

# Chapter 6

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## The organizational benefits of investing in workplace health

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## Abstract

**Purpose** – A healthy and vital workforce is an asset to any organization. Workplace health management and health promotion are therefore increasingly relevant for organizations. This paper aims to identify the organizational benefits companies strive for, and analyzes the ways companies use and manage data in order to monitor, evaluate and improve the achievement of organizational benefits through workplace health management.

**Design/methodology/approach** – A case study was carried out in four frontrunner organizations in health management in the Netherlands. The benefits the companies strived for were systematically investigated, as were the ways in which the companies used and managed their relevant data.

**Findings** – The organizations had many data that were potentially useful for managing and evaluating the realization of the intended health and business benefits. However, these data were only available and usable in a fragmented manner. As a result, the business impact of health interventions was neither properly evaluated nor consistently managed.

**Research limitations/ implications** – The research was limited to four frontrunner companies in the Netherlands. The results presented are predominantly qualitative.

**Practical implications** – Suggestions for improving the management of organizational benefits from workplace health interventions are given here; they were formulated through an iterative process with the companies involved.

**Originality/value** – Research on the combination of health and business benefits of workplace health management has been rather limited thus far. The present paper provides a complete picture of the benefits strived for by four Dutch frontrunner organizations, as well as the data available to them, which are or could be used for guiding and improving workplace health management.

**Key words** – Occupational Health and Safety, Social Benefits, Workplace, Cost reduction, the Netherlands

**Paper type** – Case study

## Introduction

A healthy and vital workforce is a strategic asset to any organization. Workplace health management and health promotion are therefore increasingly relevant for organizations. This paper seeks to identify the organizational benefits companies strive for, and analyzes the ways companies use and manage data in order to monitor, evaluate and improve the achievement of organizational benefits through workplace health management. This is key to understanding the decision-making process organizations use as it relates to occupational health and safety. In particular, it helps us to understand the barriers to investments in health and safety that would appear to have positive payoffs but are not made. As health management is greatly influenced by its context, we will begin with an overview of relevant contextual developments in Europe and the Netherlands.

As it is in other parts of the world, the nature of work and employment is changing rapidly in Europe. According to the fourth European Working Conditions Survey, part-time work, temporary employment, and second jobs are on the increase, while the number of people in “standard” full-time employment has decreased. Trends in the numbers of self-employed workers vary among EU countries (Parent-Thirion *et al.*, 2007). The European workforce is increasing diverse in terms of gender and ethnicity; it is also increasingly older (which also implies a greater prevalence of chronic diseases). Work intensity (working at a very high speed, working under tight deadlines, and “not having enough time to get the job done”) has increased greatly, and there is an increasing incidence of psychosocial health problems cited as a basis for work-related health problems. Work-related stress is now among the most commonly reported causes of occupational disease and illness cited by workers (Parent-Thirion *et al.*, 2007), affecting more than 40 million individuals across the European Union.

Changes in the use of technology are one of the main determinants of changes in the process of work. For example, the use of machine technology is correlated (though not very strongly) with higher levels of stress. In general most European workers consider their jobs to be intellectually demanding; this is especially the case for professionals, technicians and skilled workers, and for workers in the financial intermediation, education and health sectors.

Owing to demographic developments, changing life style patterns and the growing prevalence of diseases of affluence (e.g. obesity) public health issues have entered the workplace. An

average of 36 percent of the Dutch working population suffers from (self-reported) chronic diseases such as arthritis, rheumatism, RSI, migraine, heart problems, diabetes, etc. This number ranges from 26 percent of workers younger than 25 to 48 percent of workers over 55. Irrespective of their age, roughly half of this group reports that their chronic illnesses hinder them at work (De Vroome *et al.*, 2008).

In contrast with the situation in the USA, employers in the Netherlands do not have to reckon with the cost of health care provision. Basic health insurance is mandatory for every person, and involves a contract between a private health insurer and the individual. However, insurers offer discounts of up to 10 percent for basic health insurance via employers. Companies and health insurers may therefore have a common interest in promoting health, encouraging prevention and organizing effective treatment when necessary.

In the 1980s, sickness absence in the Netherlands averaged around 10 percent. Social security provisions for people with disabilities were widely used to facilitate reorganizations; in other words, they were not used only to compensate people suffering from disabilities, but were primarily used to shift the financial burden of under-productive workers to the social security system. At that time this was perceived as a responsible social practice, both by employers and workers. When the number of people depending on such disability pensions rose to almost one million (of a total population of 16 million, and a total workforce of around 6 million in 1990), it became widely acknowledged that this was an improper and financially unsustainable use of the social security system. In response, significant legal economic incentives were created in the early 1990s to encourage employers to prevent workers from becoming dependent on social security benefits, to manage the health of their staff, and to promote prevention. In the cases of sickness absence, employers now have to pay the wages of their workers themselves for a period of two years, irrespective of the cause of the absence. If people become dependent on social security benefits the employer risks a significant fine. Legal mechanisms to reduce and prevent long-term sickness absence were also introduced. As a result, since then, sickness absence has been reduced to an average of below 5 percent, with frontrunner companies typically having sickness absence rates of around 3 percent. In this way, Dutch companies have become aware of the potential cost implications of sickness absence and the health status of their personnel. However, as rates of sickness absence are

much lower now, cost savings from further reductions in sickness absence are no longer easy to achieve. There is greater interest, therefore, in other types of business benefits.

At the same time, the "changing world of work" (new forms of work organization, work intensification, constant reorganizations, etc.) and public health issues (especially diseases of affluence) that enter the workplace have many implications for the way companies manage the health of their workforce. While it is still important to manage the impact of business and work on health, managing the impact of public and occupational health issues on business is increasingly relevant as well.

In their overview of approaches to health management, Frick & Zwetsloot (2007) provide examples of a variety of approaches of managing the impact of health on business. They give the following examples of ways to manage the impact of health on production:

- workplace health promotion (to support healthy lifestyles of employees)
- rehabilitation
- workplace adaptation
- disability management
- promoting work ability (in order to enhance and utilize the remaining productive capacity of less healthy employees); and
- the provision of health and medical care, such as health screening at recruitment, medical treatment, vaccinations, and disease and drug abuse control.

Frontrunner companies in health management regard health as a strategic asset, the motor of development and innovation, and as a resource contributing to the achievement of business targets. This has been acknowledged by the Canadian Quality Institute, which regards the "healthy workplace route" as one of the two ways to achieve business excellence (the other being the Total Quality Management (TQM) route (Corbett, 2004). In such strategic views of the meaning of health for organizations, the health and vitality of the workforce are seen as strategic resources that need development rather than assets that primarily require protection (Johanson *et al.*, 2007).

In our research, therefore, health is not regarded from a medical perspective or a health protection perspective, but is seen as a factor that codetermines the functioning of people (human and social capital) and may contribute to an organization's value: a production factor

to be developed and promoted. In fact we regard health in its broadest sense as a resource. For instance, positive mental health is likely to be a primary resource for creativity, which is increasingly relevant with a view on the emerging knowledge society (see also Table 1, and Nielsen *et al.*, 2007). By contrast, mental health problems are closely associated with productivity losses (due to sickness absence or to presenteeism, e.g. Burton *et al.*, 2008). Our perspective on health is consistent with the World Health Organization's definition of health as a complete state of physical, mental and social well-being, not merely the absence of disease or infirmity (WHO, 1948). Its relationship with various aspects of productivity are illustrated in Table I.

**Table I.** Health aspects and their relationships with productivity and economic benefits

| Health as a resource                            | Physical health          | Mental health          | Social health                             | Total health   |
|---|--------------------------|------------------------|---|--|
| Power   | Muscle power             | Brain power            | Social and communicative power            | Man/human power  |
| Typical work                                    | Handling materials       | Processing information | Networking, managing                      | Creating and developing  |
| Resource theory                                 | Classical human resource | Intellectual capital   | Social capital                            | Human and social capital   |
| Typical technologies —competing and/or enabling | Traditional technologies | Information technology | Communication and transport technology    | Both classical technology and information and communication technology (ICT) |
| Typical tools                                   | Mechanical tools         | Computers              | Internet and cell phones, cars and planes | Innovative and integrated tools  |
| Economies where this resource is most relevant  | Industrial society       | Knowledge economy      | Network society                           | Sustainable economy  |

**Source:** Zwetsloot and Van Scheppingen (2007)

The broad range of publications on health and productivity (e.g. Hansson *et al.*, 2007) and on the economic benefits of occupational health management (De Greef *et al.*, 2004a, 2004b, Loepkke *et al.*, 2008), mostly address the productivity gains generated when employees with health problems participate in health initiatives (Ozminkowski *et al.*, 2004; Goetzel *et al.*, 2004) or the productivity gains generated when poor working conditions are improved (Oxenburgh *et al.*, 2003). The benefits taken into account in these studies are therefore usually health improvements or closely associated benefits such as sickness absence reduction (see for example De Greef, 2004a, 2004b). One case study, on Unilever, was presented by Cooper & Patterson (2008). It is increasingly important, however, to evaluate the effectiveness of

health interventions from the perspective of managers who are not primarily interested in health benefits, but in the associated business benefits.

Moreover, presenteeism or the suboptimal functioning of people on the job can be a significant source of productivity losses (Burton *et al.*, 2008). From a resource perspective, the potential productivity gains from interventions targeting the majority of the workforce (people who have no serious complaints) therefore seem increasingly relevant.

Research on the effectiveness of health activities is evolving. Consequently, there is a growing body of evidence on the profitability of specific interventions aimed at reducing specific health problems, both actual and potential, such as obesity (Proper and van Mechelen 2007). The business benefits of these interventions are mainly measured through assessment of cost reductions due to lower sickness absence rates. Cost reductions are indeed relevant business benefits, especially for companies competing primarily on price and efficiency. However, companies in high wage countries that are subject to global competition need to go beyond cost reduction and look for assets that generate greater added value, like creativity, innovation and becoming an “employer of choice”. Therefore, similar to modern quality management (cf. Conti, 1990), the creation of added value through better health and well-being at work is increasingly relevant (Karasek, 2004).

For interventions aimed at improving the health of individuals, the criterion for effectiveness is clearly whether such improvements are achieved for groups of individuals. From an organizational point of view, the criterion for effectiveness can be less self-evident. For a company with a low sickness absence rate (i.e. 3 percent or less), interventions might be needed to keep the rate at such a low level, especially if there is an ageing workforce, or during a period of drastic reorganization. The assurance of good health at the organizational level can therefore be an important objective, which may require a different type of evaluation compared to the usual medical interventions. Several relevant business benefits are “intangibles” such as “becoming an employer of choice”, or “improving the employability of the workforce”, and these can only be created in the longer term. An adequate evaluation of such benefits is complicated and is seldom performed.

There is an emerging tradition to calculate the financial values of prevention or promoting employee health and safety in general (e.g. EU-OSHA, 1999, Tompa, 2008) and calculating the

connections between OHS and the quality of work life and organizational performance (Pot and Koningsveld, 2009). Individual case studies have been published (e.g. Zwetsloot & Van Scheppingen, 2007; Cooper & Patterson, 2008; see also Verbeek et al., 2009 for a recent review).

Furthermore there are some commercial ICT-supported tools on the market (e.g. Oxenburgh *et al.*, 2003, Oxenburgh & Marlow, 2005; Lindhard, 2005) that aim to promote thinking about health and safety investments in a new and more complete way. In the wider business setting, there are attempts to develop accounting methods that would permit employee health to be counted as an asset (Johanson *et al.*, 2007).

Our research aims to create a full picture and cross-case analysis of the health and business benefits stemming from the health activities of four companies in the Netherlands. To our knowledge, this is the first research to systematically address health and business cost reductions and value creations through health programs in which a healthy workforce is regarded as a business asset.

#### *Theoretical notions of business benefits*

It is often stated that “an ounce of prevention is worth a pound of cure”. Indeed, preventing a problem is often cheaper than solving it. Juran’s quality costs model (Juran, 1979) can be used to better understand this relationship. This model of quality costs distinguishes four types of activities with associated costs: prevention [1], monitoring, correction and failure:

- (1) prevention;
- (2) monitoring;
- (3) correction; and
- (4) failure

Investments in prevention should therefore lead to cost reductions in other expenditures. If the investment leads to cost savings larger than the investment, the return on investment is positive. If we use this model to understand the economics of workplace health management, everything that helps to prevent health problems arising should lead to lower costs for solving health problems and to lower associated “failure costs” (such as costs of sickness absence or

for return-to-work programs). Effective investments in health promotion may similarly imply fewer costs associated with health problems. Investments in monitoring do not reduce the costs associated with health problems directly, but monitoring can be necessary to determine what preventive actions are needed, or what problems should be dealt with.

It is good to bear in mind that, in contrast to quality, the costs of treatment and consequences of health problems may not be costs for the employer (i.e. they are externalized to the health care system, the social security system, or the individual employee); this will differ per jurisdiction.

Conti (1993) clarified that there are serious limitations in quality cost models where quality costs are seen as separated from business costs. Because excellent quality creates value for the company and its customers (traditionally seen as a business goal separated from TQM), excellence implies competitive advantages leading to increased turnover or a greater profit margin. Similarly, for assessing business and health benefits, it is essential to be keen on the creation of added value, in addition to cost reductions. Based on the considerations noted above, the following two questions were central to our research:

*RQ1.* What are the intended (health and business) benefits of investments in health and vitality for four Dutch frontrunner organizations (in terms of cost reduction or value creation)?

*RQ2.* How are these health and business benefits monitored, managed and evaluated?

## Materials and methods

### *Materials*

This study was carried out as a case study of four organizations regarded as frontrunners in health management in the Netherlands. They are:

- ING Bank Netherlands, a bank with international operations, with 33,000 employees in the Netherlands;
- Overijssel, a provincial organization in the Netherlands with 820 employees;

- Siemens Netherlands, part of an engineering, construction and services firm with international operations with 3,000 employees in the Netherlands;
- Waternet, a semi-public water management body (founded in 2006 by a merger) that delivers drinking water, treats waste water, and controls surface and soil water in the Amsterdam area, with 1,750 employees.

Overijssel and Waternet are recognized as “models of good practice” in health management by the International Institute for Health Management and Quality (see IHMQ.org). ING Bank and Siemens are well known in the Netherlands for being frontrunners in workplace health management, and for having outstanding in-house occupational health and safety services. All four companies have sickness absence rates below the national average, and all have comprehensive workplace health management programs. ING Bank and Siemens cooperate with universities to identify new opportunities in this area and to develop and evaluate new interventions.

### *Methods*

This project elaborates on earlier projects, aimed at the development of the Integrated Health Management approach (Zwetsloot and Pot, 2004), and on building a strategic business case for health management (Zwetsloot and Van Scheppingen, 2007). Determination of the research design as well as the data collection was made in close collaboration with contacts from the health services or human resource management departments of the respective organizations. The research design included interactive sessions with the companies involved, in order to assure its practical relevance to the participating organizations.

Information about the companies and their strategic business aims was gathered from company documents and websites. Company contacts (and associated company documents) provided overviews of the companies’ health activities and the strategic aims of the companies’ health investments; these were sometimes complemented with interviews or workshops. Relevant company data bases, as well as databases controlled by external service providers, were made available to the researchers. We were especially interested in those activities that were supposed to contribute to business benefits (both cost reductions and value creation), and in data that were used to steer or evaluate health activities, especially with a view to business benefits. In this way we collected monitoring data from our company

partners about relevant activities and their potential impacts. No new data were generated for this research. We made use of monitoring data that became available via the health and HRM company contacts. Our prime interest concerned longitudinal data at the individual and organizational level.

The benefits for each organization were grouped into four clusters, forming two-by-two matrices of cost reductions and added value, related to health and business respectively (see Table II for the matrix design). Both short-term and long-term benefits were included. We compared our findings with the list of potential business benefits provided by Zwetsloot & Van Scheppingen (2007), to also identify potential benefits that were not explicitly managed in the case companies.

The results of our data analyses, per organization, were then presented and discussed with managers and staff experts from the organizations involved. These workshops revealed valuable additional insights. Finally, a cross-case analysis was made, to come to conclusions beyond the individual cases.

**Table II.** A two-by-two matrix of health and business benefits, with examples

| Type of benefits | Examples   |  |
|------------------|--|--|
|                  | Health/Vitality                                  | Business/Economic                                    |
| Cost reductions  | Lower cost for replacing sick people             | Less disturbance in production                       |
| Added value      | Keeping the aging workforce vital and productive | Increased labor productivity and manpower efficiency |

**Source:** Zwetsloot and Van Scheppingen (2007)

## Findings

### *Health and business benefits strived for*

In all companies the health activities were presumed to yield cost reduction and create added value. The health activities that were supposed to contribute added value to the organization's strategy were all grounded in the company's strategy. They were either related to the human resource strategy (all four cases), the corporate social responsibility strategy (Siemens and ING) or the organizational development strategy (Overijssel).

An overview of our findings for each company is presented in Tables III and IV, focusing on health and business benefits, respectively.

Each of the companies strived for the reduction or prevention of sickness absence and of health complaints. This is certainly promoted by the Dutch legislation whereby organizations are obliged to pay 100 percent of an employee's wages during the first two years of sickness absence. Moreover, the frontrunner companies involved clearly recognized the positive value of health.

**Table III** Health benefits strived for

|  | ING bank | Overijssel | Siemens | Waternet |
|--|----------|------------|---------|----------|
| Health-related cost reduction                                      |          |            |         |          |
| Reduction or prevention of sickness absence                        | A        | A          | A       | A        |
| Reduction or prevention of (physical and mental) health complaints |          |            |         |          |
| - In general   |          | A          | A       | A        |
| - Burn-out   | A        |            |         |          |
| - Work pressure  | A        |            |         |          |
| Monitoring and, where necessary reduction of OHS risk (exposures)  |          | A          |         |          |
| Reduction of accidents   |          |            |         | A        |
| Health-related added value   |          |            |         |          |
| Improved mental flexibility of employees                           | A        | A          | A       | A        |
| Improved physical conditions of                                    |          |            |         |          |
| - Employees with unhealthy lifestyles                              | A        |            |         | A        |
| - All employees  |          |            | A       |          |
| Enhanced resilience of employees                                   | A        | A          |         |          |
| Improved quality of work   |          |            |         |          |
| - Opportunities for development and learning                       |          | A          |         |          |
| - Higher degree of self-control and self-organization              |          | A          |         |          |

**Note:** A = health benefits strived for

In terms of health-related cost reduction, we did not explicitly find the following potential benefits mentioned by Zwetsloot and Van Scheppingen (2007):

- (1) lower workers' compensation due to reduced sickness absence;

- (2) lower cost for replacing sick people;
- (3) lower costs for treatment;
- (4) elimination of, or reduction in hazardous duty pay;
- (5) lower premiums for (health) insurance;
- (6) lower premiums for social security.

The latter two are easy to understand as they are not relevant in the Dutch context. A likely explanation for the other elements that has not been mentioned is that these cost reductions are implicitly seen as directly related to reductions in sickness absence. The companies were aware of those associated cost reductions, but regarded the monitoring and reduction of sickness absence as sufficient.

**Table IV.** Business benefits strived for

|   | ING Bank | Overijssel | Siemens | Waternet |
|---|----------|------------|---------|----------|
| Business-related cost reduction   | B        | B          | B       | B        |
| Business-related added value  |          |            |         |          |
| Improved company image, especially in the labor market  | A        | A          | A       | A        |
| Better work performance (productivity, creativity, customer orientation)  | A        | A          | A       | A        |
| Increased flexibility, employability and working ability (keeping an aging working population vital and productive) |          |            |         |          |
| - of the total workforce  | A        | A          | A       |          |
| - of older employees  |          |            |         | A        |
| Long-term improved customer satisfaction  | A        | A          | A       |          |
| More inspired employees   | A        | A          | A       |          |
| Improved quality of personnel (leadership, work style, competencies, etc.)  |          | A          | A       | A        |
| Improved profile as a responsible company   | A        |            | A       |          |
| Contribution to a "winning performance corporate culture"   | A        |            |         |          |
| Improved company climate  |          |            |         | A        |
| Improved cooperation and collaboration  |          | A          |         |          |

Note: A = business benefits strived for; B = No business benefits strived for explicitly.

Remarkably, in none of the cases were business-related cost reductions explicitly strived for via health activities. Potentially relevant benefits in this cluster could include (Zwetsloot and Van Scheppingen, 2007):

- Reduction of failure costs, fewer disturbances in production, etc.
- Reduction of costs for replacement of sick personnel
- Reduction of costs for recruitment and retention of personnel
- Reduced costs of conflicts at work

A possible explanation is that such cost reductions were regarded implicitly only; for example, an improved image in the labor market (which we categorized as added value to the business) can easily be associated with a reduction in costs for replacement and retention. As another example, within Waternet sickness absence reduction is regarded as a business cost reduction: they know that every percentage point in sickness absence costs them around EUR 1.5 million annually.

Another interesting finding is that the improvement of a company's image, especially in the labor market, produces an important strategic business benefit. As this benefit is not directly related to health interventions focused on individuals, it might be easily overlooked when such interventions are evaluated. As previously stated, in health research such benefits are often not addressed, and as it turned out the organizations in this did not systematically consider this benefit either.

Where business-related added value is concerned, we did not find the following options:

- (1) Strengthening of business and/or brand image;
- (2) Being able to respond more adequately to changes in the business environment, especially to requirements from society at large, consumers, authorities and NGOs (organizational learning);
- (3) Increasing capacity for technological and social innovation;
- (4) Increasing company value in the stock market;
- (5) Corporate culture focusing on innovation and learning.

Expectations for the business and economic benefits of health investments were to a high degree based on professional judgment, implicit assumptions and common sense. This was equally true for health and human resource professionals, managers and controllers. Expectations for health benefits were, however, based much more on professional experience, (limited) evaluations of interventions, and on scientific evidence (from the health professionals involved). This confirms that the assessment of business benefits is less developed, both in theory and in practice.

#### *Availability of relevant monitoring data*

Table V provides a general overview of the data that each company had, or had access to via its regular service providers.

**Table V.** Overview of available data by company

| Category of data                  | Organization |            |         |          |
|-----------------------------------|--------------|------------|---------|----------|
|                                   | ING          | Overijssel | Siemens | Waternet |
| Outcomes of physical health tests | A,C,F        | B          | A,C,F   | A,C,F    |
| Health surveys                    | A,C,F        | A,D        | A,C,F   | A,C      |
| Employee satisfaction surveys     | A,D          | A,D        | A,D     | A,C      |
| Working ability                   | B            | B          | A,C     | A,C      |
| Sickness absence                  | A,C,G        | A,E        | A,D     | A,D      |
| Data on productivity (output)     | G,H,D        | B          | G,H,D   | H        |
| Labor market data                 |              | A,E        |         |          |

**Notes:** A = Data available; B = no data available; C = data on individual (and higher) aggregation level; D = data on departmental (and organizational) level; E = data on organizational level; F = some longitudinal data on individual level available; G = data available in de company, but not available to the researchers; H = not regarded (by the company) as sufficiently relevant for this research.

For evaluation and monitoring purposes it is important to have longitudinal data, involving a representative group of employees from relevant parts of an organization. These were rarely available. In the main, individual data were only available through external service providers.

On an individual level, productivity data were generally not available in the organizations, or not specified in relation to health investment. This is partly due to the difficulty of measuring productivity on an individual level, except for routine activities with well-defined output, such

as in the bank's call center. Such departments were not, however, regarded as being representative of the organizations. Most available data on business benefits stemmed from employee satisfaction surveys.

Time recording is an option for measuring productivity, but in the workshop with managers at Siemens it was not regarded as a useful productivity measure at the individual level. As one director said:

*For my secretary, the most important thing is that she responds to phone calls from clients in a customer-friendly way. For the engineers, commitment to work on a particular project is vital for entrepreneurship in the company and much more important than productivity measured as their output.*

Another interesting productivity aspect at Siemens is the mindset of the engineers, whose professional attitude drives them to search for perfect technological solutions, while the overwhelming majority of Siemens' customers desire (and pay for) technological solutions that are "fit for purpose" (i.e. technology that works, but that is not necessarily perfect). In this way, the corporate culture and mind-set of the engineers are likely to sub-optimize productivity. However, objective data on this intangible factor were not available.

#### *The use of available data*

The primary users of the data mentioned in Table VI included HRM and health officers, external service providers, production managers and corporate social responsibility or corporate sustainability managers. Financial controllers did not use these data, while health officers rarely used data on business impacts.

Data from health checks and health surveys were primarily used to provide feedback to individuals, and to identify high-risk target groups (individuals) to whom interventions were subsequently offered.

Sickness absence data were primarily used by health services and HRM staff to keep managers informed, and to convince them to take action when relevant.

Employee Satisfaction Surveys (ESS) [2] were used not only to monitor overall worker satisfaction, but also to assess the prevalence of mental health problems. They were also the only available source of data on the impact of activities that targeted the entire population. Only Overijssel monitored the occupational health and safety of all its workers with a survey that was intended to provide managers with the information needed to take action where

necessary. Consequently, in Overijssel the monitored outcomes were used to trigger management interventions at a departmental and/or individual level. In the other organizations surveys were not used in that way; health monitoring in those organizations was primarily a tool for health professionals, who initiated interventions where necessary, and thereby could decide whether or not to inform or involve managers.

**Table VI.** Overview of data and their use

| Category of data                   | Primary user  | Main purpose of use  | Actions triggered   |
|------------------------------------|---|--|---|
| Outcomes of physical health checks | Company health professionals and external service providers | Feedback to individuals & identification of high-risk target groups            | Health interventions targeting high-risk groups   |
| Health surveys                     | Health professionals and service providers                  | Feedback to individuals & identification of high-risk target groups            | (Mental) health interventions targeting high-risk groups  |
| Employee satisfaction surveys      | HRM & corporate social responsibility (CSR) managers        | Monitor overall work satisfaction and mental health problems                   | Organizational development and leadership<br><br>Mental health interventions targeting high-risk groups |
| Work ability                       | HRM   | Assess present and predict future employability, especially of older employees | Input for personal development plans<br><br>(Mental) health interventions targeting high-risk groups    |
| Sickness absence                   | HRM and company health professionals                        | To keep managers informed and trigger action when relevant                     | Health prevention or promotion activities; changes in behavioral patterns                               |
| Data on productivity (output)      | Management  | To monitor financial performance, benchmark, and legitimize invoices           | Input for evaluation of individual performances   |
| Labor market data                  | HRM professionals   | To monitor attractiveness of the company on the labor market                   | Public relations, and review of recruitment activities  |

External service providers used several data sources at the individual level for the evaluation of their interventions and shared them with their client organizations. This information was also used for benchmarking purposes. However, initial and follow-up assessments, as well as systematic evaluations, were seldom performed. As these data focus narrowly on the health-related issues, they usually had limited relevance, or none at all, for business benefits. The exception was data collected from employee satisfaction surveys.

Overall, the organizations had many data sources available that could potentially be of use in identifying and managing health and related business benefits. However, these data sources were fragmented across departments and, sometimes across service providers, and involved a variety of databases that were not always compatible. As a result, these frontrunner companies only rarely evaluated the business impact of their health interventions, and could only hope to achieve the intended business benefits.

## Discussion

In this section we will present some of the lessons learned through this research, discuss its limitations and prospects, and suggest improvements for company practices.

### *Additional insights gained through this research*

A prevalent assumption in literature is that investments in health can lead to business benefits because healthier people are more productive (see De Greef *et al.*, 2004a, 2004b; Ozminkowski *et al.*, 2004; Goetzel *et al.*, 2004, Burton *et al.*, 2008). This was also our assumption when we started our research.

In itself this assumption is certainly correct, but we identified another mechanism for value creation through workplace health management. When an organization invests in a company fitness center (e.g. Waternet), the availability of the center and associated company fitness programs can have a direct, positive impact on the company's attractiveness in the labor market, both for current and potential employees (irrespective of its health impact on the users). The fitness center can be regarded as a modern and attractive secondary benefit of employment that shows that the company cares for its employees. Consequently, the company will be perceived as a more attractive employer, and this is an increasingly important issue given the "war for talent". This example clearly shows that business benefits can be

created even in the absence of individual health effects. There are apparently more routes to business benefits than the well-known one: better health → more productive employees → business benefits pathway.

So far, such indirect routes to organizational benefits have been altogether neglected in evaluation studies of health interventions at the workplace or have received little attention, perhaps due to the strength of the existing focus on solving health problems, rather than on opportunities for creating strategic benefits.

### *Health management effectiveness*

From a business point-of-view, the assurance of good health (and its associated business benefits) at the organizational level can be an important objective. As always, effectiveness is measured by realizing the objectives. In the case of assurance, effectiveness implies constant good performance (perhaps as the basis for continuous improvement). This will require a type of evaluations that is different from the usual evaluations of health interventions targeting health and productivity improvements at the individual level.

In some cases, these different perspectives on effectiveness triggered discussions between company representatives and researchers. In the end, because as the data that became available through this study were of limited quality and quantity, we did not try to evaluate the effectiveness or cost-effectiveness of the investments made. This can, however, certainly be relevant to future research activities.

### *Research limitations and suggestions for further research*

We have presented and analyzed an overview of the health and business benefits strived for by four frontrunner companies in the Netherlands, and of the data used to monitor and evaluate these benefits. The range of activities carried out by the four organizations, ranged from organizational development to creating good working conditions (including changes in work processes and the ergonomic redesign of workplaces), interventions in social interactions (leadership development, social support, culture) and more traditional health interventions focusing on the early detection of health problems followed by preventive actions, and health promotion and return to work for employees suffering from health problems.

Our research was limited to a predominantly qualitative analysis. It would be a challenge for future research to quantify the benefits identified, and to express them as fully as possible in monetary terms. In fact, we performed several quantitative analyses, but the limited number of reliable data sources that could be analyzed statistically (especially individual data from assessments or surveys before and after interventions and from in-company control groups) did not allow us to identify significant health and/or business outcomes for individual interventions. As more data sources are now being made available by the organizations, we hope to take that step in future research.

The analysis of availability and the use of data on health investments and the impact thereof also triggered questions about performance indicators, management information and management control (compare to Skoog, 2007; Johanson *et al.*, 2007). What data are vital to monitoring health investments and their generation of health and business benefits?

Identifying the business benefits of individual and group interventions is complicated due to the multi-causality of organizational outcomes such as productivity, innovation and sickness absence. This is especially true with regard to long-term impact. It remains, therefore, difficult to predict the business impact of individual investments in health programs, or the contribution of specific interventions, especially over a longer period of time.

Our research provided insights into several implicit assumptions used by key company personnel who make decisions on health programs. It will be interesting to test such tacit knowledge in future empirical research. Three examples of such implicit assumptions are:

- (1) positive attention to mental health helps to develop an innovative corporate culture;
- (2) engagement is a predictor of good mental health; and
- (3) synergy between programs promoting physical and mental health can be achieved.

A next step could be to analyze the alignment of the strategic goals of the organizations and the aims of their health investments, health interventions, performance indicators, and monitoring practices in order to clarify the strategic added value of such investments in health and vitality.

*Practical implications*

The research findings were presented to key personnel in the organizations, including line managers. This triggered useful discussions about the relevance and meaning of health activities for the business. Jointly learned lessons were identified. Practical implications included the following:

- (1) Organizations can use the four dimensions mentioned in Table II to better formulate and review their intended health and business benefits.
- (2) Companies should consider business-related cost reductions as an explicit aim of health programs.
- (3) Several expected health and business benefits that have until now have been addressed only implicitly can be made explicitly. This will allow companies to manage their realization more systematically.
- (4) Organizations can optimize their data management, including health data, and develop performance indicators to monitor and steer the realization of health and business benefits.
- (5) Health interventions and programs should be monitored and evaluated more often and in a more thoughtful way, from both a health and a business perspective. In particular, the presentations and discussions with managers and staff experts made the companies aware of the limited alignment of the goals they have strived for, as well as the available data they have and use for monitoring purposes.
- (6) Health professionals should communicate more often with the financial and strategic departments of their organizations. Too often health professionals are so convinced of the importance of their messages that they expect managers to learn and understand their professional jargon. Health professionals will become more effective when they learn to speak the language of management, i.e. to link health issues to cost reduction and value creation.
- (7) General aims and container concepts like “health and vitality” can be understood and made operational in many ways. It is therefore difficult to evaluate them in a consistent and valid manner. These broad concepts are often influenced by a range of factors, which makes scientific evaluation rather complicated, often too complicated for company practice.

Notes:

[1] The definition of “prevention” in quality management differs from that used by health professionals. For quality experts prevention comprises everything needed to do things right from the start

[2] ESS sometimes comprised sectors of mental health surveys, or data on the attractiveness of the organization as an employer for the current population of employees.

## References

- Burton W.N., Schultz A.B., Chen C.W., Edington D.W. (2008). The association of worker productivity and mental health: a review of the literature, *International Journal of Workplace Health Management*, Vol. 1, No. 2, pp 78-94.
- Conti T. (1993). *Building total quality*, Chapman & Hall, London.
- Cooper J. & Patterson D. (2008) Should business invest in the health of its workers? *International Journal of Workplace Health Management*, Vol. 1, No. 1, pp 65-71.
- Corbett D. (2004). Excellence in Canada: Healthy Organizations – Achieving results by Acting Responsibly, *Journal of Business Ethics*, Vol. 55, pp 125-133.
- De Greef M. and Van den Broek K. (2004a). *Making the Case for Workplace Health Promotion*, ENWHP, Essen.
- De Greef, M. and Van den Broek K. (Eds.) (2004b). *Quality of the Working Environment and Productivity*, European Agency for Safety and Health at Work, Bilbao.
- De Vroome E., Bakhuis Roozeboom M. and Zwetsloot G.I.J.M. (2008), *De Fitscope en Verzuimscope, Een weergave van vitaliteit en verzuim van werknemers - op basis van de NEA (2005-2006)*. TNO Rapport KvL/V&GW/2008.142.031.12563/Zwe.ima, TNO Kwaliteit van Leven, Hoofddorp.
- Edington D.W. and Schultz A.B. (2008), The Total Value of Health: a review of literature, *International Journal of Workplace Health Management*, Vol. 1, No. 1, pp 8-19.
- EU-OSHA (1999), Health and safety at work: A question of costs and benefits? *Magazine 1*. European Agency for Safety and Health at Work, Bilbao.
- Frick K. and Zwetsloot G.I.J.M. (2007), "From Safety Management to Corporate Citizenship - An overview of approaches to Health Management", In: Johanson U., Ahonen G. and Roslander R. (Eds), *Work Health and Management Control*, Thomson Fakta, Stockholm, pp 99-134.
- Goetzel R.Z., Long S.R., Ozminkowski R.J., Hawkins K., Wang S. Lynch W. (2004), "Health, absence, disability and presenteeism cost estimates of certain physical and mental health conditions affecting US employers. Health and productivity cost estimates", *Journal of Occupational and Environmental Medicine*, Vol. 46, pp 398-412.
- Hansson B., Ahonen G. and Diamant M. (2007), "Research on the financial outcomes of health related investments, In: Johanson U., Ahonen G. and Roslander R. (Eds), *Work Health and Management Control*, Thomson Fakta, Stockholm, pp 137-160.
- Johanson U., Ahonen G. and Roslander R. (Eds, 2007). *Work Health and Management Control*, Thomson Fakta, Stockholm.
- Juran J.M. (1979), *Quality Control Handbook*, McGraw-Hill.
- Karasek R.A (2004), "An alternative Economic Vision for Healthy Work: Conducive Economy", *Bulletin of Science, Technology & Society*, Vol. 24 No. 5, pp 397-429.
- Linhard J.B. (2005), "Understanding the return on health, safety and environmental investments," *Journal of Safety Research*, [Vol. 36, No. 3](#), pp 257-260.

Loepke R. (2008), "The value of health and the power of prevention", *International Journal of Workplace Health Management*, Vol. 1, No. 2, pp 95-108.

Nielsen, C., Hussi, T., Schunder-Tatzber, S., Roslander, R., Ahonen, G. (2007), "The interrelations between health and intellectual capital", In: Johanson U., Ahonen G. and Roslander R. (Eds), *Work Health and Management Control*, Thomson Fakta, Stockholm, pp 241-268.

Oxenburgh M. and Marlow P. (2005), The Productivity Assessment Tool: Computer-based cost benefit analysis model for the economic assessment of occupational health and safety interventions in the workplace, *Journal of Safety Research*, Vol. 36, pp 209 – 214.

Oxenburgh M., Marlow P. and Oxenburgh A. (2003), *Increasing Productivity and Profit through Health and Safety*, Taylor & Francis, London.

Ozminkowski R.J., Goetzel R.Z., Chang S. and Long S. (2004), "The application of two health and productivity instruments at a large employer", *Journal of Occupational and Environmental Medicine*, Vol. 46, pp 635–648.

Parent-Thirion A., Macias E.F., Hurley J. and Vermeylen, G. (2007), *Fourth European Working Conditions Survey*, European Foundation for the Improvement of Living and Working Conditions, Dublin.

Pot F.D. and Koningsveld E.A.P. (2009). Quality of working life and organizational performance - two sides of the same coin? *Scandinavian Journal of Work, Environment and Health* Vol. 35, No. 6, pp 421-428.

Proper K.I. and Van Mechelen W. (2007), "Effectiveness and cost-effectiveness of worksite interventions to promote physical activity and healthy diet", *Proceedings of the World Health Organisation and World Economic Forum - Joint Event Preventing chronic diseases at the Workplace, Dalian, China, 5-6 September 2007*.

Skoog M. (2007), "Management control: a concept in constant transformation", In: Johanson U., Ahonen G. and Roslander R. (Eds), *Work Health and Management Control*, Thomson Fakta, Stockholm, pp.37-51.

Tompa E., Culyer A.J. and Dalinski R. (Eds.) (2008), *Economic Evaluation of Interventions for Occupational Health and Safety*, Oxford University Press, Oxford.

Verbeek J., Pulliainen M. and Kankaanpää E. (2009), "A systematic review of occupational safety and health business cases", *Scandinavian Journal of Work, Environment and Health* Vol. 6, pp 403-413.

WHO (1948), *Constitution*, World Health Organization, Geneva.

Zwetsloot G.I.J.M. and Pot F.D. (2004), "The Business Value of Health", *Journal of Business Ethics*, Vol. 55, pp 115-124.

Zwetsloot G.I.J.M. and Van Scheppingen A.R. (2007), "Towards a strategic business case for health management", In: Johanson U., Ahonen G. and Roslander R. (Eds), *Work Health and Management Control*, Thomson Fakta, Stockholm, pp 183-213.

### **Further reading**

Edington D.W. and Schultz A.B. (2008), "The Total Value of Health: a review of literature", *International Journal of Workplace Health Management*, Vol. 1, Issue 1, p 8-19.

Goetzel R.Z., Ozminkowski J., Bowen J. Tabrizi M.J. (2008), "Employer integration of health promotion and health protection programs", *International Journal of Workplace Health Management*, Vol. 1, No. 2, p 109-122.

Pot F.D (2003), "Productivity and the utilisation of the potential workforce", *European Productivity Ideas*, March, pp 41-44.

Zwetsloot G.I.J.M. (2007), "Veiligheid en Gezondheid in 2020", In: Van Genabeek J., Gründemann R. and Wevers C. (Eds.), *De toekomst werkt, - mens en bedrijf in 2020*, TNO, Hoofddorp, pp 127-140.