

## Work, health, and costs; a relevant reflection

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The physical and mental health of workers in the workplace has an influence on overall productivity; impaired health gives rise to an increase in "accident rates" and generates a negative financial impact. To a large extent, this determines a company's occupational risk levels and with it the calculation of an employer's contributions to social security.

Workers spend at least a third of their day at work, where, in addition to striving to meet their production goals, they are given the opportunity to perform health promotion and maintenance activities in the workplace with the aim of reducing levels of poor health and improving quality of life, initiatives that will benefit the company's productivity.

There is sufficient and solid evidence illustrating that investment in occupational health promotion programs produces financial benefits for organizations based on the reduction of medical care costs and favors better productivity management strategies. For example, the University of Michigan Health Management Research Center (HMRC) estimates that an organization saves around 350 United States dollars (USD) a year for each worker classified as "low risk" by keeping them under this status<sup>1</sup>.

The results of 56 studies addressing occupational health promotion topics and programs showed the following average reductions:

- Absenteeism due to illness by 27%.
- The cost of medical care by 26%.

- The administrative costs for disabilities and workers' compensation by 32%.
- The return on investment (ROI) ratio is USD 5.81 for every dollar invested<sup>1</sup>.

A review article including 18 studies highlighted the reduction in absenteeism after the implementation of a health promotion program. A "cost-benefit" analysis conducted on six studies illustrated that the savings attributable to this program amounted to an average of USD 5.07 for every dollar invested. Twenty-eight out of 32 intervention studies carried out showed that health-care costs dropped after the implementation of a health promotion program and 10 studies reported cost-benefit ratios with average savings of USD 3.93 for every dollar invested.

Other studies have shown that companies can earn USD 3-USD 6 for every dollar spent on health promotion. Many researchers believe that indirect productivity-related savings are twice the direct costs of healthcare, which can be measured more accurately<sup>1</sup>.

### Diabetes

This disease is extremely costly within a family, work, and social context. Training employees to prevent or control diabetes will make them healthier and more productive, thereby reducing health-care costs for both workers and the company. Well-informed employers are fully aware that helping employees with diabetes to get healthier is "good for business".

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In the USA, the total costs arising from diabetes care have been documented at around USD 327 billion; direct expenses (USD 237 billion) correspond to hospitalization (30%), medicines to treat complications (30%), anti-diabetic medicines and diabetes supplies (15%), and doctor's appointments (13%), while indirect costs amount to almost USD 90 billion, including USD 3.3 billion in increased absenteeism, USD 26.9 billion in reduced productivity at work among the employed population, USD 2.3 billion in employment benefits for illness-related disability, USD 37.5 billion in reduced productivity among the unemployed population and USD 19.9 billion in lost productivity due to 277,000 premature deaths attributed to diabetes<sup>2,3</sup>.

Another study pointed out that annual costs are nearly one-third higher for people that develop diabetes in subsequent years compared to people that do not progress from pre-diabetes to diabetes, with an average difference of USD 2671 a year. Due to this difference in cost, it is estimated that the 3-year ROI amounts to 42% thanks to a national program for the prevention of diabetes. These results illustrate the importance and the economic benefits these intervention programs produce in lifestyles to prevent or delay the onset of Type-2 diabetes<sup>4</sup>. Another study conducted an analysis of disease management costs combined with diabetes education and reported an ROI of USD 4.34 for every dollar invested<sup>5</sup>.

## Obesity

The increasingly significant association between a high body mass index (BMI) and high health-care costs provides the basis for strategies geared to the effective control of obesity. Such strategies should be an important part of health promotion programs both in the workplace and in the community. Different studies highlight the fact that obese employees spend 77% more on medication than non-obese employees and 72% of their medical care involves preventable conditions.

A 2008 study found that moderately obese (BMI  $\geq 30$ ) to extremely obese (BMI  $\geq 40$ ) employees underwent a 4.2% of loss in productivity due to weight-related health issues, equivalent to USD 506 dollars of lost productivity per worker per year<sup>1</sup>.

Another study focused on 29 workplaces and 179,708 health-related episodes in 10,853 employees calculated the economic impact of obesity. When comparing workplaces with a high obesity rate to those with a lower rate, the study concluded that the former registered:

- 348.4 more episodes of general care for every 1000 employees (p < 0.001).

- 38.6 more episodes of hypertension care for every 1000 employees (p < 0.001).
- 2.5 more episodes of cerebrovascular disease (CVD) care for every 1,000 employees (p = 0.017).

Moreover, it represented a higher cost (USD 223) due to general episodes (p < 0.001); USD 169 due to hypertension (p = 0.003) and USD 1620 as a result of cerebrovascular events (CVD) (p = 0.005). The overall economic impact registered a higher cost per employee (USD 1.25), with an aggregate estimate per employee of USD 69 for general episodes, USD 89 for hypertension and USD 8 for CVD. The study concluded that care episodes were numerically more frequent and costly in workplaces with higher rates of obesity.

Studies related to overweight and obesity, physical inactivity, and smoking have shown that employees subject to these risks cost employers billions of dollars in excess health-care costs. For example, a joint study conducted by the Chrysler Corporation and the United Auto Workers Union revealed that workers with an unhealthy weight (BMI  $> 30$ ) registered 143% more hospitalizations than those with a healthy weight (BMI  $< 25$ )<sup>6,7</sup>.

## Conclusions

Investing in a comprehensive employee health promotion program benefits organizations in terms of employee health management and productivity, as well as ensuring a better state of health and well-being.

There are absolutely NO workplaces in which health can be ignored, minimized, or taken lightly. The time has come to implement better health conditions and to promote and guarantee the best standards of health. Organizations, companies, and institutions must all invest in the omnipresent need for health, particularly in a nation – Mexico – that is already facing the challenges that affect its immediate future, which is highly uncertain due to the prevailing conditions and morbidity. Competence, competitiveness, productivity, performance, and profitability are all terms that rest and depend – among others things – on the health and well-being of those whose efforts are largely responsible for determining a nation's wealth: the workers.

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**Data confidentiality.** The authors declare that no patient data appears in this article.

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