



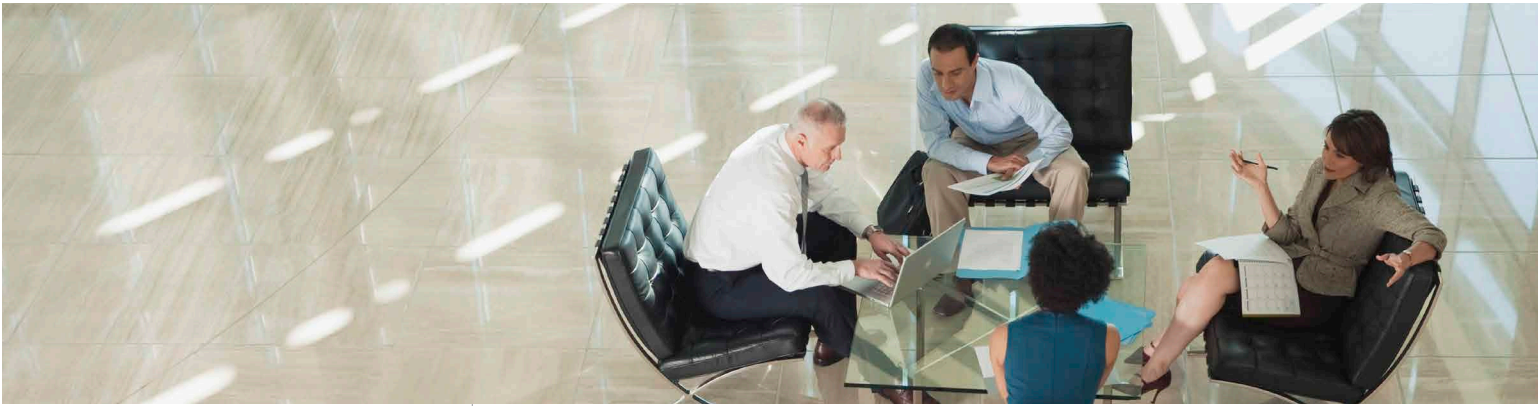
White Paper

Health Risk in the Public Sector Employer Population: Costs and Solutions

April 2013

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Introduction

Public sector employers are among the largest employers in the United States. Total compensation for public sector employees, including healthcare benefits, is approximately 44 percent of all state and local government spending.¹ Currently, public sector organizations are faced with daunting challenges related to rising healthcare costs, fiscal constraints, and budgetary pressures. With healthcare costs increasing faster than the rate of inflation, public sector employers are studying their options to reduce healthcare benefit expenditures while maintaining employee healthcare benefits and access to care.

Many state governments have become interested in reducing healthcare costs by improving their employees' health via employer-sponsored healthcare and wellness initiatives. Examples of such initiatives include weight management, smoking cessation, preventive care, and chronic condition disease management care. Interest in wellness initiatives has increased among public sector employers.

The purposes of this study are: (1) identify common factors that contribute to high healthcare costs; (2) compare the differences in the health risk and healthcare costs of public sector employees and their dependents to the private sector; and (3) explore the potential for employer-sponsored health promotion programs to facilitate a reduction in healthcare costs.

Data and Methods

This study was based on data from the 2010 Truven Health MarketScan® Commercial Claims and Encounters Database. MarketScan databases are constructed from fully adjudicated inpatient medical, outpatient medical, and outpatient prescription drug claims. The Commercial Database includes the healthcare experience of more than 30 million individuals annually who have employer-sponsored health insurance through large- and medium-sized, self-insured employers.

The data included all active employees and their dependents covered under a commercial, fee-for-service medical plan. Retired employees and their dependents are excluded from this study. Health maintenance organization plans were also excluded. Two populations of employees and their dependents were compared. The public sector population included 1.3 million members and the private sector population included 24.3 million members. For the purposes of this study, all cost values and rates provided for the public sector population, public sector expected benchmarks, and private sector population represent average annual metrics based on claims data from the 2010 MarketScan Commercial Database.

The study explored the differences between the public sector population and the private sector population with regard to health risk (illness burden); demographics; overall medical and prescription drug costs; inpatient medical, outpatient medical, and prescription drug utilization and efficiency rates; and chronic condition prevalence and costs. Chronic conditions that were studied included: asthma, diabetes, congestive heart failure (CHF), coronary artery disease (CAD), chronic obstructive pulmonary disease (COPD), depression, hypertension, lower back pain, obesity, and osteoarthritis.

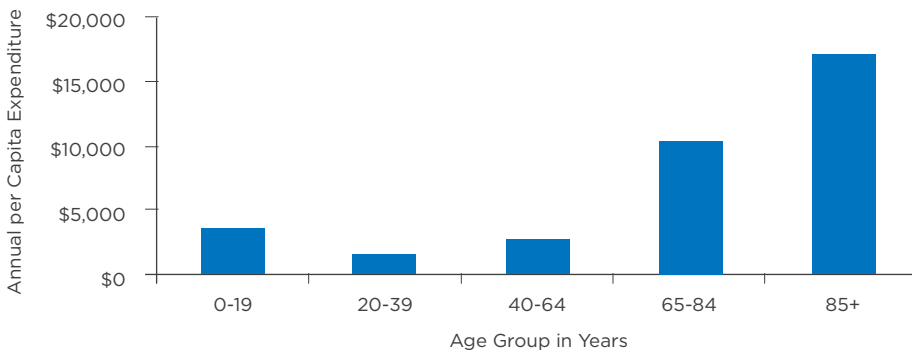
Results

Factors Influencing Healthcare Costs

Healthcare costs are increased by three factors that affect public sector companies more than the private sector: age, gender, and chronic illness prevalence.

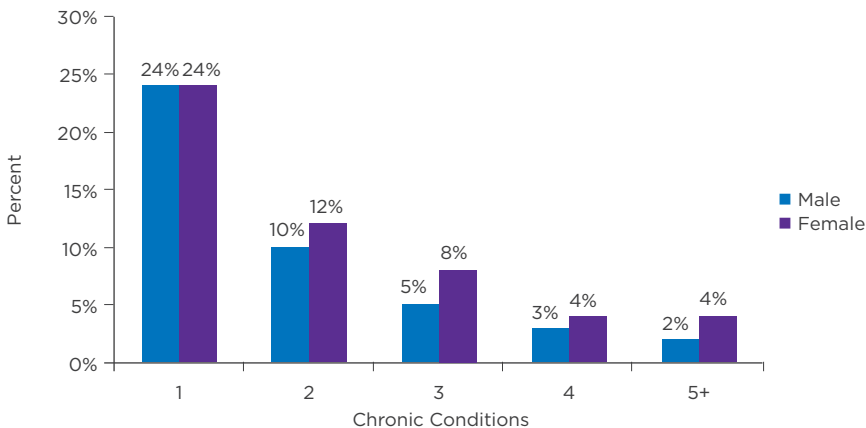
Age strongly influences the distribution of healthcare cost throughout an individual's life. Healthcare costs are lowest for the young, increase slowly in adulthood, and exponentially increase after the age of 50 years. Figure 1 depicts the annual per capita healthcare expenditure by age group.²

Figure 1: Distribution of Annual per Capita Healthcare Expenditures by Age Groups



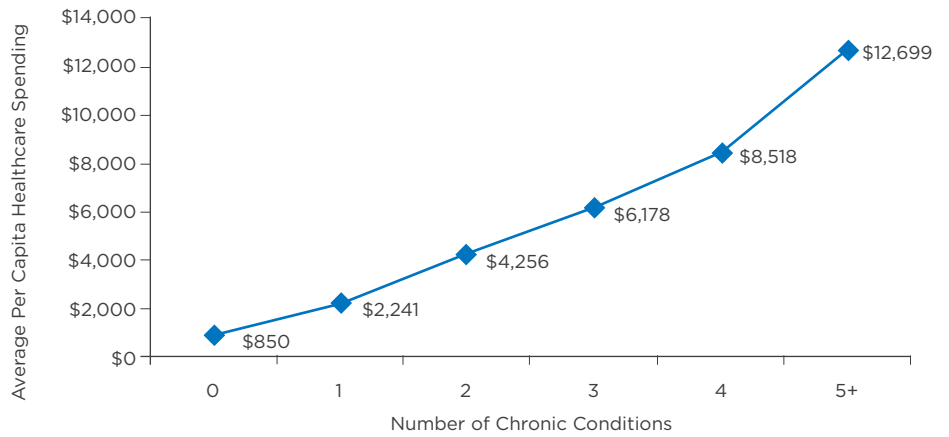
Gender also influences lifetime healthcare expenditures. Females have a per capita lifetime expenditure of \$361,192; this total is 34 percent (\$92,403) higher than the expenditure for males (\$268,789). This difference is partially attributable to females having an 8 percent longer life expectancy compared to males (79.4 versus 73.6 years, respectively). Females also incur healthcare expenditures for pregnancy and childbirth during their reproductive years.² Finally, women have a higher prevalence of chronic conditions compared to men,³ as depicted in Figure 2.

Figure 2: Gender Distribution for the Total Number of Chronic Conditions



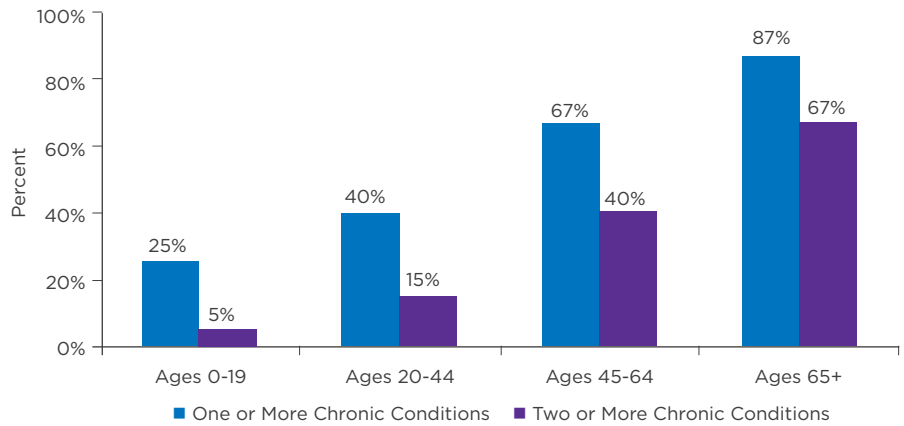
Greater than 75 percent of healthcare costs are due to chronic conditions.⁴ Furthermore, as Figure 3 depicts, healthcare expenditures increase exponentially when individuals have multiple chronic conditions.³

Figure 3: Healthcare Spending, Distributed by the Number of Chronic Conditions



As Figure 4 depicts, older individuals experience a higher incidence of multiple chronic conditions.³

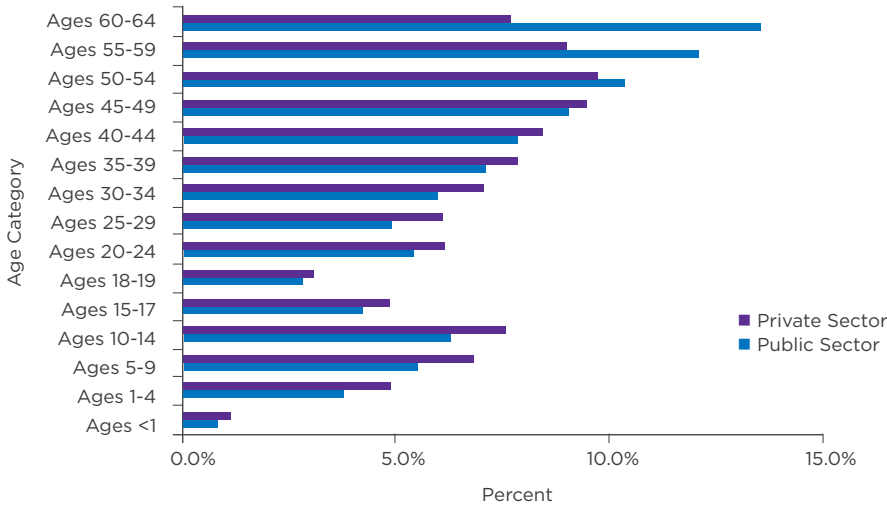
Figure 4: Age Distribution (in Years) of Employees With One Versus Two or More Chronic Conditions



Age: Public Sector Versus Private Sector

Public sector companies have a larger proportion of their workforce 50 years of age or older and a smaller proportion younger than 50 years compared to public sector companies, as depicted in Figure 5. The differences are most pronounced in the 55–59 and 60–64 age categories: 12.1 percent versus 9.0 percent and 13.6 percent versus 7.7 percent for public vs. private sector composition, respectively.

Figure 5: Age Distribution (in Years) of Public and Private Sector Employees



“Public sector companies have a larger proportion of their workforce in the 50+ age group than private sector companies.”

These age differences contribute to higher healthcare costs. As noted previously, healthcare costs increase exponentially after the age of 50 (Figure 1). Furthermore, increasing age is associated with a higher incidence of chronic conditions, which is associated with increased healthcare spending (Figure 3).

Figure 6: Age Distribution (in Years) of Public and Private Sector Employees

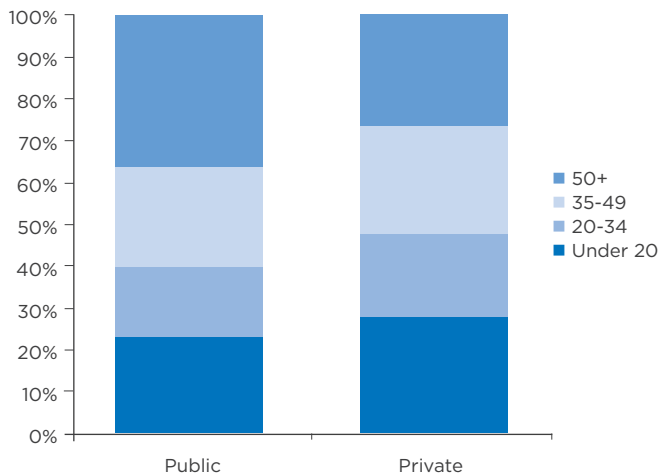


Figure 6 summarizes differences in the age groups of employees in the public and private sectors. The private sector has a larger proportion of employees younger than 20 years and 20–30 years, whereas the public sector has a larger proportion of employees in the 50+ age groups. Given the known relationship between age and healthcare cost, the public sector has a lower proportion of the low-cost age groups and a higher proportion of the high-cost age groups.

“Fifty-seven percent of public workers are female, compared to 51 percent in the private sector.”

Gender: Public Sector Versus Private Sector

Figure 7 illustrates gender differences in the public sector versus private sector populations. The public sector has a more predominantly female population than the private sector (57 percent and 51 percent, respectively). All things being equal, these differences will contribute to higher healthcare costs for the public sector. This finding is compounded by the age category composition. Compared to the private sector, the public sector has more female employees in the 50 years and older age categories: 50–54 (6.2 percent versus 5.1 percent); 55–59 (7.3 percent vs. 4.7 percent); 60–64 (7.8 percent vs. 4.0 percent), respectively, as depicted in Figure 8.

Figure 7: Gender Distribution of Public and Private Sector Employees

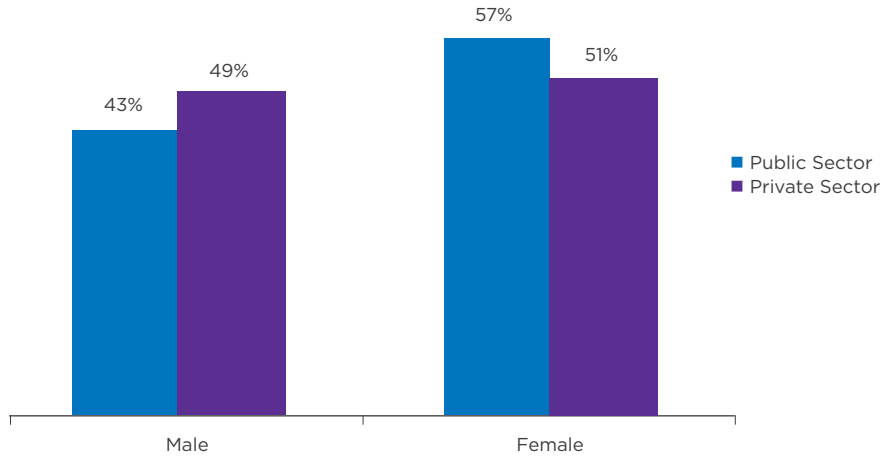
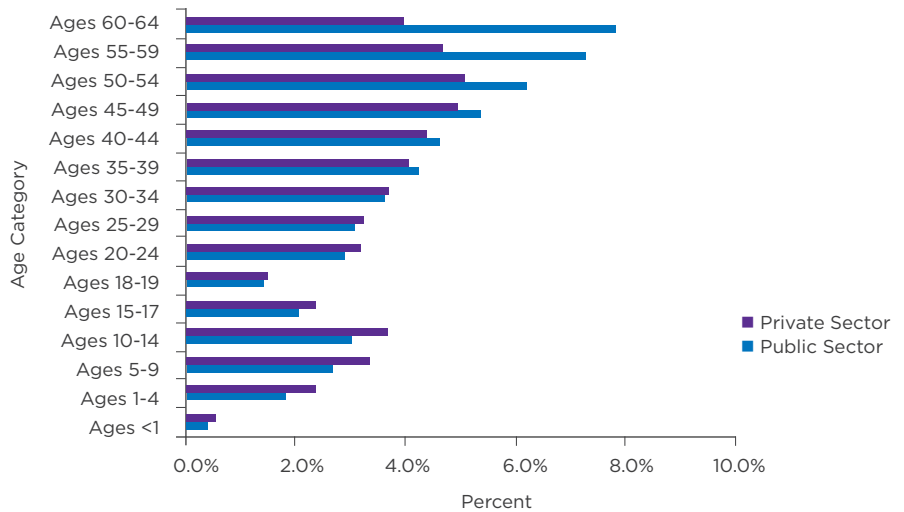


Figure 8: Age Distribution (in Years) of Female Employees in Public and Private Sector Workforces



The differences in gender demographics will contribute to higher healthcare costs in the public sector. Females have higher lifetime healthcare expenditures than males. They have a greater prevalence of multiple chronic conditions (Figure 2), which are associated with increased healthcare spending (Figure 3). However, females also have pregnancy and childbearing costs, which may be slightly higher in the private sector. As Figure 8 indicates, the private sector has a slightly higher percentage of female employees in childbearing ages 18 through 34 years. Females aged 35 years and older, who also may have pregnancy and childbearing costs, are more predominant in the public sector.

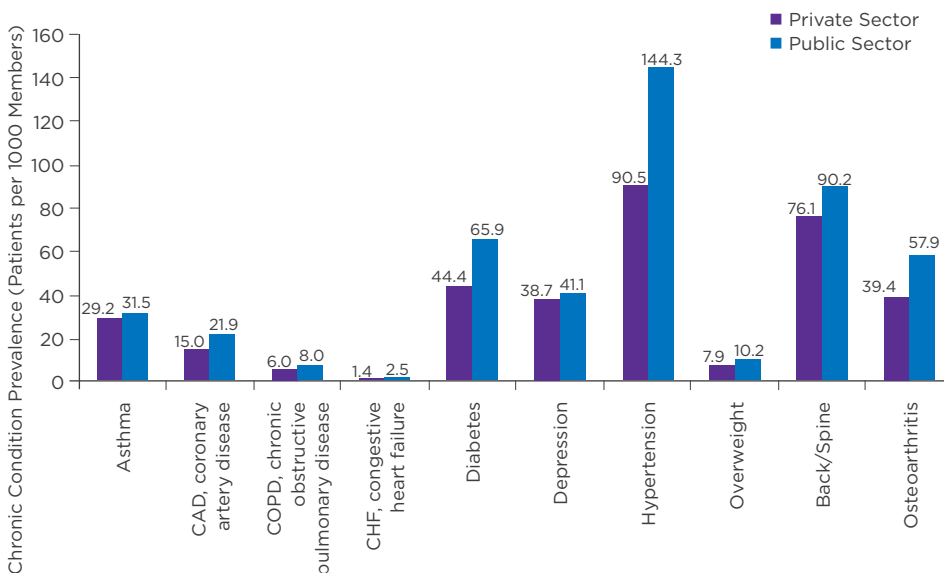
Chronic Condition Prevalence: Public Sector Versus Private Sector

The public sector had a higher prevalence of chronic conditions than the private sector for every chronic condition that researchers studied (Figure 9). In addition to the consistency of this finding across all studied conditions, the magnitude of these prevalence differences is noteworthy. Compared to the private sector, coronary artery disease (CAD) is 46 percent higher, diabetes is 48 percent higher, hypertension is 59 percent higher, and osteoarthritis is 47 percent higher in the public sector population. This dramatically higher prevalence of chronic conditions has important ramifications for program costs.

Given the dramatically higher prevalence of chronic disease, it is not surprising that Truven Health Analytics™ researchers found that public sector employees and their dependents had a 19.5-percent greater health risk (illness burden) than the private sector at large (Figure 10).^a Consequently, public sector companies are at greater risk for higher healthcare expenditures compared to the private sector.

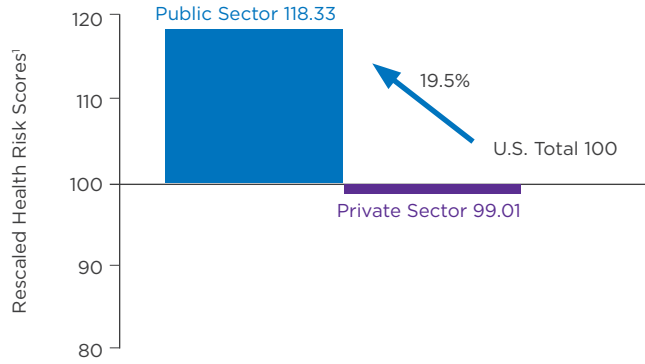
“Public sector employees and their dependents had a 19.5-percent greater health risk than the private sector.”

Figure 9: Prevalence of Chronic Conditions in the Public and Private Sectors



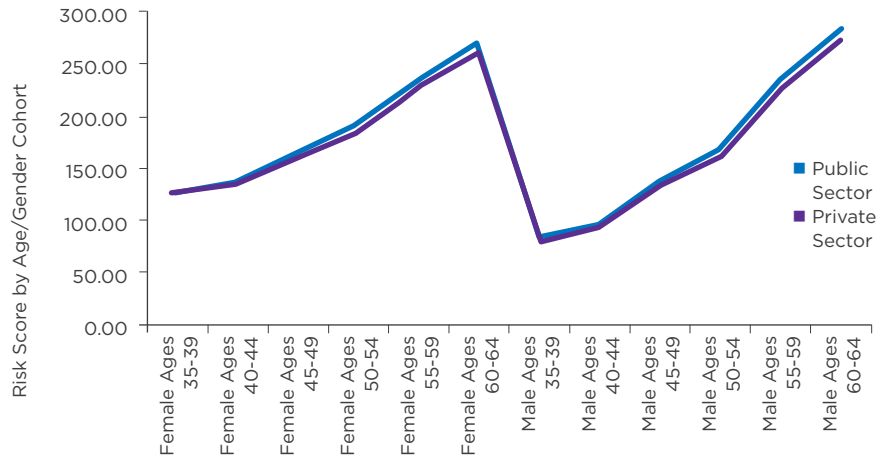
^a The health risk (illness burden) calculations were achieved by applying the DxCG Diagnostic Cost Groups (DCG) and DxCG RxGroups® models.¹

Figure 10: Health Risk Scores for the Public and Private Sectors



The age and gender demographic differences between the public and private sector populations would be expected to explain much of the difference in risk between the two populations; however, they do not explain all of the differences. Figure 11 demonstrates that for individuals aged 35 years and older, the public sector has prospective risk scores that are 1 percent to 3 percent higher for the female population and 3 percent to 5 percent higher for the male population. The implication is that even on an age-sex neutralized basis, the effects of chronic illness and comorbidities may explain upwards of 4 percent or 5 percent of the cost-differential between the segments. Stated more simply, even after adjusting for differences in age and gender, the public sector population has more illness.

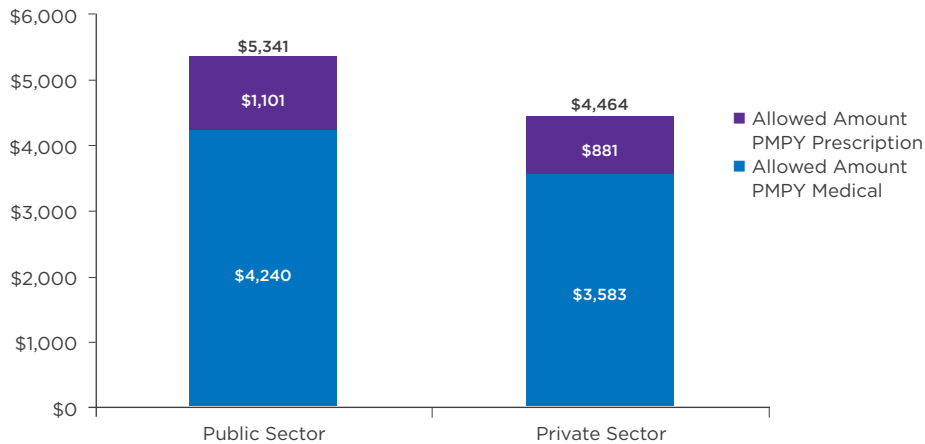
Figure 11: Risk Score Distributions by Age and Gender for the Public and Private Sectors



Healthcare Costs: Public Sector Versus Private Sector

Public sector healthcare costs are higher than those in the private sector. Figure 12 illustrates public sector per member medical and prescription drug costs of \$5,341, which were 20 percent higher than private sector costs of \$4,464.

Figure 12: Allowed Per Member Per Year (PMPY) Prescription and Medical Costs in the Public and Private Sectors



As we have seen, older age, female gender, and chronic conditions all contribute to higher healthcare costs. The public sector has a higher proportion of individuals in each of these factors compared to the private sector. Hence, it is not surprising that the public sector incurs greater healthcare expenditures than the private sector. Now the question becomes: What can be done to lower — or at least mitigate — the rise in public sector healthcare costs?

Employer-Sponsored Health Promotion Programs

There is evidence to support the implementation of effective health promotion programs to reduce healthcare costs in the public sector. As we have seen, the public sector's workforce has a higher prevalence of chronic conditions that are associated with age and female gender; ultimately, the conditions lead to higher healthcare costs. However, modifiable behaviors such as tobacco use and insufficient physical activity are responsible for much of the illness and disability associated with chronic conditions.³ Hence, the theory is that if health risk factors are reduced, the prevalence of chronic conditions will decrease — leading to a reduction in healthcare expenditures.

A study conducted by Goetzel et al. found that 22.4 percent of annual healthcare costs by seven employers were attributed to 10 risk factors. Figure 13 depicts the annual adjusted difference in healthcare expenditures associated with seven of the risk factors. For example, individuals with high blood pressure incurred \$1,378 more healthcare expenditures than individuals without high blood pressure. The annual cost differences ranged from \$413 for stress to \$2,185 for depression, and the percentage differences (shown in Figure 14) ranged from 9 percent to 48 percent, respectively.⁵ It is interesting to note that the public sector had higher prevalence than the private sector in COPD, diabetes, depression, hypertension, and overweight chronic conditions in our findings (Figure 9); our results are similar to the risk factors shown in Figure 13 from the Goetzel et al. study.

“Public sector medical and prescription drug costs are 20 percent higher than the private sector.”

“One analysis showed that healthcare costs decreased \$3.27 for every dollar spent on wellness programs.”

Figure 13: Adjusted Cost Differences for Seven Health Risk Factors

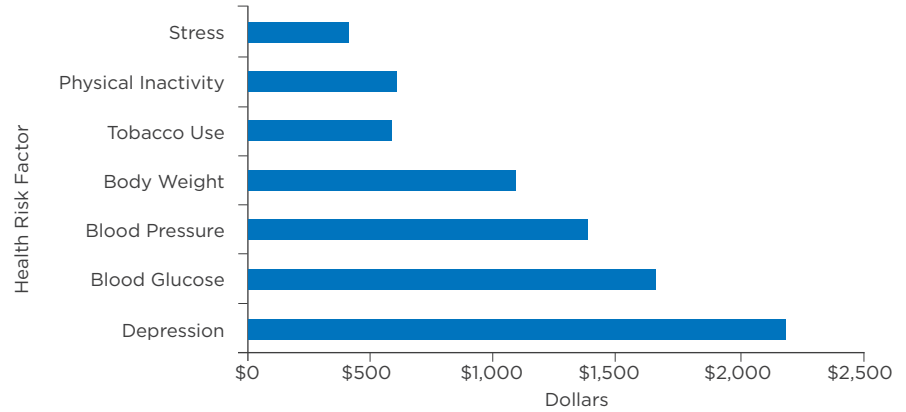
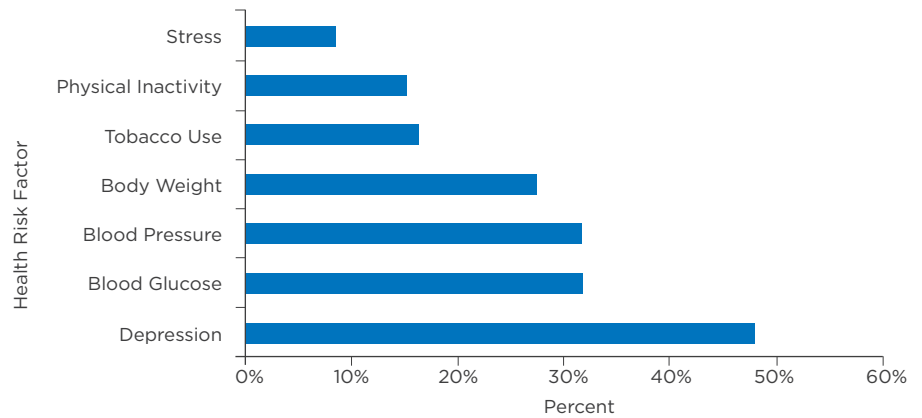


Figure 14: Adjusted Percentage Cost Difference for Seven Health Risk Factors



A meta-analysis conducted by Baicker et al.¹ showed that healthcare costs decrease about \$3.27 for every dollar spent on wellness programs, and costs associated with absenteeism decrease by approximately \$2.87 for every dollar spent. Therefore, based on these data, it seems prudent for the public sector to provide evidence-based health promotion programs that include routine health risk assessment and biometric screenings to employees as a means of reducing healthcare costs.

Figures 13 and 14 are adapted from Goetzel RZ, Pei X, Tabrizi MJ, Henke RM, Kowlessar N, Nelson CF, Metz RD. Ten modifiable health risk factors are linked to more than one-fifth of employer-employee health care spending. *Health Affairs*. 2012;31(11):2474–84.

Summary

Public sector organizations incur greater healthcare costs per capita than private sector companies. This is attributable, in part, to the composition of the public sector workforce. Compared to private sector companies, the public sector is comprised of a greater proportion of employees who are 50 years or older and a greater proportion of females. This demographic difference contributes to a higher risk population with a dramatically higher prevalence of chronic conditions. Additionally, the public sector population exhibits higher risks after adjusting for age and demographic differences, indicating that there is an additional unexplained higher illness burden within the public sector population. Each of these factors individually is associated with higher healthcare costs.

Implementation of employer-sponsored health promotion programs to improve the health of public sector employees, and thereby reduce healthcare costs, seems warranted. Such programs effectively can facilitate a reduction in the prevalence of chronic conditions and the cost of healthcare. Evidence has demonstrated an approximately 3:1 investment return on such programs.

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