

## THE COST OF ALCOHOL IN THE WORKPLACE IN BELGIUM

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### SUMMARY

**Background:** It has been suggested that alcohol problems have a major impact in the workplace. It has long been recognized that misuse can have serious consequences for the productivity of workers. The extent of the problem is still an uncalculated cost.

Few studies provide clear evidence of a cause, effect or relationship between substance abuse and workplace costs and valuable guidance to employers in evaluating the cost of substance abuse in their workplaces is missing.

**Objective:** To estimate the awareness, policies and cost to employers of drinking in the workplace in Belgium and to illustrate the potential gains from drinking cessation provision. Costs vary with type of industry and policy in place; therefore, to estimate these costs, results from a survey were combined with evidence drawn from a review of literature.

**Study design:** An Internet survey of 216 workplaces in Belgium, based on a stratified random sample of workplaces with 50 or more employees, was conducted in 2005. Further information was collected from 150 occupational physicians. Additional evidence was compiled from a review of the literature of drinking-related costs.

**Results:** 216 General Directors or HR Directors completed a questionnaire related to awareness, policy and costs. 150 occupational physicians completed a questionnaire related to awareness and policy. Companies are unaware or underestimate alcohol misuse among their employees. At least 84% of companies have no education or information policy about substance abuse. Absenteeism, accidents and turnover account for 0.87% of the wage bill. Reduced productivity/ (presenteeism accounts for 2.8%. The construction industry, postal services, hospitality industry (hotel/restaurants and catering) and sanitation industry (collection, street cleaning) are the most problematic sectors.

**Conclusion:** Awareness: many companies are totally unaware of the impact of substance abuse and those that are aware underestimate the problem. Sectors are heterogeneous; some are more problematic than others. Policy: although there is a link between policy and consumption, few companies have a clear substance abuse policy. Cost: reduced productivity is perceived as the most important cost.

**Key words:** alcohol – workplace – cost - social cost - productivity

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### INTRODUCTION

There is a limited amount of literature on the costs to the workplace related to alcohol. The risk of morbidity and mortality increases as alcohol consumption increases beyond moderate quantities and it is well known that high-risk alcohol consumption afflicts a substantial proportion of workers. It has been estimated that 7.4% of the US workers were dependent or abusing alcohol on the criteria specified in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), (NHSDA 2002). 6.2% of adults working full-time reported heavy drinking (Bush & Austry 2002). In Canada, the 8-year (1995–2003) incidence of alcohol misuse among the employed was estimated to be 11.6% (Marchand & Blanc 2011). In Britain, about 9% of males experience alcohol problems at work (Crofton 1987).

Employee excessive alcohol consumption imposes costs on employers. It has been associated with absenteeism and work injuries. Evidence shows that workers who drink in excess are absent from work more often than their non-drinking colleagues, which results in a loss of output and productivity. (Single 1999, Ames et al. 1997, Hemmingsson et al. 1997, Leigh 1996, Webb 1994, Veazie & Smith 2000, Vahtera et al. 2002).

The annual employer cost of alcohol-related injuries to employees and their dependents exceeds US \$28.6 billion. Out of this, US \$13.2 billion comes from job-related, alcohol-involved injuries. The annual employer cost of motor vehicle crashes in which at least one driver was alcohol-impaired is over US \$9.2 billion. Another US \$3.4 billion comes from job-related alcohol involvement (Zaloshnja et al. 2007).

The purpose of this study was to estimate awareness, policy and costs related to alcohol use among workers in Belgium. Major categories of cost resulting from employee substance use were identified such as increased absenteeism and ill health, safety hazards, workplace theft, increased employee turnover and reduced productivity. A survey and a literature-based investigation of the employee substance use in the workplace were undertaken. Estimates will help point to significant economic costs resulting from substance use by employees.

### SUBJECTS AND METHODS

To estimate awareness, policy and costs related to alcohol use among workers, an internet survey of 216 workplaces in Belgium, based on a stratified random

sample of workplaces with 50 or more employees, was conducted. Questionnaires were answered by CEOs, human resources managers, personnel directors or other managers responsible for this matter.

It was estimated that it would take a manager about 25 minutes to complete the questionnaire should they have the figures at hand. The survey developed for this purpose includes 4 parts: general information about the company, absenteeism (the statistics and related subjects), management (controlling the problem alcohol within the company), assessment of the problems inherent to the consumption of these substances.

Companies were part of an international group (35%), a Belgian group (18%) or independent (47%). All sectors were represented: agriculture, industry, services and others. The mean size was 197 employed, with median annual salary costs per head of 43.251 Euros. Median annual absenteeism related to diseases was 9.3 days per worker and the annual turnover 11%. The companies employed mostly male workers (83%) and had no uncomfortable schedules like night shifts or prolonged hours in 85% of cases.

Further information was collected from 150 occupational physicians who participated to another survey out of 750 active occupational physicians in Belgium. A questionnaire estimated to take 10 minutes to complete was sent by mail to collect information about their role in the company, their own estimate of alcohol use in the companies, whether company managers estimated such figures correctly, and whether companies estimated the impact of alcohol correctly. Because many occupational physicians have experience in working with many different companies in different sectors of activity, occupational physicians were asked to estimate the most problematic sectors.

Additional evidence was compiled from a review of the literature of drinking-related costs.

## RESULTS

### Awareness

#### *Epidemiology*

Data drawn from various large national census reviews show that between 6.2 and 11.6% of the working population has an alcohol problem

Among the managers responding to our survey, 27% cannot estimate how many workers have an alcohol problem in their company. The 73% have an opinion about this matter but few (4%) have reliable data to back their statements, for many estimates (41%), it's an impression or a hunch, the rest had outdated or incomplete data. Fewer than 6% of workers have an alcohol problem according to 70% of the answering companies.

63% of the occupational physicians in our survey believe that alcohol consumption is underestimated by managers. 21% cannot estimate the number of workers having an alcohol problem in their company. Out of the

79% of the physicians who gave an answer, 49% of them said that fewer than 6% of workers have alcohol problems. Occupational physicians were asked to evaluate on a scale from 0 to 2 the sectors of activity they are familiar with. A score of 0 indicates a “non-problematic” sector, 1 for “problematic” and 2 for “very problematic”. An ordinal representation of how problematic a sector is shown in Figure 1. The construction industry, the post and telecommunications services, the hotel restaurant and catering (hospitality) sector and refuse collection, street cleaning (sanitation) are the most problematic sectors

### *Alcohol and absenteeism*

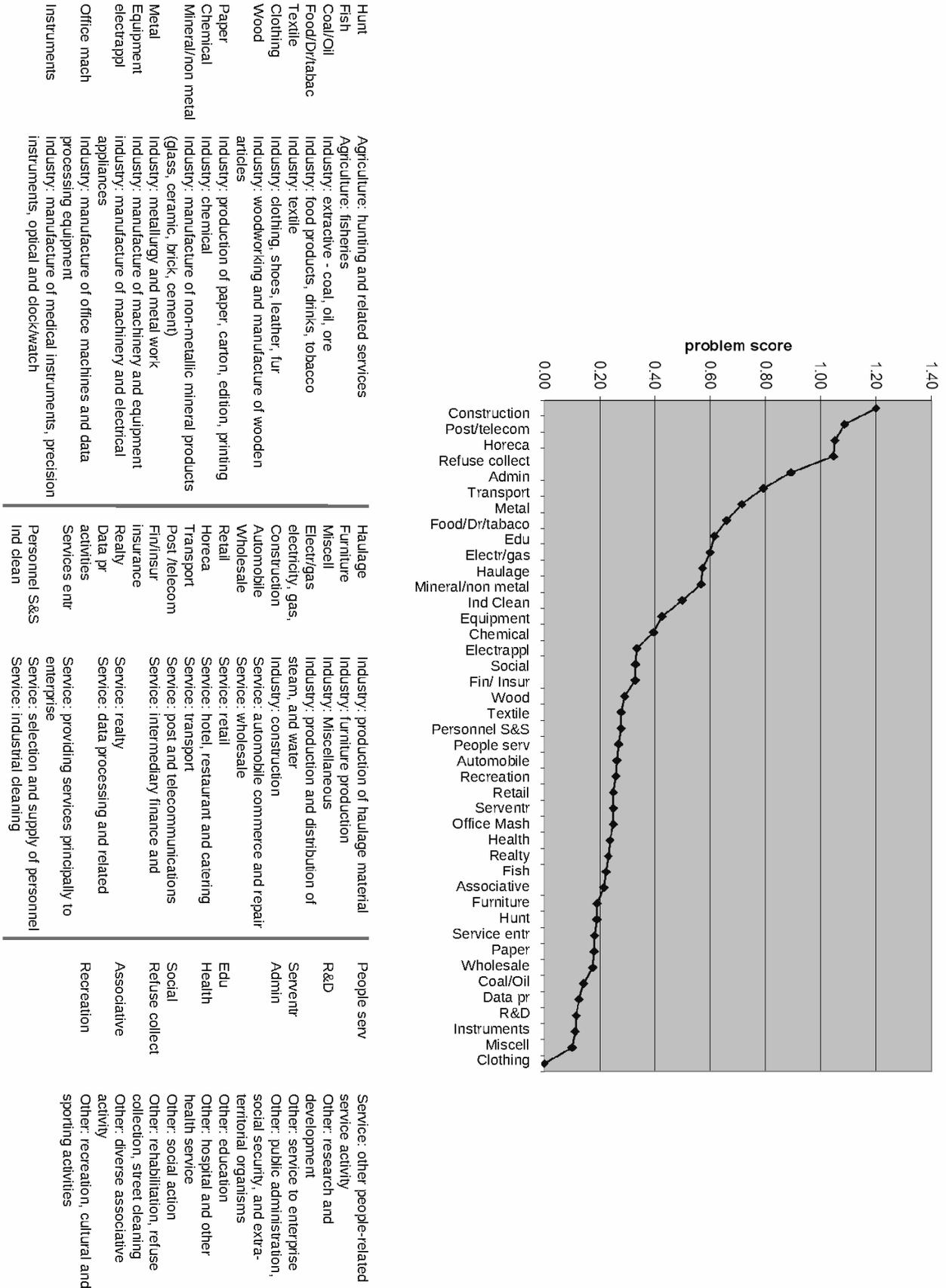
Earlier overviews analyzing absenteeism rates of people at all levels of alcohol consumption yielded mixed results. Ames et al. (1997) found no significant association between the drinker's usual volume of consumption or frequency of heavy drinking occasions (which they defined as occasions during the past year when a person had 10 or more drinks) and absenteeism. Moreover, drinking at the workplace and hangovers at work were related to other negative consequences, such as workplace injuries.

In later studies, absenteeism has been estimated to be between at least twice as frequent among workers with alcohol problems when compared to the moderate and non-drinking worker population (Gorky et al. 1998, NHSDA 2002). A small scale US study found a significant relationship between alcohol use and workplace absences. Workers were roughly two times more likely to be absent from work the day after alcohol was consumed (McFarlin & Fals-Stewart 2002).

More recent evaluations suggest that the “double frequency” of absenteeism may be an underestimation. A much larger and more recent study of 13,582 Australian workers found clear evidence for the impact of drinking patterns on absenteeism (Roche et al. 2008). A recent drinker was defined as a person who had consumed excessively in the past 12 months. Recent drinkers were classified into short and long-term risk categories of alcohol consumption (low-risk, risky and high-risk) utilizing a graduated-frequency (GF) method. For short-term risk levels, respondents were classified into 10 mutually exclusive groups according to frequent (at least weekly), infrequent (at least monthly) or occasional (at least yearly) short-term risky or high-risk consumption.

The respondents were asked to report the number of days missed from work due to (i) their personal use of alcohol in the 3 months prior to the survey, or (ii) any illness or injury in the 3 months prior to the survey. Absenteeism was categorized as the number days missed or 1 or more days missed.

After adjusting for age, gender and marital status, the alcohol-related absenteeism ORs were larger for workers who drank at risky or high-risk levels compared to workers who were low-risk drinkers. For both short- and long-term risk levels, as consumption increased, so did the likelihood of alcohol-related absenteeism.



Problem scores per sector (max = 2): 0 = no problem reported; 2 = very problematic

**Figure 1.** Problematic alcohol consumption across sectors

Compared to low-risk drinkers, workers drinking at short-term high-risk levels at least yearly, at least monthly or at least weekly were 3.1, 8.7 and 21.9 times (respectively) more likely to report alcohol-related absenteeism. Workers drinking at long-term risky or high-risk levels were 4.3 and 7.3 times (respectively) more likely to report alcohol-related absenteeism, compared to low-risk drinkers.

In our survey, in 27% of the cases, managers cannot tell if alcoholics have more absences due to sickness. 51% of those companies that have an opinion claim that alcohol is not related to absenteeism. The other 49% claim that it is related and 64% (of those 49%) expressed an idea about the magnitude of the relationship stating that the related absenteeism is on average 1.88 times that of non-alcoholics. There is no internal data to back their claims. The estimates are made according to the specific, general experience or hunch (in most cases) of the responding manager. According to 67% of the occupational physicians in our survey, the relationship between alcohol consumption and absenteeism is under-evaluated by managers.

#### ***Accidents and injuries, turnover and crime***

Little is known about the general relationship between alcohol and injuries in the workplace. Studies have focused mainly in sectors where driving is an important part of the job.

An Australian review suggests that problem drinkers (but not high alcohol drinkers) were 2.7 times more likely to have injury-related absences than non-problem drinkers (Webb et al. 1994). They reported that 26% of problem drinkers had accidents requiring leave from work compared to only 10% of non-problem drinkers. Figures suggesting that 10-30% of work accidents are alcohol related have been published in WHO documents (Persechino 2007).

Several studies have indicated that turnover rates are higher for workers using substances than non-users (Kandell & Davis 1990). A 50% increase in turnover due to alcohol has been suggested.

Social cost studies in Europe indicate that criminal behavior and theft related to substance misuse imposes costs on society and potentially in the workplace (Kopp 1999, Fenoglio et al. 2003). Harmful alcohol use and episodic heavy drinking increase the risk of disciplinary problems, inappropriate behavior, theft and other crime, poor co-worker relations and low company morale. To our knowledge the impact of criminal behavior on companies has not been evaluated.

In our survey, few managers were able to give us some indication of their perceived link between alcohol in the workplace and accidents, turnover, and criminal behavior. The most frequent estimate is that turnover is doubled with problematic drinking, but it can be increased to the triple or more. Turnover is mostly increased because problem drinkers are fired and not because they voluntary leave.

#### ***Reduced productivity or presenteeism***

Presenteeism is the act of attending work while sick. In the field of addiction presenteeism is considered as a negative act that leads to productivity loss. There is a positive relationship between work performance problems (especially hangovers and early departure after lunchtime drinking sessions) and drinking behavior. Tardiness and leaving work early have been found to be strongly associated with increased alcohol consumption. The relationship of alcohol consumption to the technical aspects of work performance is less clear (Mangione et al. 1999, Blum et al. 1993, Ames 1997).

According to US figures, it has been estimated that there is a 25% reduction in performance among heavy alcohol users (Jones et al. 1995). This figure was an estimate based on several expert opinions and was generally regarded as being conservative.

In our survey, although 29% managers don't know how alcoholism is related to productivity, 73% of those who have an opinion think that productivity is reduced. The most frequently mentioned reasons for this reduced productivity are that alcoholics work poorly or too slowly and are often late. The median estimated reduced productivity is 30% (70% of the productivity of a worker who does not drink). In this case our survey has shown similar results to what is found in other studies.

#### ***Policy***

Limited work supervision has been associated with employee alcohol problems (Ames & Janes 1992, Roman 1970) for workers on evening shifts, during which time supervision was reduced, and has been described as more likely than those on other shifts to report drinking at work (Ames et al. 1997).

There is wide variation in the existence of alcohol policies, in employees' awareness of them, and in their enforcement in workplaces. Workers' knowledge that policies were rarely enforced seemed to encourage drinking (Ames et al. 1992).

The availability and accessibility of alcohol may influence employee drinking. More than two-thirds of the 984 workers surveyed at a large manufacturing plant said it was "easy" or "very easy" to bring alcohol into the workplace, to drink at work stations, and to drink during breaks. In a survey of 6,540 employees at 16 worksites representing a range of industries, 23 percent of upper-level managers reported some drinking during working hours in the previous month.

In our survey, in 34% of the cases, the employer respondents declared that their company does not have a written set of rules concerning alcohol in the workplace. Drinking is often allowed in the company during special occasions (63%) like anniversaries, or in the cafeteria (55%), with clients (50%) and even in some circumstances that became a routine over time (13%) (e.g. every Friday). In the last 5 years only 8% have had some sort of program related to substance abuse (education, information, training, control...) but only one quarter of

these could identify a budget related to such a program. The highest budget was 7500 Euros/ 5 years of which represents 2,33 euros per worker per year.

50% of the companies are against the consumption of alcohol during lunch time, even outside the company. 12% of the companies in our sample don't accept any work-related consumption and 11% take breath or blood samples to search for the presence of alcohol if a worker is found intoxicated at work. The presence of drugs is more rarely tested (3%).

Managers were asked how the company reacts if an employee was found drunk in the company during working hours. In 13.2% of the companies, the employee would be fired, in 20.9%, the employee would be fired if drunkenness happened twice and after three episodes, he would be fired in 44% of the companies surveyed. Interestingly, nothing very specific happens if an employee is found drunk once in 79.1% of the companies surveyed. The same absence of reaction was expected the second time in 53.8% of the companies and the third time in 27.5%. In any case, only a few companies reacted otherwise and more specifically e.g., with counseling or treatment recommendation.

### **Costs**

Organizations don't have all the required data at their disposal to measure the relationship between substance abuse in their workplace and workplace costs. At most, their perception of cost can be calculated based on estimates they provide. Out of the 216 managers who responded to our survey, 55 gave an estimate of total number of workers in the company, a percentage of those with alcohol problems, average salary and alcohol reduced productivity. In this sample of 15,487 workers, reduced productivity was estimated to account for 2.8% of total salaries. Only 34 gave us enough information to evaluate the cost of absenteeism such as: total number of workers in the company, an estimate of the percentage with alcohol problems, average salary, average/total absenteeism due to illness (days per year) and an estimate of absenteeism among workers with alcohol problems compared with their non-problematic drinking and non-drinking colleagues. In this sample of 11,578 workers, because of alcohol consumption, days of work were lost annually at a cost of 0,585% of the wage bill. Just 10 companies gave us enough information to calculate the cost of alcohol related accidents and only 5 for alcohol related turnover, respectively 0.013% and 0.28% of the wage bill.

## **DISCUSSION**

When questioned about the epidemiology of problematic alcohol consumption among workers in their companies, there is a gap between the perception of employers and figures in the literature. Although it is commonly assumed that alcohol consumption has a significant impact on employee absenteeism, a gap can be found between the perception of employers in

Belgium and previous studies. Little evidence suggests that injuries are at least doubled and turnover increased by 50% but our survey failed to provide a clearer answer.

A possible explanation for this gap may be that managers fail to detect moderate alcoholics and those with episodic heavy drinking. Although more moderate alcoholics, because they outnumber severe alcoholics, can be linked to most of the alcohol-related cost, only severe alcoholic symptoms of hangover are spotted by employees (Wiese et al. 2000). It has been suggested that the majority of injuries occur in lighter drinkers than heavy drinkers and are more difficult to detect by managers (Crofton 1987).

The nature of the alcohol-absence relationship remains poorly understood. This relationship is likely governed less by the amount of alcohol consumed, and more by the way it is consumed. Using a prospective study design and a random sample of urban transit workers, some results have indicated that the frequency of heavy episodic drinking over the previous month is positively associated with the number of days of absence recorded in the subsequent 12 month period, whereas modal consumption (a metric capturing the typical amount of alcohol consumed in a given period of time) is not (Anderson 2010).

Interestingly, although data related to productivity is scarce, managers point it out as the most problematic issue. Reduced productivity of 30% is the equivalent of an employee working 3.5 days out of the 5 days of the week. The opportunity costs related to presenteeism outweigh all the other costs.

It is well known that societal rules and regulations affect the way consumers use alcohol. Strong associations between consumption restrictive standards in the workplace and consumption results suggest companies' efforts to reduce consumption and alcohol-related injuries, illnesses and presenteeism should target social interventions at worksites (Barrientos-Gutierrez et al. 2007). It has been shown that perceived co-worker support was found to attenuate, and supervisory support to amplify, the link between the frequency of heavy episodic drinking and absenteeism (Anderson 2010). In our sample of Belgian companies, we found that most are permissive, as it is possible and easy to drink alcohol at work on many occasions. Efforts to inform, educate, appraise or react are modest.

To managers' perception, reduced productivity/presenteeism is the most costly side of alcohol in the workplace. This estimate has to be interpreted with caution. Companies provided us with very limited data and the cost of alcohol in the workplace is related to the potential reduction of output for the company. It is not limited to the value of the lost of hours of work because of absence or reduced productivity. An accident may halt a whole production line, unexpected absences have to be managed and as most companies are expected to be profitable, employees have to produce more than what they cost.

## CONCLUSION

Many companies are totally unaware of the impact of substance abuse and those that are aware, underestimate the problem. Although there is a link between policy and consumption, few companies have a clear substance abuse policy. Reduced productivity is perceived as the most important cost. Sectors are heterogeneous; some are more problematic than others.

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