the chiropractic ‘product’ is not carefully evaluated and included.