

A Case for On-Site Occupational and Non-Occupational Health Care for Health Care Workers

By

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## ABSTRACT

The cost of health care in the United States is high and is expected to steadily increase. Hospitals and health care systems are affected by the rising costs in the form of expenditures on behalf of their employees' health care needs. Health care workers (HCWs) have higher utilization rates and carry a higher burden of chronic illness than employees in other market segments. Finding better ways to manage risk levels of these employees is critical to reducing costs.

Current health care strategies include wellness programs and health conscious worksites. Many employers in an array of industries have instituted on-site primary care clinics to not only take care of minor acute illnesses but to provide management of chronic conditions for employees realizing that a healthy employee is a more productive employee. These clinics are a convenient way for employees to receive medical treatment without having to go too far from the worksite and, at the same time, offer an opportunity for the employee to learn about other health-related services covered under the employer's company plan.

This paper addresses the special circumstance of the higher than average health care cost for HCWs, how this might be addressed, and to make a case for on-site urgent and primary care options utilizing the concepts of the patient-centered medical home model in addition to the presently offered employer-sponsored occupational health and wellness services. With such an integrated and comprehensive health care system comes an expanded role for occupational health nurses and occupational health nurse practitioners to join with other health care professionals in devising and implementing effective methods of improving patient outcomes.

*Key words: Workplace Medical Clinics, Primary Health Care for Health Care Workers, Occupational Health Nursing*

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# CHAPTER I

## INTRODUCTION

### **Description of the Problem**

#### **High Cost of Health Care in the United States**

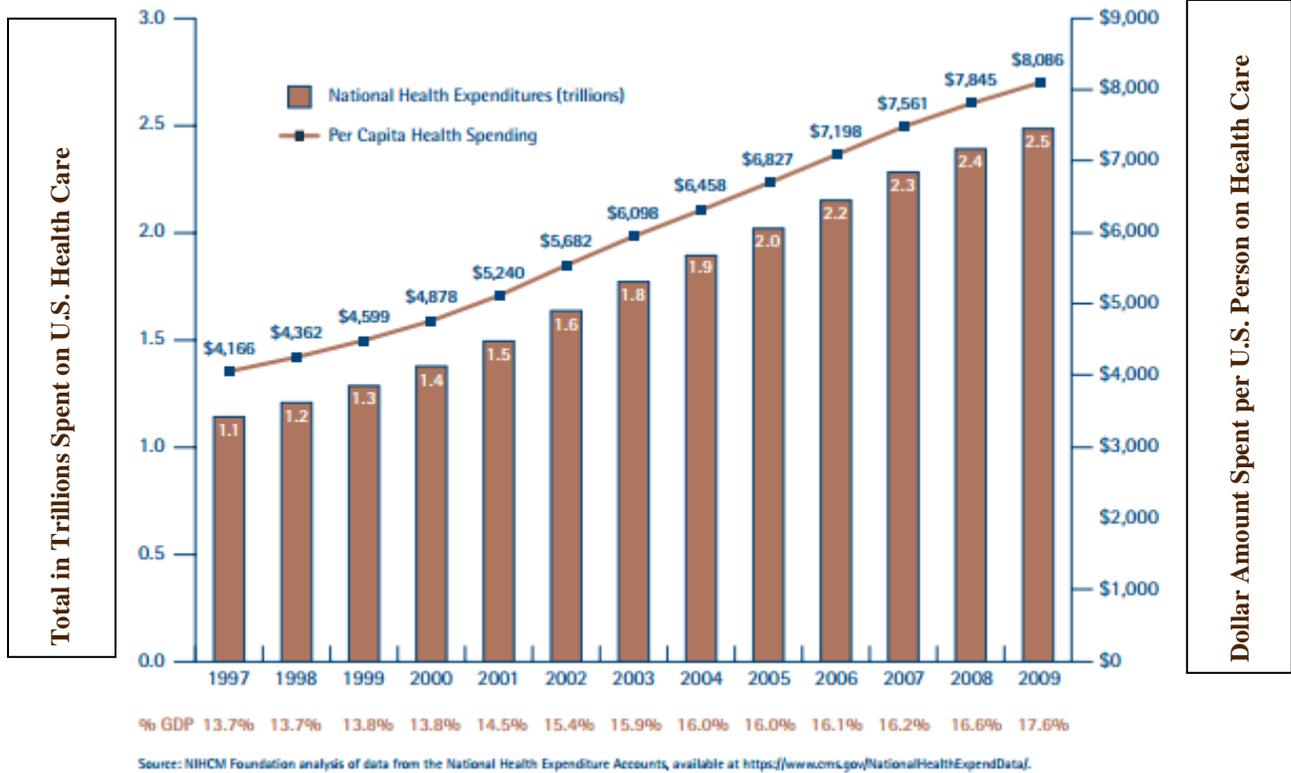
The cost of health care in the United States (U.S.) is high and is only projected to increase. From a National Institute for Health Care Management [NIHCM] (2011) brief it is estimated that nearly \$2.5 trillion was spent on health care in 2009 or nearly \$8,086 per person with the total amount comprising 17.6% of the gross national product (Figure 1.1). By 2020 that percentage is expected to rise to 20% with health care costs rising to \$4.5 trillion (Centers for Medicare & Medicaid Services [CMS.gov.], n.d.). This expense not only puts considerable strain on state and federal budgets for Medicare and Medicaid programs but is an economic burden for industry as well.

#### **Economic Burden for Employers Including Health Care Organizations**

Employers providing company sponsored health plans are faced with increasing premiums and costs—the most visible indicator of health care costs. A 2012 survey of employer sponsored insurance indicated a 97% increase in the employer total insurance employer premium costs from 2002 to 2012 (Figure 1.2) (Kaiser Family Foundation and Health Research & Educational Trust, 2012). High employer health care costs produces detrimental effects in employment, output (measured as revenue), and value to the U.S. gross domestic product (GDP) according to a 2009 report in Health Services Research (Sood, Ghosh, & Escarce, 2009). The same authors argue that even a 10% increase in health care costs would result, not only in fewer

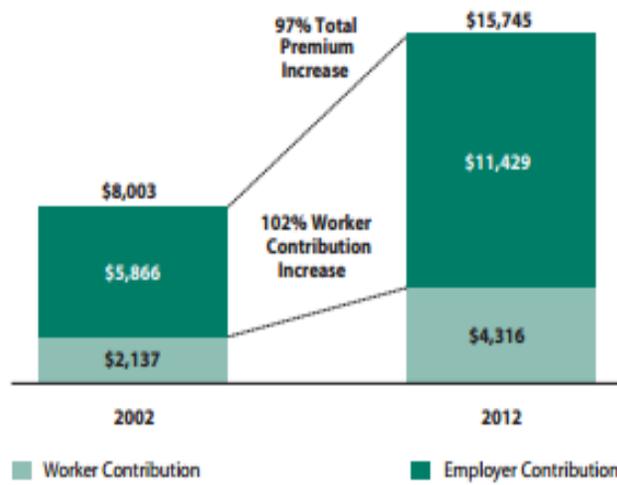
**FIGURE 1.1**

**NATIONAL HEALTH CARE EXPENDITURES, TOTAL PER CAPITA, AND AS A PERCENT OF GDP, 1997-2009**



Source: NIHCM, 2011

**FIGURE 1.2**  
**AVERAGE ANNUAL HEALTH INSURANCE PREMIUMS AND WORKER**  
**CONTRIBUTIONS FOR FAMILY COVERAGE 2002-2012**



Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 2002-2012.

Source: Kaiser Family Foundation and Health Research & Educational Trust, 2012

jobs but millions in lost gross output which would have a significant effect on the economic performance of U.S. industries (Sood et al., 2009).

Health care systems and hospitals, as large employers, are also burdened with high health care costs. It was reported in the Truven Health Analytics October 2012 white paper that health benefit costs consume 4% of a hospital's operating revenue and looking at that expense from the perspective of profitability, the significance is even more profound with 68% of hospital operating profit taken up by health benefits for employees and their dependents (Taylor & Bithoney, 2012). Hospitals, under much pressure to hold down medical costs for the general public, must now consider their own budgets containing employee health care benefits in order for themselves to remain fiscally sound.

### **Disproportionate Health Care Consumption by Health Care Workers**

However, the costs for hospital employee health care benefits have been rising faster than in most other industries and hospitals have not moved as quickly as others to manage those costs and trends (Towers Watson, 2012b). Consequently many hospitals continue to provide more services and a greater share of the benefit costs per employee than other organizations (Towers Watson, 2012b). Several studies support the notion that U.S. health care workers (HCWs) are less healthy (higher incidence of chronic illnesses) and consume more health care (higher utilization rates of their health plans) than any other group of American workers (Taylor & Bithoney, 2012; Thomson Reuters™, 2011). The cost for that care is significant.

According to the 2011 HighRoads Hospital Employer Benefit Study, for each employee the annual cost of employer sponsored health care for HCWs and their families amounted to \$13,313 (as cited in Parmenter, 2011). In other industrial sectors the cost was \$10,730 or \$2,583

less (as cited in Parmenter, 2011). These costs are not only problematic for the health care organization but the HCW as well.

## **Financial Strategies for Health Care Cost Containment for Health Care Workers**

### **Cost Shifting to Employees**

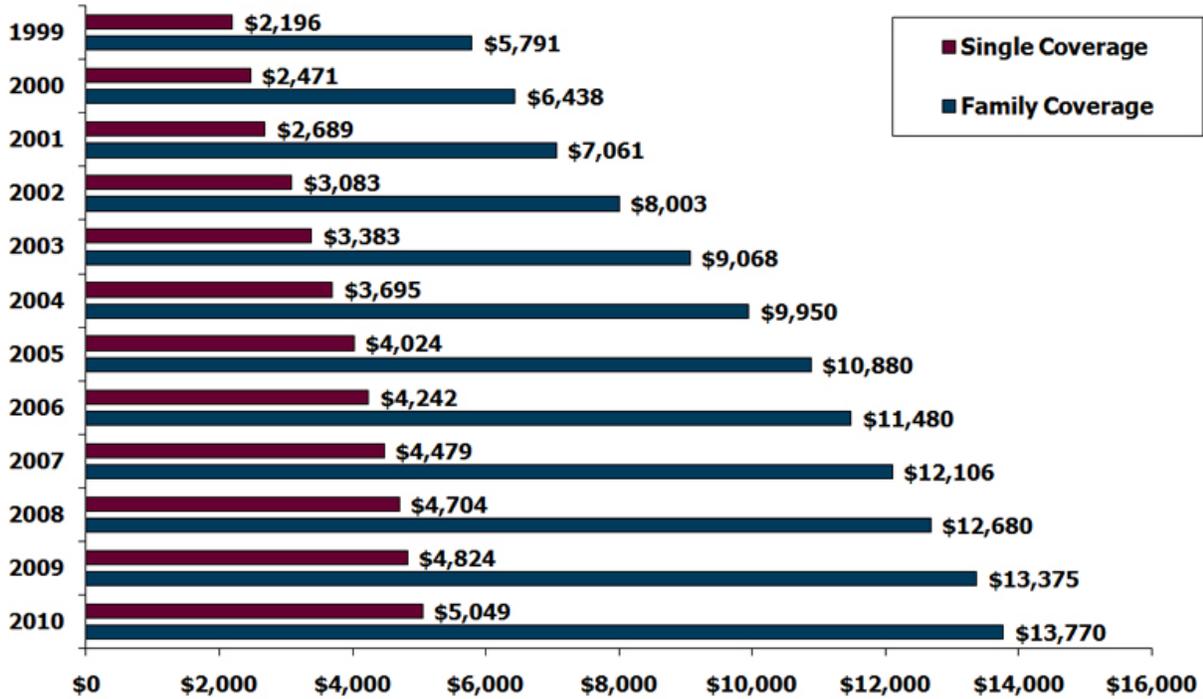
In order to control medical expenditures many corporate as well as health care system employers are shifting more of the cost of their medical plan onto their employees with the anticipation that less health care will be consumed. Current strategies with employer-sponsored plans include increased employee share of the premium, high deductibles, and substantial co-pays (Partnership for Prevention, 2010). Higher co-pays are charged for visits to specialists and to urgent care clinics and with more substantial fees charged for visits to emergency rooms.

Another approach is with coinsurance policy arrangements, where patients pay a percentage of the total cost of care

Other cost containment strategies include mandating the use of generic drugs with employees paying the difference if branded medications are preferred, levying insurance surcharges or denying coverage for working spouses or additional dependents when coverage is otherwise available, and instituting tobacco use surcharges (Aon Hewitt, 2012; Mercer, 2012). However, the most universal cost containment strategy for all industries seems to be the cost shifting of the insurance premium towards the employee. From a 2010 Kaiser Health News survey, the 2005-2010 annual premiums for family coverage rose by 27% to approximately \$13,770 (Figure 1.3) and worker family premium contributions increased by 47% to nearly \$4,000 (Figure 1.4) (Galewitz, 2010). According to a Towers Watson (2013) U.S. employer survey, employees now are expected to contribute nearly 23.8% to the total cost of their insurance coverage.

FIGURE 1.3

## Average Annual Health Insurance Premium Costs



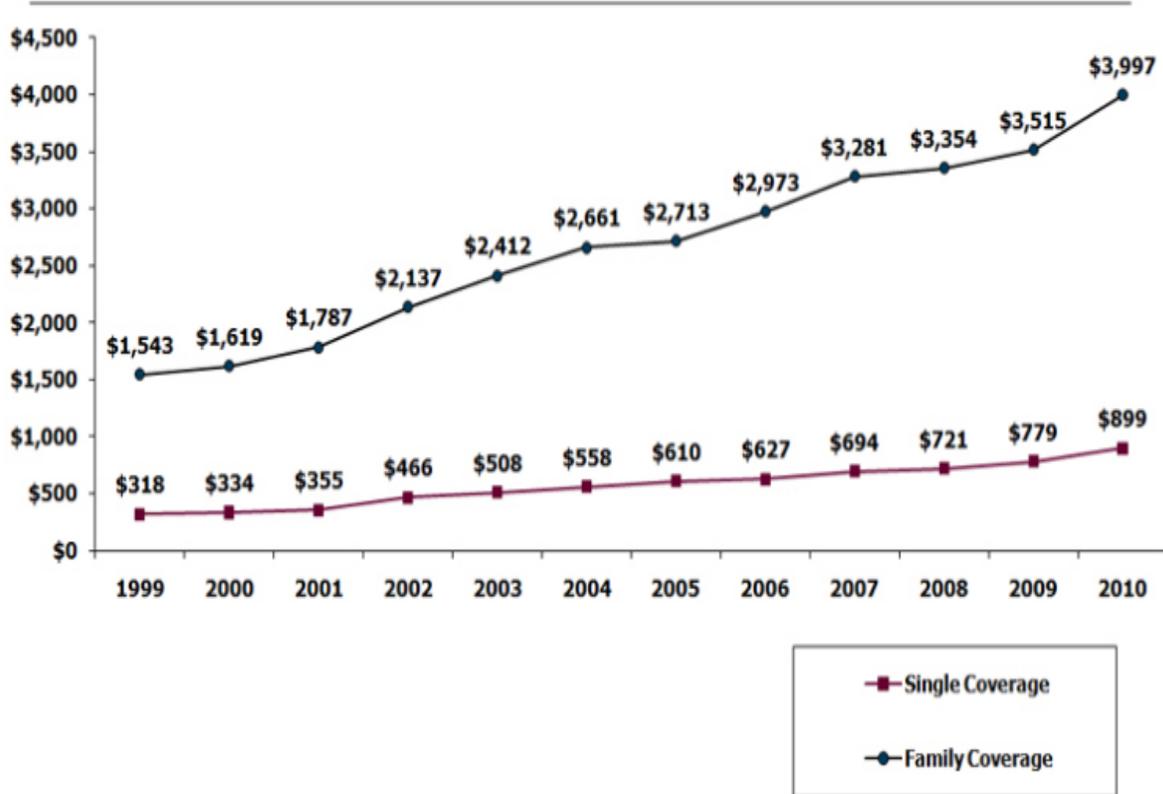
Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2010.



Source: Galewitz, 2010

**FIGURE 1.4**

**AVERAGE AMOUNT WORKERS CONTRIBUTE TO HEALTH INSURANCE**



Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2010.



Source: Galewitz, 2010

### **Penalties for Non-Use of Employer Owned Resources**

In addition to the strategies common to employer-sponsored health care plans, specific to the health care industry, is the expectation that HCWs use their employer's or affiliated resources for medical care. While it does not always lower costs, many hospital chief financial officers feel that money kept at their own institution is more advantageous for their bottom line and they wish to avoid funding competitors (Towers Watson, 2012b). Some hospitals with full range of services have been able to achieve up to 90% employee participation with use of 'domestic' resources by offering financial incentives such as waiving co-pays and deductibles or using disincentives (surcharges) for using outside resources (Towers & Watson, 2012b).

### **Proactive Health Care Worker Health Care Cost Containment Strategies**

Today's health care organizations are increasingly under much pressure to control costs and constrain the outflow of dollars for worker health care benefits and now must utilize other ways to accomplish that. An employer-based wellness program is one option which is gaining in acceptance and popularity. Its aim is to reduce the overall cost of providing health insurance by giving HCWs incentives to follow healthy living habits and meet certain health-related goals. Wellness programs can consist of health fairs, health education, medical screenings, health coaching, weight management programs, wellness newsletters, and physical fitness programs. Healthier workers can help control health care expenses as costly serious illness are prevented and existing ones are better managed (Prevent.org, 2008). While the true cost savings of such programs is debatable, the researchers of a 2009 meta-analysis of the literature on costs and savings associated with wellness programs concluded that medical costs fall by about \$3.27 for every dollar spent and absentee day costs fall by about \$2.73 for every dollar spent (Baicker, Cutler, & Song, 2009).

The concept of building a culture of health has also become an attractive strategy for helping to control health care spending. This notion which must be aligned with the goals of an organization and compatible with its workplace policies and work environment is intended to boost the knowledge of and participation in workplace health and wellness programs in the hopes of achieving better health outcomes and greater increases in productivity. Many health care organizations have already taken a strong first step by adopting a smoke-free workplace, a policy to encourage smokers to quit, and to reduce exposure to second hand smoke for others. Others have provided stairwell enhancements, bike racks, healthy food choices in vending machines and the cafeteria, walking paths, and access to fitness centers.

Health conscious worksites and employer-sponsored health and wellness programs represent beginning efforts in creating and supporting a healthier workforce but with the continual rise in health care costs additional strategies are needed. A comprehensive look into other efforts found helpful in industrial organizations may help to guide health care organizations in greater efficiency in health care cost saving strategies.

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

#### **Effectiveness of the U.S. Health Care System**

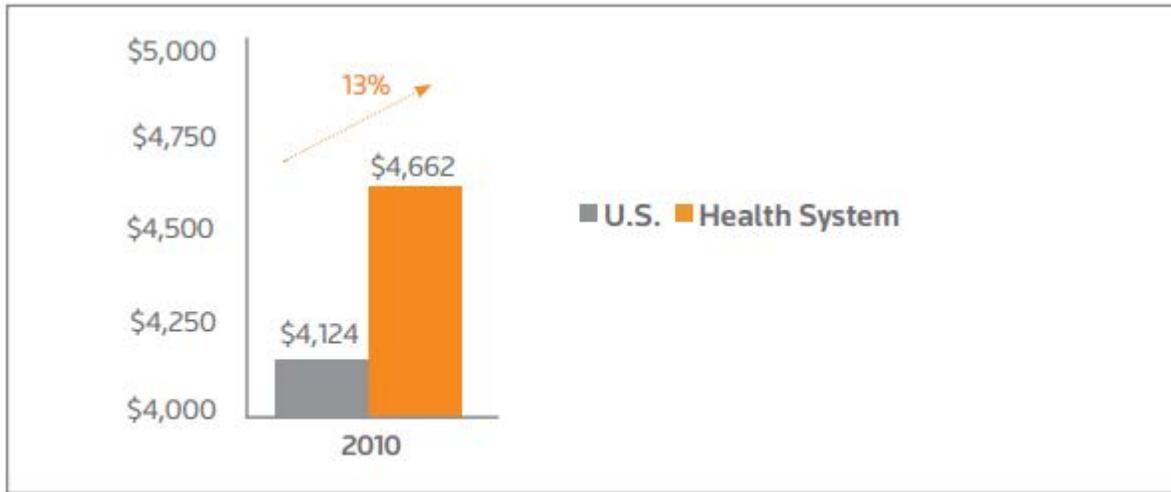
Spending for U.S. health care has been steadily rising with the per capita spending increasing by two-fold since 1997 (NIHCM, 2011). According to the World Health Organization [WHO] 2000 report on the cost and performance of 191 member health care systems, the U.S. was found to spend the most money in the world per capita (international dollars) on its health care system but ranked 37<sup>th</sup> in overall performance. WHO's assessment system was based on five performance indicators: overall level of population health; health inequalities (or disparities) within the population; overall level of health system responsiveness (a combination of patient satisfaction and how well the system acts); distribution of responsiveness within the population (how well people of varying economic status find that they are served by the health system); and the distribution of the health system's financial burden within the population (who pays the costs) (WHO, 2013).

#### **Current Health Care Data for U.S. Health Care Workers**

##### **Health Care Utilization Rate**

American HCWs contribute to the overall poor performance of their health care system as studies have shown that they carry a much higher burden of chronic illnesses, consume more medical services, and accumulate higher health care costs than the U.S workforce at large (Taylor & Bithoney, 2012; Thomson Reuters™, 2011). Health care costs, specifically medical and prescription drugs were found to be 10% higher for hospital employees and 13% higher when employee's dependents were included (Figure 2.1) (Thomson Reuters™).

**FIGURE 2.1**  
**AVERAGE 2010 HEALTH CARE COSTS FOR HOSPITAL EMPLOYEES**  
**AND THEIR DEPENDENTS**



*The average annual cost of healthcare for hospital employees and their dependents in 2010 was \$4,662 – 13 percent greater than the average cost for U.S. workers. Costs for employees only were 10 percent higher than average.*

**Source:** Thomson Reuters™, 2011

Additionally, HCWs and their dependents were 22% more likely to make costly emergency room visits (Figure 2.2) and spend 18% more time hospitalized (Figure 2.3) (Thomson Reuters™). Compliance with common preventive services such as lipid testing, breast, cervical, and colorectal cancer screening was consistently less (Taylor & Bithoney, 2012).

### **Prevalent Medical Conditions**

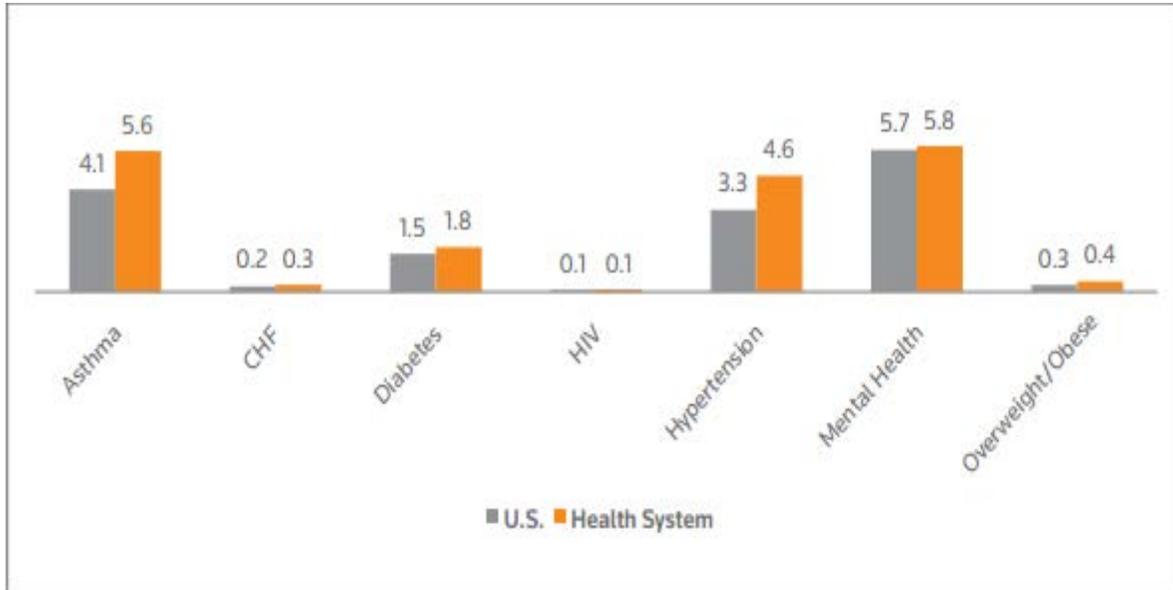
Compared to U.S. workers, hospital employees and their dependents have been found to experience more chronic health problems. In the 2012 Truven Health Analytics White Paper, hospital employees were more often diagnosed with asthma, obesity, and depression and their hospital admission rates were 12%, 46%, and 20% higher respectively in comparison to the U.S workforce (Taylor & Bithoney, 2012). In addition to those conditions, HCWs also have higher incidences of asthma, congestive heart failure, diabetes, HIV, hypertension, mental health, and obesity (Figure 2.4) (Thomson Reuters™, 2011). Overall, the health of HCWs in the U.S. is a cause for concern.

### **Impact of Health on Health Care Workers**

Hospitals play critical roles in their communities. Ideally the health care workforce would be a model for healthy behaviors and set the community standard for the appropriate use of medical resources. There is a strong relationship between the health of a population and its productivity, and to invest in better health for HCWs would be an investment in better health care and ultimately, advancement for society (Taylor & Bithoney, 2012). Health care organizations that commit to improved health of their workers will not only strengthen their business's own performance but provide for the common good of their communities as well.

**FIGURE 2.2**

**CHRONIC CONDITION EMERGENCY ROOM VISITS PER 1,000 MEMBERS**

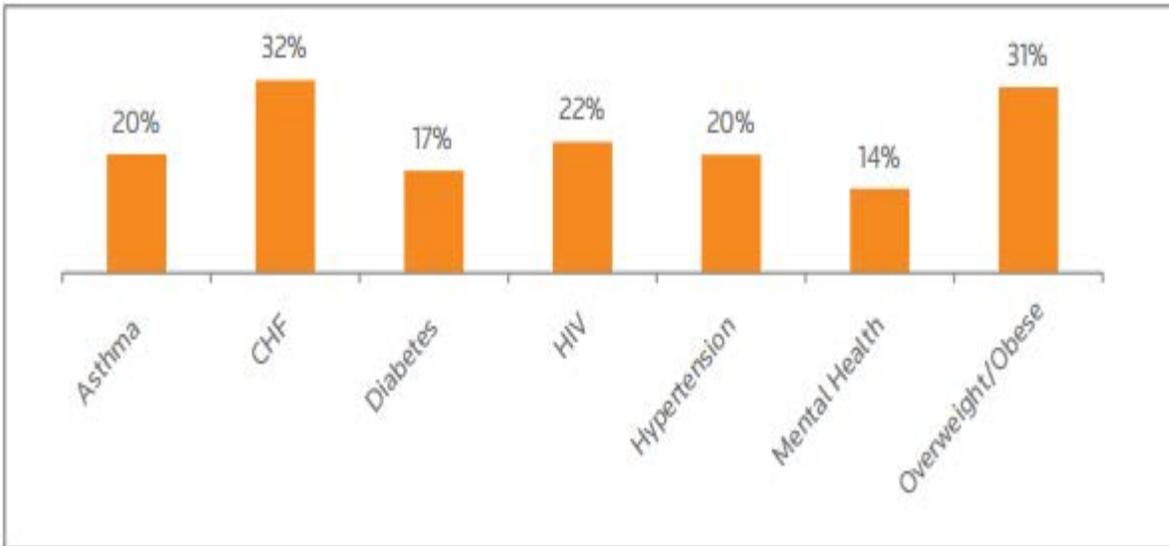


*Hospital employees and their dependents use the emergency room 22 percent more than average and have 4 percent fewer outpatient office visits with physicians.*

**Source:** Thomson Reuters™, 2011

**FIGURE 2.3**

**ADMISSIONS FOR CHRONIC ILLNESS, HOSPITAL EMPLOYEES AND THEIR DEPENDENTS COMPARED TO THE U.S. WORKFORCE (BASELINE)**



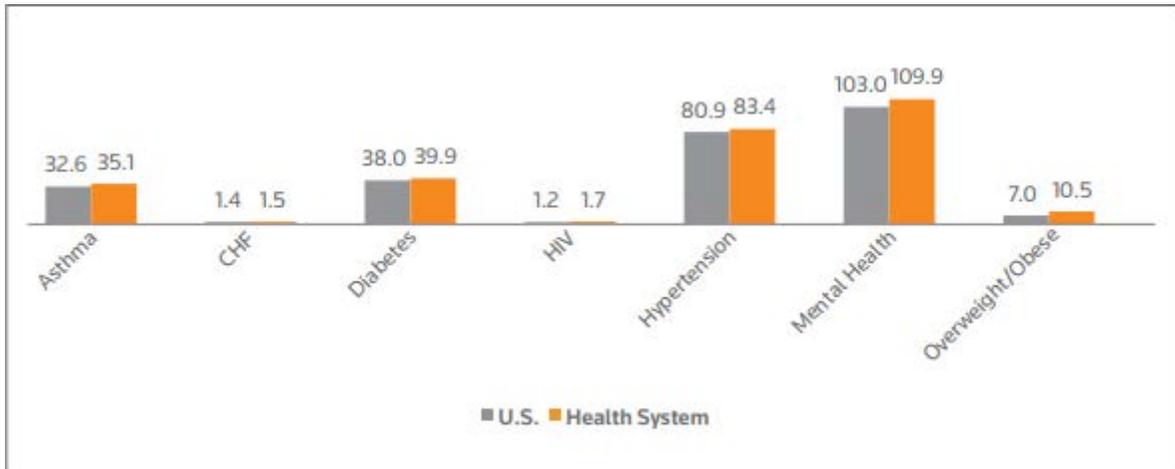
*People who work for hospitals and their dependents spend 18 percent more time as hospital inpatients than the average U.S. worker. This chart shows how much more likely they are to be admitted for a variety of chronic medical conditions.*

**Horizontal line indicates base line for U.S. workforce.**

**Source:** Thomson Reuters™, 2011

**FIGURE 2.4**

**CHRONIC CONDITION EPISODES PER 1,000 MEMBERS**



*Hospital employees and their dependents experience more chronic health problems than U.S. workers overall.*

**Source:** Thomson Reuters™, 2011

## **Impediments to Effective Health Care Specific to Health Care Workers**

Costs to the health care industry are high when their employees lose work time, have restrictions, or have to leave the workforce entirely due to health issues. Understanding the attitudes that cause HCWs to have a greater illness burden than other U.S. workers is important to reducing those expenses.

### **Personal Attitudes**

Some researchers theorize that HCWs are very much involved in patient care sometimes at the expense of themselves (Taylor & Bithoney, 2012). The manner in which hospital workers have easy access to services, such as brief worksite consults from other health professionals, may also be a consideration. Additionally, physicians and nurses may be confident enough with their own knowledge that they feel they can individually manage their own health care as well as anyone else (Taylor & Bithoney). Consequently, they may view prevention and wellness measures and regular visits to a primary provider appropriate for others but not necessarily for themselves. Finally, the very personality traits that cause HCWs to choose their particular profession may cause them to pay more attention to the needs of others than to their own needs.

### **Increased Shared Costs**

Besides the increased shifting of the previously mentioned health care costs to employees in general, there is an additional burden for HCWs. There is an expectation, and sometimes a requirement, to use an employer's own hospital for medical procedures. The 2013 health care benefit package for New York City's Mount Sinai Medical Center employees shows a \$1,000 surcharge for hospital use other than their own (Mount Sinai Medical Center, 2013). Taylor and Bithoney (2012) reported that a research group at Truven Health Analytics<sup>SM</sup> that same year, utilized a repository of health care claims, reviewed the health care costs of 350,000 hospital

employees and their dependents from more than 200 hospitals, and reported that some health care organizations have chosen to charge as much as \$3,000 to \$4,000 as a per-admission deductible for employees who seek care at a competing hospital for services that can be provided in their own system, while no deductibles (fees) are charged for employees who are admitted to their home institution.

### **Barriers to Accessing Available Primary Care Resources**

There are additional barriers specific to HCWs in accessing primary care. Besides personal attitudes and increased shared costs that inhibit HCWs from seeking regular medical care, it may be that their professional and personal on-the-job relationships also keep them away. HCWs simply may not feel comfortable sharing their medical concerns with those with whom they work. Seeking medical care with a trusted provider on staff at another facility is made difficult when there is a financial penalty for nonuse of domestic resources and a preference for use of a competitor's medical facility. This may make the option for the HCW to defer or deny personal medical care appealing.

### **U.S. Primary Care Workforce**

There is compelling evidence that patients with a regular primary physician have lower overall health care costs (DeMaeseneer, DePrins, Gosset, & Heyerick, 2003). To insure access to quality health care, an adequate supply of primary providers is needed.

### **Projected Primary Care Physician Shortage**

According to the U.S. Census projections all segments of the population are expected to increase by over 15% and the largest increase will be in the population over age 65 (U.S. Census Bureau, 2008). With aging comes a rise in chronic medical conditions which, then, will increase the demand for primary medical care. Currently there are not enough U.S. primary care

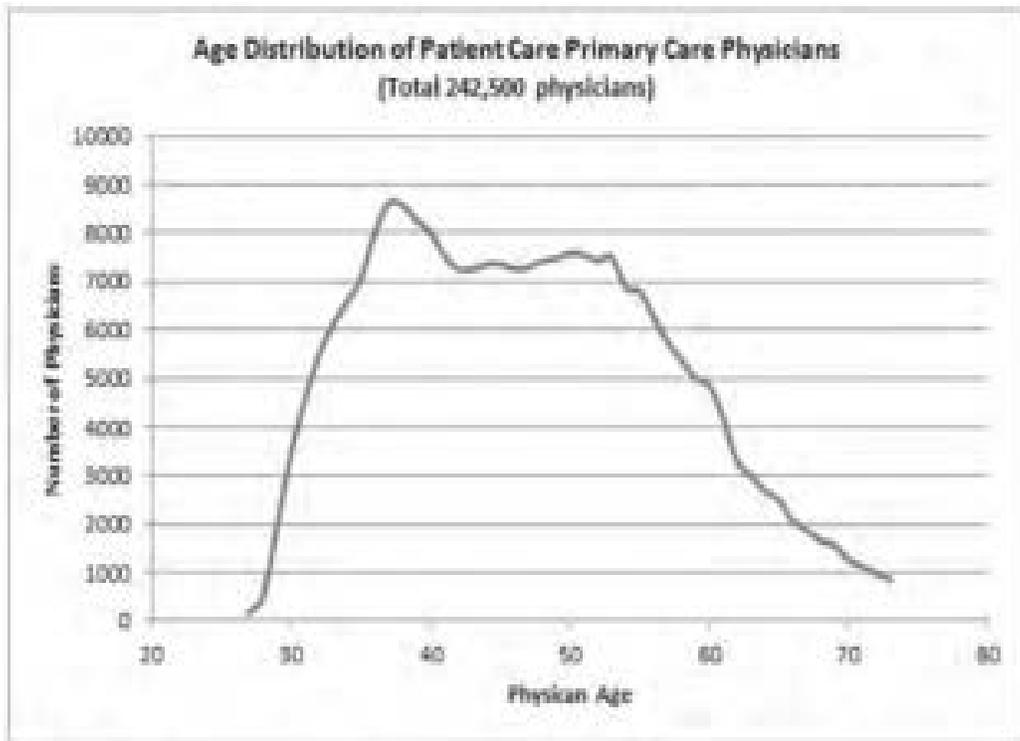
physicians to serve a growing and aging population and this situation is expected to get worse (Council on Graduate Medical Education, 2010). Almost one-fourth of primary care physicians are age 56 or older (Figure 2.5) and likely to retire within the next 10 years and there are not enough new physicians choosing to work in primary care to replace them (Council on Graduate Medical Education; U.S. Department of Health and Human Services Health Resources and Services Administration, 2008). The American Association of Medical Colleges (2010) projects a shortage of 45,400 primary care physicians by 2020.

### **Projected Shortage of Non-Physician Primary Care Providers**

Non-physician providers such as nurse practitioners (NPs) and physician assistants (PAs) can help fill the provider gap. In 2010 there were an estimated 55,625 NPs and 30,402 PAs currently practicing primary care in the U.S. (Agency for Healthcare Research and Quality, 2011). In 2010 slightly less than one-half of PAs and slightly more than one-half of NPs were practicing primary care but the statistics showed that the percentage of new graduates of NP and PA programs choosing to work in primary care practices was dwindling (Agency for Healthcare Research and Quality; Council on Graduate Medical Education). For instance, the number of PAs who chose primary care dropped from 37% to 31% from 2008 to 2010 (American Academy of Physician Assistants, 2008; American Academy of Physician Assistants, 2010). Career choices of PAs and NPs tend to mirror those of physicians with both groups tending to favor subspecialty areas rather than primary care, perceiving that the latter is less desirable secondary to poorer work-life balance and lower compensation (Coplan, Cawley, & Stoehe, 2013; Petterson, Phillips, Bazemore, Burke, & Koinis, 2013).

**FIGURE 2.5**

**AGE DISTRIBUTION OF PATIENT CARE PRIMARY CARE PHYSICIANS**



Source: AMA Masterfile data as of December 31, 2007 [11]

**Source:** Council on Graduate Medical Education, 2010

## **Model for Health Care Cost Containment—The Primary Care Worksite Clinic**

Continued health care cost increases have caused employers to seek more innovative approaches to managing medical expenditures. One such intervention is that of the worksite health care clinic.

### **History**

The concept of the employer-sponsored worksite clinics is not new but dates back to the mining and lumber industries of the 20<sup>th</sup> century (Tu, Boukus, & Cohen 2010). Until the 1980s it was common for large employers to operate on-site company clinics to deliver prompt treatment and urgent care for occupational health injuries (Tu et al., 2010). During the 1980s and 1990s cost cutting measures and declining heavy industry and manufacturing sectors, along with the decreasing number of workplace hazards, caused many to close (Tu et al.). By the mid-2000s, as health care costs began to rise, employers developed a renewed interest in developing on-site occupational health clinics but with an inclusion of non-occupational health care as well as wellness and health promotion programs (Hess, 2011).

### **Prevalence**

According to the Fuld and Company (2009) White Paper report there were approximately 2,200 employer-sponsored on-site health clinics among U.S. industries and that company's researchers estimated those numbers could grow by 15%-20% per year (from 2,200 to 7,000) by 2015. In the Mercer National Survey of Employer-Sponsored Health Plans 2012 (as cited in the Phoenix Business Journal, 2013), it was reported that the prevalence of on-site clinics at companies with 5,000 or more employees had risen from 32% to 37% with an additional 15% planning to open within 1 to 2 years (Gonzales, 2013).

## **Objectives**

The company goal in establishing an on-site health center is to improve worker health and productivity by providing quality and cost-efficient health care services to employees (Chenoweth & Garrett, 2006). Overall most employers hope to achieve the following:

- Money saved by moderating the rising health care cost trends
- Lowered employee health care expenditures
- Decreased employee emergency room visits and hospitalizations
- Reduced lost time and absenteeism resulting in improved productivity
- Increased health care access and convenience for workers
- Improved health outcomes—individually and aggregate
- Reduced or reversed health risks
- Promotion of wellness and importance of screening and preventive services
- Provision of higher quality of care (than that received in the community)
- Enhanced employee retention, recruitment, and morale
- Transfer of care from expensive, sub-optimal, and time consuming settings
- Designation of choice for health care delivery for employees

(Hochstadt, 2010; Towers Watson, 2012a)

## **Return on Investment**

Overall employers are most interested in a return on their investment in terms of reduction in health care costs and workforce lost productivity. However, the manner of measuring the financial success of on-site clinics is unclear. There is no single industry standard for measuring return on investment (ROI) on workplace clinics but there are alternate ROI calculation methods which some employers are using. One prevalent method consists of

calculating the 'hard ROI' or a measure of direct medical costs and the other involves calculating the 'soft ROI' which includes productivity gains such as reduced absenteeism (Tu et al., 2010). Utilizing both of these methods in a cost effective analysis at a worksite clinic within a large industrial plant in North Carolina, Chenoweth and Garrett (2006) found that combined off-site costs of health care and lost productivity were nearly twice as high as actual on-site operational costs and overall the on-site clinic provided employee health care services two to three times more cost effective than off-site health care services. Similar cost savings reported from other companies include estimates of millions of dollars in productivity savings and positive returns on investment of health care dollars spent (Brokaw, 2011).

## **Components of Employer-Sponsored Comprehensive Health Care Strategy**

### **Types of Services**

The types of services typically available through on-site clinics range from low intensity offerings of very basic amenities such as flu shots and first aid for workplace injuries extending all the way to the more comprehensive phased in medical services of a physician-based model that provides occupational health services, expanded primary care with semi-acute and chronic condition management and includes pharmacy services (Hochstadt, 2010; Tu et al., 2010). These comprehensive clinic offerings often include wellness services such as health risk assessments, biometric screenings, prevention initiatives, ergonomic evaluations, fitness and nutrition education, health coaching, and disease management education programs (Hochstadt; Tu et al.).

### **Application Potential to Health Care Organizations**

There is a significant application potential of the employer-sponsored on-site primary care clinic model to health care organizations. The goals of corporate health clinics to address the crucial needs of controlling health care costs, improving employee health, and increasing

productivity are important to health care organizations as well. These organizations are affected by the same rise in health care costs and have a workforce with a health status in need of improvement. The anticipated major savings or outcomes of employer-sponsored health clinics of minimizing employees' time away from the workplace, reducing expensive visits to the ER, and decreasing referrals to out-of-network providers would be critical for health care organizations as well.

Besides shared goals and anticipated outcomes, there are other aspects to be learned and transferred from the corporate on-site primary clinic model to health care organizations. The on-site medical clinic becoming a medical home is one such concept. It is not a new idea but one that is getting more attention in recent times.

### **Worksite Medical Clinic as a Patient-Centered Medical Home (PCMH)**

#### **Patient-Centered Medical Home Definition**

A simple definition of the “medical home” is one in which a patient has a relationship with a physician who, alongside a team of other health care professionals, will provide care for that patient, and coordinate all of his or her health care needs (Duke University, 2013). A medical home does not necessarily exist only in a doctor's office but could be present in a community or school-based clinic or even within a worksite health care clinic.

#### **History of the Patient-Centered Medical Home**

The term was originally used in reference to a place—a single source of medical information about a patient—however the term, more recently, is used to refer to a model of a partnership with families in the provision of primary care that is accessible, family-centered, coordinated, comprehensive, and compassionate (Sia, Tonniges, Osterhus, & Taba, 2004). Historically this term first appeared in print in a 1967 book published by the American Academy

of Pediatrics with the term “medical home” used to describe a method of caring for chronic diseases, coordinating specialist care, and keeping patient’s personal data (Sia et al., 2004). By 1978 the WHO officially recognized this model and in 1996 the Institute of Medicine used the idea to redefine primary care as integrated, accessible, and partnered with patients (Patient-Centered Primary Care Collaborative, 2013).

By 2002 several family medicine organizations, launched The Future of Family Medicine project, with a goal of transforming family medicine toward fully meeting the needs of patients in an ever-changing health care environment (Kahn, 2004). In 2005 an influential paper strongly in support of the health-promoting influence of primary care was published (Starfield, 2009; Starfield, Shi, & Macinko, 2005). By the next year the American Academy of Family Physicians (AAFP), American College of Physicians (ACP), American Osteopathic Association (AOA), American Academy of Pediatrics (AAP), and a large group of employers formed the Patient-Centered Primary Care Collaborative for the purpose of creating a national movement promoting the adoption of the PCMH model of care (Patient-Centered Primary Care Collaborative, 2013). In 2007, the principles of the PCMH were endorsed by these four primary care physician societies, the collaborative, and many other physician organizations and since then this concept has become a fast-growing model of primary care redesign across the U.S (American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, & American Osteopathic Association, 2011; Patient-Centered Primary Care Collaborative).

### **Constituent Provisions**

The features of a PCMH include:

- **Comprehensive Care** that is accountable for meeting most of a patient’s physical and mental health needs and is provided by an interdisciplinary team of medical professionals under the direction of a physician but shared team responsibility.
- **Patient-Centered** that consists of primary care that is relationship-based with a focus on the whole person and with a particular emphasis on partnering with the patient and family members.
- **Coordinated Care** that extends across all elements of the health care system including specialty care, hospitals, home health care, community services, and support organizations.
- **Accessible Care** that includes shorter waiting times for urgent needs, enhanced in-person office hours, 24 hour telephone or electronic access to a team member, as well as other communication methods such as e-mail and telephone.
- **Quality and Safety** that includes the use of evidence-based medicine and clinical decision-support tools for shared patient-provider decision making. This includes utilization of health information technology and electronic tools (patient portals, e-mail, texting, phone etc.) for data collection and for meaningful sharing of health care data and to help patients and families make informed decisions (Agency for Healthcare Research and Quality, n.d.).

Evidence from a 2010 prospective evaluation study performed by the Patient-Centered Primary Care Collaborative shows that the primary care PCMH improves patient experiences and health outcomes while reducing expensive hospital stays and emergency rooms visits (Grumbach & Grundy, 2010a). One company reports establishing a patient-centered home model at their worksite clinic for their 6,500 employees and while the full return on investment was not

yet available, their 2011 statistics show that more than two-thirds of their employees had visited the center and approximately 60% were for non-occupational needs with overall results appearing promising (Integrated Benefits Institute & National Business Coalition on Health, 2012).

**CHAPTER III**  
**EXAMINATION OF CORPORATE MODEL OF WORKSITE**  
**PRIMARY CARE CLINICS**

**Employer-Based Factors Driving On-Site Clinics**

Confronted with high health care costs and competitive pressures to increase productivity, many employers have made proactive choices towards investment in employee health as a primary business goal. With many variables to consider, on-site health centers, with offerings of a few to a full array of health care options, have become the preferred venue to ensure a safer workplace, provide convenient access to health care, improve worker health, reduce lost time and absences, increase productivity, and lower health care expenditures. Some employers consider their workplace health clinics as a way to attract and retain competitive workforces while boosting their own reputations as ‘employers of choice’ in their communities (Tu et al., 2010)

**Lowered Health Care Expenditures**

By far the strongest employer motivation for implementing workplace health care clinics is to contain or reduce direct medical costs and to reduce the health care cost trend (Tu et al.). Such clinics are showing positive returns for their health and wellness initiatives. A review of a 2012 meta-evaluation of 56 studies of worksite health programs showed significant changes in health care costs in the following:

- 25% reduction in sick leave absenteeism
  - 25% reduction in direct health care costs
  - 32% reduction in workers’ compensation and disability management cost claims
- (Chapman, 2012).

An example of a U.S. Midwestern company, with a 23 year history of an on-site primary and wellness health care clinic, posted for 2008 (compared to their geographical norm) a 15% increase in the outpatient visit rate but a 9% lower hospitalization rate and a 2% decline in its annual health care cost trend (McCarthy, 2009). Fuld & Company (2009), in their White Paper, reported employer savings of 10% to 20% of total health care costs with on-site health clinics while attributing the key savings to minimizing employee time away from workplace and fewer expensive visits to emergency rooms.

### **Reduced Absenteeism and Increased Productivity**

Besides the worksite health care clinic benefit analysis of Chapman (2012), other researchers report similar findings with improvements in worker health that is associated with decreased absenteeism and increased worker productivity (Dursi, 2008). According to an Automatic Data Processing (ADP) (2012) report, decision makers in large and mid-sized companies view absenteeism as detrimental to productivity and attribute many of those lost days to health care-related issues. Among those companies that offered wellness programs, more than 50% reported that that these programs significantly reduced absenteeism which often leads to increased productivity and profitability.

### **Enhanced Employee Retention**

Additionally, workplace health promotion programs and the concurrent creation of a culture of health are increasingly seen as an important aspect of one's employment. These worksite features help in recruitment and retention of high quality employees along with maintaining productivity and high morale (Centers for Disease Control and Prevention [CDC], 2011).

## **Situations Most Applicable for Establishing Worksite Clinics**

Although there are no established criteria for what constitutes the ideal circumstance for setting up an employer-sponsored on-site health clinic, there are certain conditions that appear to be more favorable:

- Employee populations greater than 750 (some recommend 1,000-2,000)
- Geographical locations with a shortage of primary care providers
- Geographical locations that contribute to time-consuming worker commutes for accessing primary care providers
- Communities in which health care has low utilization of proactive primary care services related to screening, prevention, and risk reduction
- Organizations with high emergency room usage for employees for non-emergent medical conditions
- High employee absence and lost time rates, especially for unscheduled medical related issues
- Organizations with high employee retention and low turnover rates
- Organizations with sizable older worker populations, which consume greater levels of medical care
- Organizations with substantial younger populations in need of wellness and preventive services (Hochstadt, 2010; McCarthy, 2009).

## **On-Site Clinic Considerations**

Besides the initial determinants for establishing an employer-sponsored health clinic, there are clinic-related issues to consider. Many employers start with limited access and services

and expand as the volume requires. Table 3.1 lists the important initial on-site clinic considerations as well as the associated considerations.

**TABLE 3.1**

**IMPORTANT CONSIDERATIONS AND DETAILS FOR ESTABLISHING EMPLOYER  
SPONSORED CLINICS**

<b>On-Site Clinic Considerations</b>	<b>Important Points</b>
Eligibility	Access for employees only or for covered dependents and retirees
Costs—start-up and operating	Dependent on extent of services (x-ray, physical therapy, pharmacy), if remodeling or build-out required, and staffing model (mid-level and/or MD)
Charge for clinic use	No charge or modest co-pay (usually less than the insurance plan co-pay)
On-site services offered	Limited or full—to include occupational injuries, urgent and primary care, preventive and wellness programs, health coaching and care management, pharmacy, behavioral health, travel medicine
Clinic staffing	Management and medical staff as employees or outsourced
Measurement of return-on-investment	Tracking methods for lost work time and absenteeism, emergency room usage rate, specialty referral rate, occupational injury and disability costs, pharmacy costs, medical costs for users of preventive services, employee retention and loyalty rate
Information technology requirements	Infrastructure to support ongoing requirements and for reporting and evaluation
Risk management, legal, and regulatory issues	Compliance with federal laws relating to health plans, Genetic Information Non-Discrimination Act, American for Disabilities Act, and state laws

**Source:** (Table adapted from) Hochstadt, 2010

## **CHAPTER IV**

### **REPLICATION PROCESS FOR SIMILAR ON-SITE MEDICAL CLINIC MODEL TO THE HEALTH CARE SETTING FOR HEALTH CARE WORKERS**

#### **Topics Specific for Health Care Systems and Health Care Workers**

The concept that healthier employees have less need for medical care and its associated costs and that there is a direct relationship between employee health and company success has been a dominant theme in recent years (Taylor & Bithoney, 2012). As a result, the concept of health and productivity management has become fairly well established in much of the employer community. However, it has not become as widely embraced by health care organizations and especially by hospitals (Gamble, 2012; Taylor & Bithoney). Nonetheless, it seems that a logical rationale for that exists.

#### **Rationale for On-Site Health Clinics for Health Care Organizations**

The Truven Health Analytics 2012 white paper on developing cultures of health for hospitals and health care system employees shows hospital employees carry a higher burden of chronic illness and that their use of services is greater than that of the U.S. employee (Taylor & Bithoney). This, in turn, produced health care costs (medical care and prescription drugs) for hospital employees and their dependents that were 9% higher than those for the 12 million covered lives from other industries that were in the Truven Health MarketScan® data base (Taylor & Bithoney). In addition, their hospitalization rate was 5% higher than the U.S. workforce at large (Taylor & Bithoney). Therefore, there is a case to be made for health care organizations, especially hospitals, to mirror current successful health care costs saving measures of other industries.

One popular strategy in the industrial community has been to focus employee health efforts on primary prevention and risk avoidance, thus keeping the majority of the workforce (and its dependents) low risk and healthy (Partnership for Prevention, 2010). Comprehensive worksite health care clinics, which combine the above with their occupational health programs, have experienced promising results (Berry, Adcock, & Mirabito, 2012; Fuld & Company, 2009; Goetzel & Ozminkowski, 2008; McCarthy, 2009). According to the Towers Watson (2012a) On-site Health Center Survey of employers, 58% of surveyed employees were satisfied with the quality of the services offered to them. Because the health care industry has not yet begun to embrace similar initiatives, there is nothing in the current literature as to health care worker demand or possible acceptance of such employer-sponsored efforts in improving worker health. Research is needed in this area to enable health care organizations to determine if comprehensive worksite health care clinics would be acceptable and beneficial to employees and then to incorporate both employee and employer healthcare goals when designing comparable programs.

Measuring the true financial impact of these clinics has been difficult without a universal standard of measure. For some on-site clinics, measured health care costs have resulted in a savings of 10% to 30%, but a more conservative summary regarding the ROI for on-site clinics is that a well-designed and well-implemented integrated workplace clinic is *likely* to achieve a positive return over the long term (Berry et al., 2012; Fuld & Company, 2009; Tu et al., 2010; Worthington, 2007). With the comparative higher health care costs for HCWs and the reported positive returns for corporate health care initiatives, it is probable that similar efforts by health care administrators would also make a difference for hospitals and especially for those that self-insure.

## **Program Plan and Goals**

To begin such an initiative, developing a program plan and goals would be primary. Establishing an integrated on-site health clinic takes planning and for each institution there would be many individual considerations. For hospitals with enough employees to warrant such an investment, administrative leaders would want to first determine what is needed to be accomplished. Goals and objectives consistent with the organization's business model should be established and prioritized.

With continuous rising health care costs that are no longer sustainable, reducing their health care cost trend would be a top priority for some hospitals (CDC, 2011). For other hospitals it may be reducing direct and indirect health care costs. Decreasing employees' need for health care by offering preventive services and screening and by promoting wellness may be a top priority for others.

Besides the previously listed corporate objectives and goals for establishing worksite primary care clinics in Chapter II which would also be pertinent to health care organizations, hospitals have the additional aim (expectation) of serving as a community example of employee healthy living and fitness (American Hospital Association, 2011a). Hospital sponsored health and wellness initiatives would be critical in providing the resources, programs, and incentives for HCWs to serve as such role models (American Hospital Association, 2011a).

Other issues which must be taken into account before setting up a hospital on-site non-occupational health care clinic involve the presence or absence of the situations considered most applicable for the establishment of a successful integrated industrial sector worksite clinic. Does the hospital have a large enough employee population base, low employee turnover, enough older employees in need of primary care, a sufficient number of younger employees needing

preventive and wellness services, a high rate of employee emergency room visits for non-urgent conditions, and a surrounding community with a shortage of primary care providers (Hochstadt, 2010)?

**Feasibility Study (Analytic)—Cost Savings Analysis and Projected Return on Investment**

If enough of the preceding criteria is met, and prior to a formal proposal to upper level administration, a feasibility study to determine potential clinic viability and to calculate a projected ROI would be necessary. The analytic portion to this study would consist of the number, the dollar amount, and the causation of paid claims that could have received care in an on-site medical clinic (Hochstadt, 2010). Additionally, the number of emergency room visits, urgent care visits, and community primary care visits that could have been averted with on-site primary care, as well as an estimation of the time and money (direct and indirect) savings of shifting services from community to worksite providers would need to be taken into account (Hochstadt).

**Feasibility Study (Sensitivity)—Assessment of Potential Use**

The sensitivity part of the feasibility study would forecast the potential use of the on-site medical clinic. This would include a projection of workers likely to use the facility, an estimation of acceptance rate and projected use, an analysis of the impact of direct costs of clinic operations and incentives (reduced or no co-pays and deductibles) on clinic use, and a computation of cost of incentives for clinic use (absent or reduced cost for physical therapy, generic prescriptions, and lab tests) (Hochstadt).

## **Determination of Clientele, Service Charges, Scale, and Scope of Services**

Additional preliminary decision points include determinations of the eligible users of the clinic, the charge for the services, and the services to be offered. While all HCWs would be intended users, the decision to include only those enrolled in the company sponsored insurance plans, from which health care data would be available, or to include all employees regardless of enrollment status would need to be made. For some hospitals the inclusion of covered dependents (only adults or adults and children) will make sense as a significant portion of health care spending is for family members rather than employees (Boutwell, 2011; Tu et al., 2010). For others the inclusion of vendors (contract workers) who work on-site and contribute to productivity may be cost effective (Tu et al.).

Determining the service charge for the use of the on-site health clinic is important as it will affect its utilization and adoption rate (Hochstadt, 2010) The policy of not charging HCWs deductibles or co-pays for the use of the clinic may help to eliminate an economic barrier to seeking care on-site and a modest charge (below the health plan co-pay) may serve as a potential deterrent to overuse or abuse the service (Gamble, 2012; Hochstadt). Determining the proper scale and scope of services in advance is essential. Most hospitals have an employee health service office for purposes of caring for work-related injuries and illnesses, administering required immunizations and screenings, making available employee assistance and behavioral health programs, and offering some level of wellness and preventive programs. For these hospitals, transitioning to non-occupational health offerings would mean expanding their existing services. With those services additional costs involved with increased staff, supplemental space, and medical equipment would be incurred. A planned incremental approach could begin with offering non-occupational physical exams, immunizations, and health screenings in order to

gauge employee receptivity and utilization (Hochstadt, 2010). Progression of services would include urgent or acute care such as treatment for low-acuity episodic care such as sore throats or sprains, to treatment of more severe symptoms such as exacerbations of chronic conditions. Ultimately advancing to the primary care model—the ongoing care for the management of chronic conditions—would offer the most potential for improving worker health and curbing health care costs (Tu et al., 2010).

The addition of a comprehensive wellness program that included health risk assessment and follow-up, biometric screenings, lifestyle management and educational programs, as well as one-to-one personal health coaching would be part of the scope of practice and would be essential to health care cost savings (Tu et al.) An additional decision point on scope of service involves the option of pharmacy availability. Would a full service on-site pharmacy be available or would a mini-dispensary (stock of the most commonly prescribed medications) or a starter pack dispensary (2-5 day supply until the patient can visit a pharmacy) make sense (Hochstadt)? Would on-site imaging and laboratory services be available? An example summary prepared by Mercer, a human resource consulting firm, illustrates an evolutionary pathway for the development of on-site health total comprehensive health centers (presented by Hochstadt) shown in Figure 4.1.

### **Determination of Level of Health Care Provider and Model of Staffing**

Determining the level of health care provider is another consideration. For a moderate intensity operation midlevel providers such as NPs or PAs may be effective and cost-efficient. For a high intensity total comprehensive health center offering expanded primary care with chronic and semi-acute care, a MD/DO would be necessary (Hochstadt). Hiring the right people is essential to clinic success and this is particularly important with the choice of provider,

**FIGURE 4.1**  
**EVOLUTION OF ON-SITE HEALTH SERVICES**

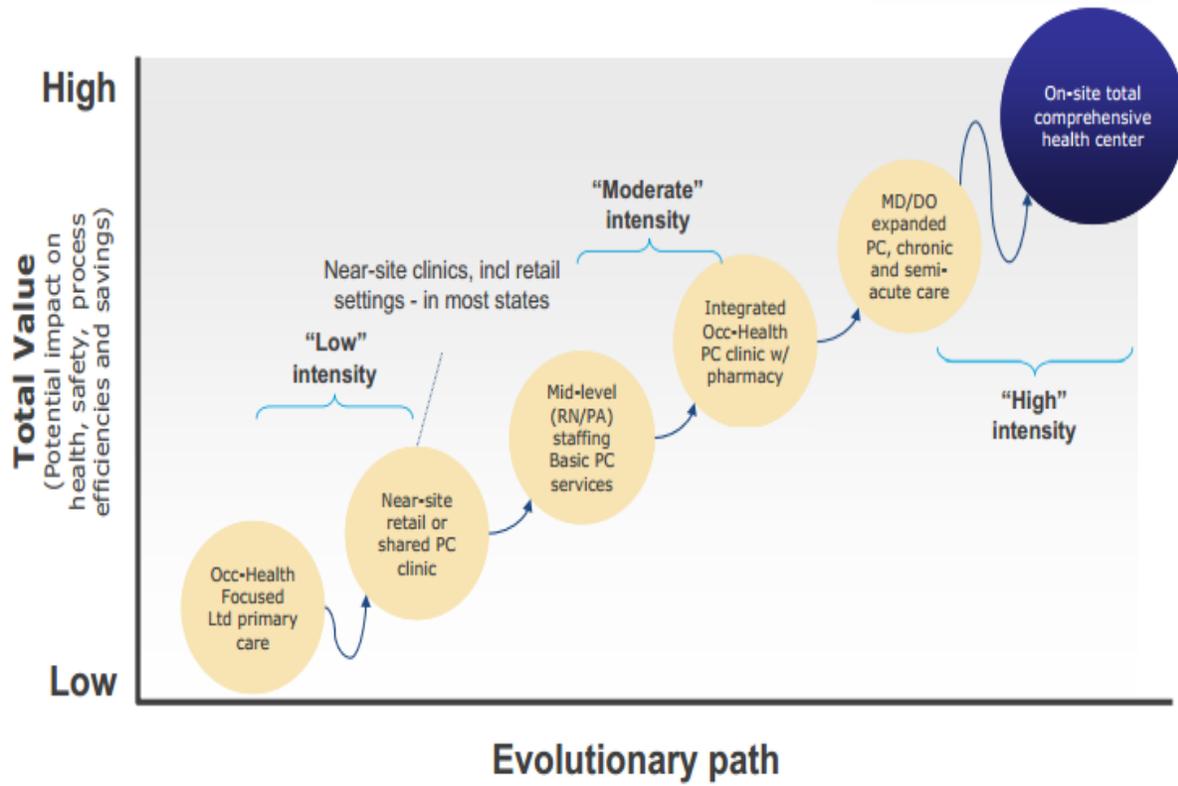


Figure prepared by the Mercer Company and presented by B. Hochstadt, 2010

Source: Hochstadt, 2010

as that professional is central to the formation of personal connections and bonds of trust with the clinic's patients (Tu et al., 2010). For those clinics offering higher levels of primary care, having a physician on staff has been found to be critical to patient acceptance (Tu et al.). For hospitals expanding their employee health offerings to include urgent and primary care, the model of provider staffing regarding the source of provider service will be important.

There are three predominant models of staffing: in-house, hybrid, and outsourced. The in-house model consists of management directly by the employer with clinic staff hired and retained as employees (Hochstadt, 2010). The second method is the hybrid model which involves contracting medical services from a local health care institution while retaining management of the operation (Hochstadt). The third model consists of an outsourced arrangement contracted to a third-party vendor which provides management and all clinic personnel (Hochstadt). The choice of model depends upon what makes the most sense for the organization and for its employees needs but what is most important to the success of the clinic is that strong and consistent oversight and support by senior leadership remain in place (Hochstadt; Tu et al.).

If the preference is to utilize current staff occupational and environmental health providers, then transitioning them from a practice model of occupational medicine to primary care may present a challenge. To do that, a new skill set is needed and for clinics previously making that change the difficulty for clinic staff members to make the conversion has been evident. The authors of a 2010 article on workplace clinics report that "some providers were able to make that jump, and others were not" (Tu et al., p. 6). On the other hand, established local medical groups, potentially serving as vendors, are often viewed as representing high quality providers who can offer excellent care (Hochstadt). Having familiarity with community resources, these local professionals would most likely be able to facilitate and coordinate off-site

care with ease and expertise (Hochstadt, 2010). More importantly they would represent separation from the employer (allaying concerns about potential privacy and confidentiality violations) (Hochstadt, Kaplan, & Keyt, 2011).

### **Dashboard Process Measures**

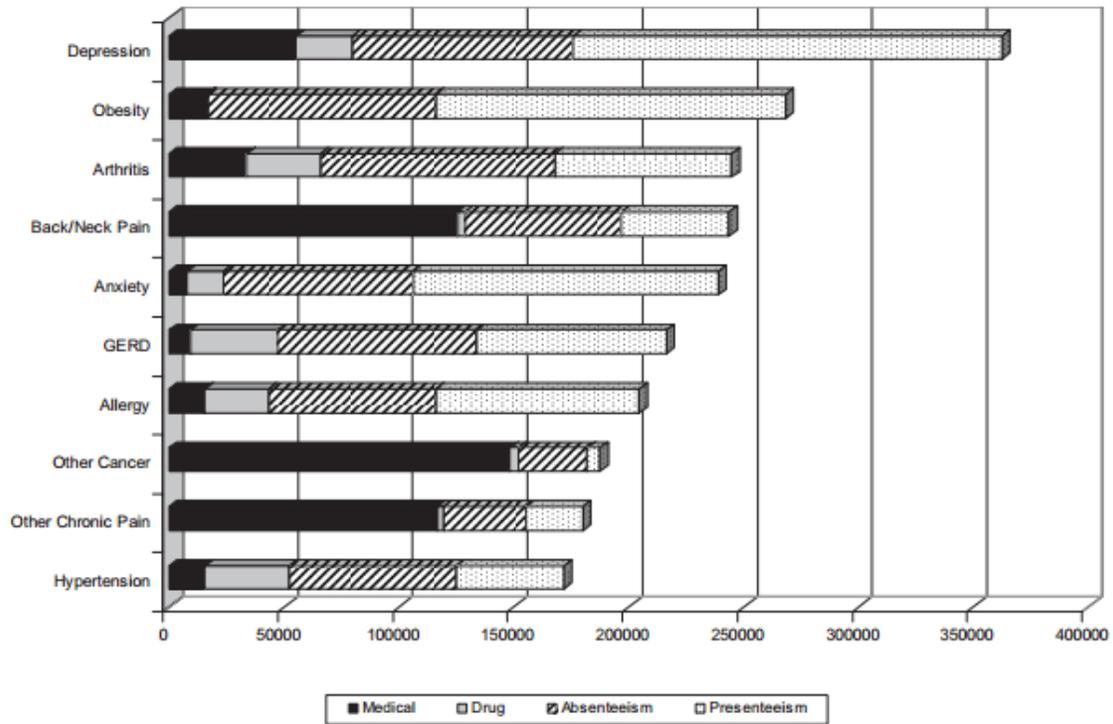
Prior to establishing an on-site non-occupational health and wellness program, dashboard process measures would need to be established. Continuous data collection and analysis are critical not only to provide baseline measurements but to provide ongoing assessments that will help to drive the behavior of providers, management, as well as hospital workers in the right direction (Change Agent Work Group [CAWG], 2009).

Loeppke et al. (2007) advocate taking a ‘full cost’ approach in managing health with the development of strategies to measure the full health and productivity costs related to the burdens of illness and health risks in populations. Based upon direct medical and pharmacy costs, these authors combined employee responses from the Health and Productivity Questionnaire [HPQ] (Appendix) and were able to show significant productivity losses that were more than four times greater than the medical and pharmacy costs alone (Figure 4.2) (Loeppke et al.). These indirect costs resulted from absenteeism and presenteeism (workers being on the job but, because of medical conditions, not fully functioning), and would not have been evident had the assessment been based on direct medical and pharmacy costs alone (Loeppke et al.).

Table 4.1 shows a listing of process measures, including suggestions for full cost management, which would be appropriate for health care organizations and/or hospital administrators to consider in tracking health and wellness efforts offered through on-site non-occupational clinics. These measures could become the basis for improved clinical outcomes for hospital employees and their families.

**FIGURE 4.2**

**TOP 10 HEALTH CONDITIONS BY ANNUAL MEDICAL, DRUG, ABSENTEEISM  
AND PRESENTEEISM PER 1,000 FTEs**



**Source:** Loeppke et al., 2007

**TABLE 4.1**

**DASHBOARD PROCESS MEASURES OF SUCCESS**

**Tracking Comprehensive Value and Return on Investment Metrics**

<b>Savings and Cost Effectiveness</b>
<ul style="list-style-type: none"> <li>• Comparison of <i>direct</i> savings of lower cost on-site visit to offsite community clinic visit</li> </ul>
<ul style="list-style-type: none"> <li>• Assessment of cost savings of redirected care to on-site clinic away from specialist office, emergency room, or urgent care clinic</li> </ul>
<ul style="list-style-type: none"> <li>• Calculation of <i>indirect</i> costs of estimated lost time reduction for off-site community provider visit</li> </ul>
<ul style="list-style-type: none"> <li>• Estimation of savings of downstream utilization due to earlier access to care and higher screening and prevention initiatives, as well as to adherence of evidence-based treatment</li> </ul>
<ul style="list-style-type: none"> <li>• Computation of productivity losses relating to absenteeism and presenteeism via employee questionnaires (i.e. HPQ)</li> </ul>

<b>Cost Considerations</b>
<ul style="list-style-type: none"> <li>▪ Tracking of direct clinic costs                             <ul style="list-style-type: none"> <li>• Initial facility costs</li> <li>• Enlargement of existing site cost</li> <li>• Costs of implementation and of continuous operation (staffing, supplies, medications, insurance, management fees etc.)</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>▪ Tracking of incremental utilization costs (increase in population served or clinic usage)</li> </ul>

<b>Process Measures</b>
<ul style="list-style-type: none"> <li>• Tracking of HCW utilization or volume by service type compared to target utilization by service type</li> </ul>
<ul style="list-style-type: none"> <li>• Tracking of referral rates to employer sponsored programs</li> </ul>
<ul style="list-style-type: none"> <li>• Calculation of utilization as percentage of total number of HCWs</li> </ul>
<ul style="list-style-type: none"> <li>▪ Comparison of year-by-year volume of clinic use by service category (i.e. screening/prevention GYN, immunizations, physical exams etc.)</li> </ul>
<ul style="list-style-type: none"> <li>▪ Summation of number of referrals and types for health based or wellness programs</li> </ul>

<ul style="list-style-type: none"> <li>▪ Comparison year-by-year of most common and most costly diseases</li> </ul>
<ul style="list-style-type: none"> <li>▪ Comparison year-by-year of most common and most costly medications</li> </ul>
<ul style="list-style-type: none"> <li>▪ Comparison of participants to non-participants with adjustment for age, gender, and risk level</li> </ul>

<b>Operational</b>
<ul style="list-style-type: none"> <li>• Tracking of waiting times for visits</li> </ul>
<ul style="list-style-type: none"> <li>• Tracking of internal reports (metrics) delivered on time to leadership team</li> </ul>
<ul style="list-style-type: none"> <li>• Audits for adherence to evidence-based guidelines in service delivery</li> </ul>

<b>Outcomes or clinical results (indicator for reducing health care cost trend)</b>
<ul style="list-style-type: none"> <li>• Comparison of serial biometric measurements of HCWs</li> </ul>
<ul style="list-style-type: none"> <li>• Annual comparison of compliance with screenings (i.e. mammography and colonoscopy), and follow-up visits</li> </ul>
<ul style="list-style-type: none"> <li>• Tracking of disposition of patients (treated on-site, prescription written, referred for consult) or referral back to work, to home, to PCP, or to an ER</li> </ul>
<ul style="list-style-type: none"> <li>• Calculation of utilization metrics that indicate improved health status and absence of complications (i.e. fewer ER visits for asthmatics)</li> </ul>
<ul style="list-style-type: none"> <li>• Increased adherence to condition-specific evidence-based guideline</li> </ul>

<b>Satisfaction</b>
<ul style="list-style-type: none"> <li>• Tracking of periodic employee survey responses regarding perceived service, efficiency, quality, and overall experience</li> </ul>
<ul style="list-style-type: none"> <li>• Tracking of hospital administration’s satisfaction of the clinic’s service level, their perceived receptivity by employees, and overall perception of value received.</li> </ul>

**Source (Table adapted from):** Hochstadt, 2010; Loeppke et al.; Taylor & Bithoney, 2012

## **Key Factors for Success**

With goals and objectives established and a strategy for measuring continuous progress determined, factors important to ensuring a successful clinic would need to be considered. An attractive clinic and appealing location, privacy and confidentiality of on-site operation, strong administrative support, and marketing to HCWs would be important factors central to achievement.

### **Appealing Clinic Location**

Whether a large or a small clinic space is utilized, the physical environment of an on-site non-occupational health clinic needs to be accessible, pleasant, and comfortable in order to attract patients (Tu et al., 2010). Cramped or unattractive locations will likely inhibit worker acceptance.

### **Privacy and Confidentiality**

Employee acceptance of an on-site clinic also requires employee trust (Tu et al.). Confidentiality and privacy are realistic employee concerns. HCWs may perceive an on-site clinic as an employer intrusion into the sensitive area of personal medical health and be mistrustful of their hospital's motivations (McCarthy, 2009; Towers Watson, 2012a; Tu et al.). Employees may worry that data collected in the clinic will be shared with their employer with negative consequences up to and including job loss (McCarthy). Protecting medical privacy is critical to maintaining employee trust. Clear and honest communication regarding how the clinic fits into the hospital's core business strategy and convincing evidence of the clinic's ability to fully adhere to patient privacy protections such as the Health Insurance Portability and Accountability Act (HIPAA) of 1996 and new provisions of the 2009 HITECH Act would need

to be conveyed. The more recent act introduces new regulations governing confidentiality and is intended to improve patient privacy and security protections (HealthIT.gov, n.d.; McAfee, 2012).

As electronic medical record use becomes more widespread there are more and more questions to be answered. Easily shareable electronic records threaten patient privacy and can lead to security breaches, misuse of information, and loss of patient control over personal data (New York Civil Liberties Union, 2012). Even though the U.S. government has instituted improvements there are still many more concerns to be addressed particularly in regards to patient control (New York Civil Liberties Union).

Maintaining privacy of worker personal health information has been a significant concern for organizations establishing employer-sponsored worksite health clinics. This has caused some to choose vendors instead of operating the clinics themselves (Glabman, 2009). QuadMed, a worksite clinic vendor, understands that medical privacy is critical to sustaining employee trust and emphasizes their policy of protection of not sharing patients' medical records with any company department and their continued maintenance of tight control of patient record access (McCarthy, 2009). Most employer-sponsored programs use an independent medical vendor which acts as a distinct but separate provider (Tu et al., 2010; LaPenna, 2013). Health care organizations thinking about primary care workplace clinics may want to consider the employee privacy and confidentiality afforded by the provider group (in-house or outsourced) being considered. Personal health information must be kept strictly confidential and unavailable to the employer (Rogers, 2003) Clear policies, procedures, security systems, tracking and monitoring systems need to be in place at the initial planning stages of any employer-sponsored worksite health clinic.

Employee reticence over personal privacy is a realistic concern. In general, medical office waiting rooms are typically large open areas with all occupants visible to each other. Allowing full view of a worker by others in a worksite setting may leave HCWs to feel as though their privacy has been invaded (Hochstadt, 2010). To counter this problem some on-site clinic planners have replaced the traditional waiting room with a virtual system with real-time notification (mobile texting, instant messaging, e-mail, etc.) of the worker at his/her workstation when the provider is finishing with one patient and ready for the next (Frost, 2008; Hochstadt). To eliminate any possibility of embarrassment of being seen by a co-worker, some forward-thinking planners have specially designed exam rooms that prevent others from viewing an occupant when the door is open (Frost). Privacy of conversations has been accomplished by installation of white noise into the ceiling of exam rooms (Frost).

### **Strong Administrative Support**

Strong administrative support will be necessary. It is critical that senior management be involved from the very beginning when planning an on-site health clinic and that they fully understand the value of healthy HCWs and their economic benefit to their health care organization. Senior leaders not only need to provide initial active and visible support but also need to remain engaged throughout the life of a clinic providing ongoing oversight, encouragement, as well as the necessary resources for the clinic to thrive (Tu et al., 2010). An excellent way to promote a new clinic is by having senior leadership use the clinic in a highly visible manner (Taylor & Bithoney, 2012; Tu et al.).

### **Marketing**

Lack of awareness of the services of an on-site clinic among HCWs will be a key issue and marketing to attract them will be challenging (Tu et al.). Outreach using a variety of methods

to connect with different types of employees could include e-mail, newsletters, bulletin boards, fliers, home mailings, health fairs, and information sessions. As it may take time to attract HCWs, other strategies to get them through the door more quickly could include invitations for preventive screenings, flu vaccinations, and follow-up to health risk counseling (Tu et al., 2010). However, the best way for an on-site medical practice to develop is by word-of-mouth recommendations from other employees (Tu et al.). When enough HCWs come in and have a great experience, they will talk about it.

Another important aspect of marketing to HCWs is in offering the right formula for cost sharing. Waiving the co-payment altogether would provide a strong incentive to use the clinic (Berry et al. 2012; Boutwell, 2011). On the other hand some feel that getting clinic services for free might lead to unwarranted demand (Tu et al.). Another option would be to charge co-pays at a lesser amount than those charged for community-based visits (McCarthy, 2009; Tu et al.). Charges for medication could also be treated similarly with full or no charge for generics or branded drugs or a modest charge for either or both (Berry et al.; Tu et al.). Some on-site clinics have been successful with offering totally free clinic services with no-cost for clinic access (no co-pay or deductible charge), imaging, or laboratory services, specialty screening exams (i.e. GYN, dermatology) or starter medications (Berry et al.; Luceri & Brennan, 2010).

### **Skilled and Enthusiastic Clinicians**

Hiring skilled and enthusiastic clinicians is critical to patient acceptance of an on-site health clinic (Hochstadt, 2010). One of the most promising aspects of workplace clinics is the potential for successful delivery of wellness, disease management, and primary care as a result of a close employee and trusted clinician relationship (Tu et al.). Achieving this connection is contingent on finding and retaining clinic staff with the right skills and qualities as well as their

ability to connect culturally (Sherman & Fabius, 2012). In addition, longer and more frequent face-to-face encounters with the on-site provider (rather than the brief and often hurried community-based clinic visit) may contribute greatly in building a substantial patient-provider relationship that would be helpful in motivating HCWs to make good health choices.

### **Worksite Medical Clinic as a Patient-Centered Medical Home**

Health care organizations and their focus on decreasing health care costs for their HCWs and increasing their productivity are beginning to sponsor acute and primary care clinics for their workers (Dartmouth-Hitchcock, 2013; Mayo Clinic, 2013; Tucson Medical Center News, 2012). Urgent care and primary care are felt to be critical to a well-functioning health care system, and primary care availability, in particular, has been positively and consistently associated with improved health care outcomes, lower utilization of health care resources, and lower overall costs (Starfield et al., 2005). Advancing the value of primary care (and improved outcomes) further can be accomplished by establishing the primary care clinic as a Patient-Centered Medical Home (Adams, Grundy, Kohn, & Mounib, 2009; Rosenthal, Abrams, & Bitton, 2012).

### **Compatibility of Health Care Organization Infrastructure and Strategies**

The American College of Occupational and Environmental Medicine feels that occupational and environmental medicine (established services at most hospitals and medical centers) provides a well-established infrastructure and parallel strategies to PCMH concepts and that these notions would be significantly enhanced if they were extended into the workforce (McLellan et al., 2012). Because health in the workplace, health at home, and health in communities are interconnected, workplace initiatives could be strategically positioned not only to provide much needed accessibility to primary care but to build upon the ideal of a whole-person approach to health. The PCMH model with an emphasis on prevention, better patient

outcomes, greater efficiency, and lowered health costs align well with health care organizations long-term interests related to workplace health (McLellan et al., 2012).

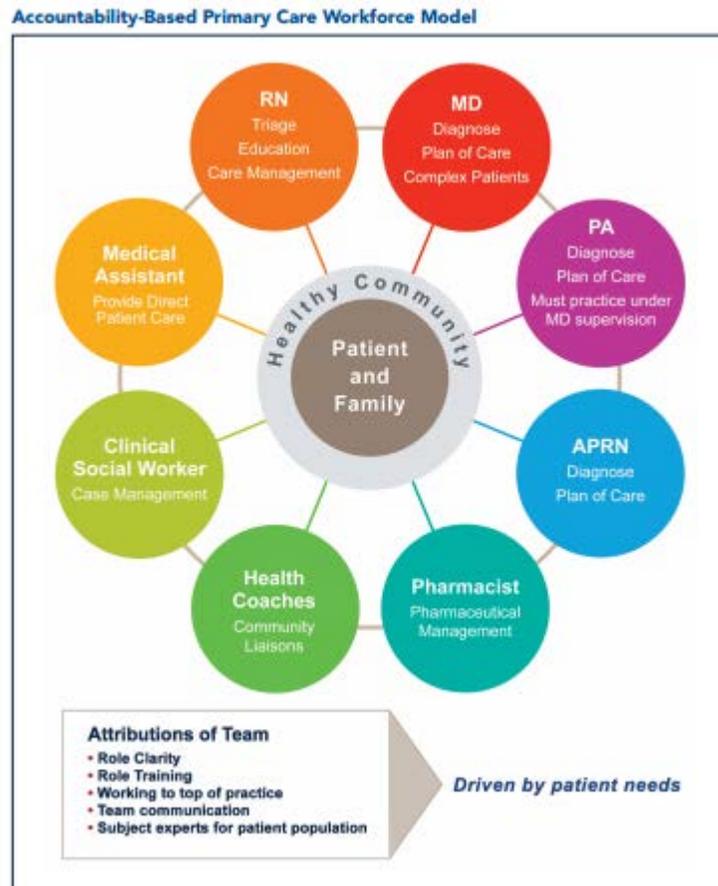
### **Comprehensive, Patient-Centered, and Coordinated Care**

The findings of the 2010 Patient-Centered Primary Care Collaborative study shows that investing in primary care PCMHs results in improved quality of care and patient experiences and with reductions in expensive hospital and emergency room utilizations (Grumbach & Grundy, 2010b). While seeking those benefits, health care organizations with a worksite clinic functioning as a PCMH can customize its services to more effectively address identified population health needs based on claims analysis and review of health risk assessment data. That information would allow an immediate focus on most at-risk members or HCWs with prevalent chronic conditions.

The medical care offered through the PCMH is team-based primary care. Professionals comprising a patient's personal team may consist of a physician, nurse practitioner, physician assistant, registered nurse, licensed practical nurse, medical assistant, health care coordinator, and health coach. Other health professionals utilized as necessary could include a pharmacist, nutritionist, physical therapist, social worker, psychologist, psychiatrist, and any other necessary specialty provider (Figure 4.3). All members would work in concert towards a patient-centered relationship in which a preventive approach to health was a priority.

HCWs have higher prevalence rates of certain chronic diseases and for those that have a need for regular monitoring, point-of-care testing can easily be accomplished on a regular basis at the employer-sponsored clinic without employee out-of-pocket cost and with minimal employee work disruption. With the PCMH concept, patient visits are less hurried, often lasting 20-30 minutes, and with the additional time the provider can address not only the acute condition

**FIGURE 4.3**  
**PRIMARY CARE WORKFORCE MODEL**



**Source:** American Hospital Association, 2011b

for which the worker presented but can focus on a wider range of health issues (Dartmouth-Hitchcock, 2013; McLellan et al., 2012). A worker may present for an upper respiratory condition but have his or her diabetic or hypertensive condition addressed as well. With the team approach and electronic medical records, preventive health screenings can be tracked and monitored for compliance. Because of the convenience of an on-site PCMH clinic, the HCW could access care before the medical issues became serious and costly. The integrated team focus on prevention and early intervention would likely reduce emergency room use as well as the need for specialty care or hospitalization.

The worksite PCMH interdisciplinary team would be in an optimum position to assess and facilitate referrals across all levels of the health care system ranging from specialist care to appropriate emergency room use, or to home health care. The care coordinator could assist HCWs in receiving care when they need it and where they want it and in a way that it would best meet their unique needs.

### **Accessible Services and Clinical Information Systems**

An on-site primary care PCMH team can provide the tools and services to empower HCWs to own their health. Online employee/patient portals that many hospitals already have in place, would provide ease of access for scheduling appointments by the HCW as well as facilitating a two-way information exchange between the HCW and primary care medical team. Privacy of patient records is a concept already familiar to health care organizations through HIPAA and electronic medical records could keep personal medical information secure and apart from employer access.

## **Role of the Occupational Health Nurse and Occupational Health Nurse Practitioner**

With the PCMH model of care within a non-occupational health clinic comes additional role and responsibility expectations of the occupational health nurse (OHN) as well as the occupational health nurse practitioner (OHNP). The concept of the worksite PCMH demands a team effort and collaboration among health care professionals and additional skills will be needed that will foster a mutually respectful partnership (Pohl, Hanson, Newland, & Cronenwett, 2010).

### **Additional Skills**

While operating as full partners, both types of nurses will be responsible for engaging in effective cross-team communication, collaborative work with both in- and out-of-network professionals, and care coordination with community resources. With these new role expectations, these nurses will need confidence in the value of their opinions and abilities as they engage in effectual team management with physicians and other health professionals. Acquiring additional skills in leadership and communication skills would be a high priority. Critical communication competencies would include expertise in conflict resolution, effective confrontation, and shared decision making (IOM, 2010; Schwarzkopf, Sherman, & Kiger, 2012).

### **New Role Expectations**

OHNs and OHNPs, as members of the interdisciplinary patient-centered primary care team, will be equally responsible for the design, implementation, and evaluation of the clinical services offered and will need to be well informed about health policy, systems improvement, research, and evidence-based practices in order to contribute fully (Burgel, 2011). Both types of nurses, in leading the PCMH team in assessing patient needs and coordinating appropriate health care referrals, will need to have comprehensive familiarity with community health care resources.

They will also be expected to be proficient with the use of electronic health information systems for storage and retrieval of data and become competent with meaningful sharing of information as the technology evolves and becomes available. Until that time, nurses will have a responsible role in devising and coordinating a system of shared information with community providers via phone, letters, e-mail, or patient-carried records. Overall, the OHN and OHNP will play ever increasingly important roles in promoting better patient outcomes and achieving team performance goals that will ultimately improve the health of the workplace community as well as help to meet the financial goals of their organizations.

### **Critical Functions of the Occupational Health Nurse and Occupational Health Nurse Practitioner**

The occupational health nurse, although developing new skills and assuming new role functions within the comprehensive primary care PCMH model, will continue to be the key professional in managing job-related injuries and illnesses in the workplace and advocating for workers' health. After all, a transformation of a health care system begins with a safe and healthful workplace (Burgel, 2011).

With increased popularity of the PCMH model of care there will be an increased demand for primary care providers. Quality care provided by nurse practitioners is well established in the areas of chronic disease management and care coordination and nurse practitioners should be practicing to the full extent of their education and training (Burgel; Cassidy, 2012; IOM, 2010). NPs would be key professionals with the critical function of leading and contributing to the team concept of integrated primary worksite health care while helping to fill the U.S. primary care provider shortage (Cassidy).

## **Policy Implications**

Up until recently the U.S. health care system has been more focused on treating acute illnesses and injuries but now, with the increasing adoption of the PCMH model of care, the concentration is more on preventing acute medical conditions and disease progression and managing chronic diseases. The Institute of Medicine [IOM] (2010) asserts that with this transformation of the health care system in providing safe, quality, patient-centered, accessible, and affordable care there needs to be a comprehensive rethinking of the roles of nurses. The central policy question concerning the changing role of nurses in occupational settings beginning to offer non-occupational comprehensive care in the context of a PCMH is whether the nursing profession can adapt and provide the additional education and training needed. Three particular areas of policy concern involve educational standards for nurses, educational curriculum for nurses, and training for interprofessional collaboration.

### **Educational Standards**

For many years there has been debate over the educational criteria for entry into the profession and lately there has been renewed discussion over the three main educational pathways: the Bachelors of Science in Nursing (BSN), the Associates' Degree in Nursing (ADN), and the diploma in nursing. The IOM feels that relative to other pathways, the BSN education exposes students to a wider range of subject matter such as health policy and health care financing, community and public health, leadership, quality improvement, and systems thinking (IOM). It is apparent that expanded competencies for nurses now must include skills in leadership in these areas and the IOM argues that a more educated nursing workforce would be better equipped to meet the demands of an evolving health care system if a greater proportion of nurses were to be educated at the baccalaureate level (IOM). The IOM specifically recommends

that the proportion of nurses with baccalaureate degrees be increased to 80% by 2020 (IOM, 2010). Furthering that recommendation, the authors of the 2009 report *Educating Nurses: A Call for Radical Transformation* contend that this degree should comprise the minimum educational level for all nurses, and that within 10 years of graduation they should be required to complete a master's degree in nursing (Benner, Sutphen, Leonard, & Day, 2009).

The Institute sees this entry level requirement as not only producing more highly educated nurses but also increasing the numbers of nurses qualified to progress to the master's and doctoral levels who then could then serve as primary care providers, nursing researchers, and nurse faculty (IOM, 2010). Financial support to help accomplish this goal including grants and scholarships, and reallocation of federal resources would be needed. The U.S. government could lead the way with policy changes in favor of funding this initiative.

### **Educational Curriculum**

Nurses need to be well educated to work in the demanding and changing U.S. health care environment, and according to the 2009 Carnegie Foundation for the Advancement of Teaching, national nursing education study report, current nursing education was deemed inadequate and in need of being updated (Benner et al., 2009). The authors of this report call for more effective instruction in nursing science, natural sciences, social sciences, technology, and the humanities and in connecting the liberal arts to the development of sound nursing practice (Benner et al.). They also argue that the curriculum should be taught in connection to what actually occurs in patient care rather than what occurs in theory and in the abstract and that nursing students should be assisted in connecting classroom knowledge with clinical practice (Benner et al.). The policy question will be one of nursing leadership and nurse educators having a congruent perspective and having the resources to formulate changes with or without governmental support.

## **Interprofessional Training Programs**

Research shows health care delivered by nurses, physicians, and other health care professionals working in teams not only improves quality, but also leads to better patient outcomes, and greater patient satisfaction (Josiah Macy Jr. Foundation & Carnegie Foundation for the Advancement of Teaching, 2010; Pohl et al., 2010). One of the goals of the PCMH consists of longitudinal and coordinated care for patients and in order for that model to succeed all health care professionals will need to work together.

Traditional models of education for health professionals have emphasized mastery of skills within individual disciplines (silos) and given relatively little attention to how those skills would work in real life situations (Robert Wood Johnson Foundation, 2012). Many experts believe that learning teamwork should be part of basic education programs for all health professionals (UC Davis Health System, 2008).

Interprofessional education or programs in which students from two or more health professions learn together has been a recommendation of the IOM for some time but now is being recommended by the president of the National League for Nursing (Halstead, 2012; Josiah Macy Jr. Foundation & Carnegie Foundation for the Advancement of Teaching). With the current interest in creating PCMHs it seems like the time has come to fully integrate team-based learning as a core component of education for nurses, both at the undergraduate level and for those already in practice.

In addition, changing the way health professionals are educated requires changing the way faculty teach and academic institutions that wish to prepare their students in collaborative practice skills need to begin to commit resources to faculty professional development (Josiah Macy Jr. Foundation & Carnegie Foundation for the Advancement of Teaching). Faculty in all

health professions will need to learn to think beyond the current hierarchical culture in order to teach students how to address their own personal power issues, adopt common goals, and appreciate what each team member can best contribute to patient care (Clements, Dault, & Priest, 2007).

## **Future Research**

### **Universal Standard of Measurement for Clinic Return on Investment**

Assessing the impact of a workplace clinic is complex and has been difficult for employers (Tu et al., 2010). Calculations for some clinics have included hard ROI figures, soft ROI numbers, and health costs for clinic users versus non-clinic users but to date there is not one industry standard that has been developed for measuring a true and consistent ROI (Tu et al.). All employers considering the feasibility of this type of health initiative are in need of such a standard in order to establish clear evidence for predictable and timely return on investment. Further research is needed to develop universal standards of measure.

### **Worksite Non-Occupational Clinic as Replacement or Adjunct PCMH**

There is another question yet to be answered and that is whether an employer-sponsored workplace health care clinic serves as a replacement or as an adjunct to the community PCMH. A worksite clinic fully staffed for delivery of primary care could independently provide workers not only with full acute and chronic medical care but also counseling for lifestyle behaviors, point-of-service monitoring, health education, and coordinated patient referrals.

However this may pose a challenge for the community-based PCMH with the loss of patient population to the employer-based clinic (Sherman, 2010). Not only can worksite clinics reduce the number of patients on community provider's panel but can reduce that provider's income as well. Reimbursement for the care of very sick persons and those with several different

problems often times pays poorly and it is the ‘bread and butter’ business such as annual physicals, immunizations, ankle sprains, and urinary tract infections that makes it possible to pay for staff and office overhead (Terry, 2009). Those are the visits the community provider would not wish to lose to a worksite primary care clinic. The most difficult aspect for the independent provider, confronted with a nearby worksite health care clinic, is the possibility of a shift of his/her payer mix in the direction of Medicaid, the uninsured, and other self-pay patients (Terry).

Considering the possibility of the detrimental effect on the viability of other community physician practices, the vice-president of operations at QuadMed, an on-site employee health clinic vendor, does not feel that worksite clinics are a threat to primary care practices, which are often overwhelmed by demand for their services (McCarthy & Klein, 2010). He argues that worksite clinics may help to relieve some of the pressure so that community physicians would better be able to provide for their remaining patients (McCarthy & Klein). The lead clinic consultant for Mercer, global health consulting firm, also feels that community providers need not consider workplace clinics a threat to their business but an opportunity instead as multi-specialty practices are bidding to provide the on-site services (as cited in Managed Care Online, 2009). However, it should be noted that this statement is an opinion expressed from the viewpoint of the delivery systems rather than on research data.

On the other hand, with joint management and joint financial arrangements between the community provider and company-sponsored primary care clinic and PCMH, there could be the possibility of a higher quality, more efficient, and coordinated care for employees (Sherman, 2010). With the company-sponsored clinic providing supportive primary care, chronic disease monitoring, health care coaching, and referrals to other employer-sponsored health benefits and to community resources, the community medical provider would quite possibly have space for a

larger patient population, thus a potential for complementing each other (Sherman, 2010).

PCMHs are relatively new to the workplace and more research is needed to find a comfortable and productive fit within and for the community and especially in conjunction with other medical providers.

## **CHAPTER V**

### **SUMMARY AND RECOMMENDATIONS**

#### **Summary**

It is evident that the cost of health care in the U.S. is high. Employers providing company-sponsored insurance plans have been increasingly burdened with high premiums and medical costs. Several mechanisms have been put into place to curb this trend with the most significant being cost-shifting onto the employee. Health care organizations have the same concerns with providing health care coverage for their employees but their situation is a little more dire in that their employees consume a disproportionately higher health care costs than other industries and the burden is likewise greater.

Some industrial organizations, in attempting to control health care costs have created health conscious worksites, instituted health and wellness programs, added urgent and primary care services to their occupational health care program, and adopted the concepts of the PCMH model of care with positive results (Integrated Benefits Institute, 2012; Olson, 2013; Schilling, 2011). Health care organizations historically have lagged behind in instituting health care cost control measures; however, many have begun to cost shift insurance premiums to employees but few have added primary care offerings to their occupational health and safety clinics programs. With the reported success with the efforts within the industrial community it would appear that if the health care industry were to embrace the idea of worksite primary care the same cost control and health care benefits would be realized.

Advancing the idea and value of worksite primary care further would be accomplished by the incorporation of the PCMH model with a whole-person approach to health. This team-

oriented interdisciplinary approach to patient care has received high marks for effectiveness and patient satisfaction as well as reducing health care costs. As this system is gaining prominence in community-based health care it can be argued that there is a natural fit for the PCMH to exist within a worksite non-occupational health care clinic.

With the integrated team approach, there will be a requirement for increased participation, leadership, and collaboration by OHNs and OHNPs. New skills and additional education may be necessary and nursing curriculum is expected to evolve to prepare new and practicing nurses for this rewarding and important role.

However there are three important areas that need additional research and data. First, do health care workers have a need or desire to receive their health care from an employer-sponsored on-site primary care clinic? Second, confidentiality of worker health information needs mechanisms in place to assure that all personal health data are secure and cannot be shared with the employer if there would be HCW acceptance of employer-sponsored comprehensive worksite health clinics. Third, the effect of workplace primary care clinics upon community health providers and their practices has not been thoroughly investigated and more data are needed to determine both the practice and cost impacts.

## **Recommendations**

In order to fulfill the role expectations as a leader in moving the U.S. health system forward, OHNs and OHNPs must be aware of the policies and politics of pertinent health care legislation not only for those which affect workplace safety and health but those that relate to the profession of nursing. Personal professional involvement in the process is critical. Joining and becoming active with respective state, regional, and national professional organizations, particularly the associated governmental affairs committee of their respective national

organizations is one important way these nurses can support policy making and help advance the U.S. health care system. Individual activism by becoming informed, speaking out to encourage and involve others, and engaging with legislators is crucial to the process.

Scope of practice legislation regarding NPs has been an issue for the past several years and continues as a concern in many states. It is expected that nurses will be able to practice to the full extent of their education and training but this remains limited in many U.S. states secondary to physician supervisory restrictions. Legislation is also needed for governmental support for the changes needed for the education of practicing and future nurses and OHN and OHNP endorsement will be crucial.

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## APPENDIX

### THE HEALTH AND WORK PERFORMANCE QUESTIONNAIRE (HPQ)

#### HPQ: Presenteeism Scale Items

1. How often was your performance higher than most workers on your job?(Reversed)
2. How often was your performance lower than most workers on your job?
3. How often did you do no work at times when you were supposed to be working?
4. How often did you find yourself not working as carefully as you should?
5. How often was the quality of your work lower than it should have been?
6. How often did you not concentrate enough on your work?
7. How often did health problems limit the kind or amount of work you could do?

#### RESPONSE SCALE

5 = all of the time / 4 = most of the time / 3 = some of the time / 2 = a little of the time / 1 = none of the time

#### HPQ: Absenteeism Scale Items

1. In the past 4 weeks, how many days did you miss an entire day of work because of problems with your physical or mental health?
2. In the past 4 weeks, how many days did you miss an entire day of work because of any other reason?
3. In the past 4 weeks, how many days did you miss part of a work day because of problems with your physical or mental health?.
4. In the past 4 weeks, how many days did you miss part of a work day because of any other reason?

Source: Health and Work Performance Questionnaire, n.d.