

Work and Health: risk groups and trends

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Work and Health

risk groups and trends

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PREFACE

This book is an edited and updated version of the report 'Arbeid, gezondheid en welzijn in de toekomst; toekomstscenario's arbeid en gezondheid 1990-2010' commissioned by the Steering Committee on Future Health Scenarios and published by Bohn, Stafleu and Van Loghum, Houten/-Antwerp in 1991.

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SUMMARY

Aim and scope of the study

The main aim of this book is to show how the field of work and health will develop until the year 2010 under certain economic and other conditions. This is done on the basis of a Delphi study carried out with the cooperation of 120 leading experts in the Netherlands.

A secondary aim was to investigate the present state of work and health in the Netherlands with the aid of available statistical sources.

We think that this book is relevant to policy-makers in government and in industry. The book will also provide material for discussion and policy-making, not only for personnel managers, occupational hygienists, company doctors, insurance physicians, safety officers, and ergonomists, but also for managers and members of works councils at company level.

The book focuses on that part of labour that is involved in paid employment. A broad definition of health has been chosen, similar to that which is generally used in industry. Both physical and mental health (described for example in terms of back complaints and stress,) and health behaviour (described in terms of visits to GPs, use of medication, sickness absence and long-term employment disability,) will be discussed.

The book assumes a 'classic' model in which the quality of working life (job content, working conditions, labour relations and employment conditions) is considered the main determinant of the health and welfare of the working population.

The present

A number of developments in the quality of working life in the 1970s and 1980s can be easily recognized. These relate to the unfavourable aspects of working conditions. Exposure to vibration and shocks has decreased in time, as have dangerous work, noise, dirty work and unpleasant smells at work. Labour relations ('human relations') appear to have improved in the last two decades, and the workload has been lessened by a decrease in working hours. The following trends may be considered negative: educa-

tion is less well related to job content, the work pace has risen and there is more heavy physical work. In short, we have seen an improvement in the 'classic' working conditions but a worsening of the 'work-stressors' in the past 15 years.

In the past 10 to 15 years there has been a small increase in the number of working people who state that their own health can be described as good or very good. This does not go together with a corresponding decrease in backache and fatigue. The percentage of working people who sometimes suffer from headaches has fallen significantly. The number of visits to GPs has remained the same, while contact with specialists has decreased, as has the use of medication.

Trend data on sickness absence and employment disability relating to the last 15 years show that the rate of sickness absence in manufacturing fell from about 9% to 6%; the percentage of people being declared disabled for work (per 100 insured per year) fell from 2.3% to 1.4%.

The available data seem to indicate that the health of the working population in the Netherlands has improved somewhat in the recent past. This is probably due to selection and outflow mechanisms, and to improvements in the quality of working life.

The future

The future developments in the area of work and health have been explored by means of a so-called Delphi study carried out with a panel of 120 experts in the first round and 88 experts in the second. They were presented with questions about the possible future of work and health given some six scenarios: high, medium and low economic growth, improvement in working conditions, extension of occupational health care, and internationalisation of economic life.

The results may be summed up as follows.

The quality of working life will develop to a certain extent independently of the economic developments and policy interventions in the coming 20 years. On the whole it will improve. Economic developments and policy measures, however, accelerate or decelerate these more or less autonomous developments, sometimes rapidly.

In general the favourable future trends are concerned with physical working conditions (noise, dangerous work, exposure to toxic materials,

vibration and shocks, heavy physical work) and with labour relations and employment conditions.

The unfavourable trends are mainly related to stress factors, (work pace, time pressure, working in shifts, lack of close correspondence between level of education and job content, mentally demanding work). For the future we therefore see on the whole a continuation of the developments that have been taking place in the past 15 years.

What are the implications of these findings? Policy, health care and research will have to concentrate on the well-being and mental health of the working population instead of on physical health. And as for the approach to be followed: an improvement in working conditions and occupational health-for-all have clearly the best effects on all fronts from the policy point of view. They will have a limiting effect on the psychological stressors at work, as well as on ergonomic and toxicological problems.

Influencing the favourable development of the Dutch economy by appropriate economic policy measures will have less direct influence on the quality of working life than the above measures. It appears, however, that high economic growth has a more favourable effect in general on the quality of working life than low economic growth: growth has a favourable effect on physical workload, employment conditions and labour relations. On the other hand, high economic growth leads to more time pressure and mentally demanding work.

What is there then to say about future health developments in the working population? The policy scenarios are favourable for all health indicators and especially so for bringing down back complaints, sickness absence and employment disability. With extensive policy intervention the rate of sickness absence could fall from 7.5% in recent years to 5.5-6% in the year 2010. The rate at which people become disabled for work could be diminished by a third in the policy scenarios.

According to the experts consulted, low economic growth leads to a small increase in health problems linked to the work situation, although to a decrease in the rate of sickness absence. With high economic growth they expect this rate to increase.

How can the rate of sickness absence and employment disability be halved by the year 2010?

Taking as a goal the halving of the rate of sickness absence and employment disability in the period till 2010, the study carried out with Dutch experts suggests that an improvement in working conditions and occupational health-for-all have great importance. But there is a set of measures which the experts consulted find even more important in reaching this goal. These are measures related to social security legislation and regulation. In practical terms this means introducing more premium differentiation between employers and between employees in the Sickness Benefits and Disability Insurance Acts, reward/punishment systems, own risk-bearing for employees and employers, stricter assessment of the degree of employment disability of employees and stricter administration of the Sickness Benefit Act, etc.

In short, improvements in the quality of working life and in the corresponding state of health of the working population do not happen by themselves. Intensifying and expanding policy-making in the area of improvement of working conditions, occupational health care and social security regulation is to be recommended.

1 INTRODUCTION

1.1 Why examine the future of work and health?

From the beginning of time humankind has tried to see into the future. Attempts have been made to predict the outcome of wars, harvests and distant travels. In ancient times the Oracle of Delphi was consulted. The need for insight into possible future developments is as great now as it has ever been, although nowadays we are more interested in traffic problems, the environment and the construction of cities, etc.

In the field of work and health, a vigorous social and political debate broke out in the Netherlands at the end of the 1980s and early 1990s concerning the level of sickness absence and employment disability, which were widely considered far too high. In 1990 the rate of sickness absence was 8.1% of all available working days (SVr, 1991), and nearly 900,000 people were declared disabled for work (out of a working population of around 6.5 million). Some contend that this is due to the poor quality of working life in certain branches of industry. The high pressure of work and the great technological changes are often blamed for this. Others point to the large demographic changes which are taking place in industry, such as the ageing of the working population and the fact that more and more women turn to the labour market and do not find suitable jobs there. Finally some people consider that the social security regulations in the Netherlands are so favourable (employment disability benefits are higher than unemployment benefits) that they are open to abuse and misuse.

Many people wonder how the quality of working life will develop in the next decades. Will the adverse health effects of working with toxic materials be eliminated by the year 2010? Will the assembly line continue to exist? Where will the advances in automation lead to?

All things considered, there is more than enough reason to concern ourselves with the future of work, health and well-being.

In the past years a great many Dutch prospective studies have been carried out in the field of health and health care, on such varied topics as ageing, cancer, cardio-vascular diseases, accidents and mental health, to mention but a few. Some of these topics, such as the ageing of the population, industrial accidents and employment disability due to mental disorders (STG, 1985, 1989, 1992), touch on our theme 'Work and Health'.

Research on the future of work has also been carried out in the Netherlands and abroad. Future studies on the theme of work in the Netherlands have been mainly centred on the supply and demand of labour, in both a quantitative and qualitative sense: for example, 'Information technology and employment' (SoZaWe, 1986) and 'The labour market by educational category 1975-2000' (CPB, 1987). Studies have also been made on the future orientation of work, such as the report 'Some aspects of work in the future' (Becker & Vink, 1986), and labour relations in 'Contemplations about the future of the social partners' (Reynaerts, Fase & De Boer, 1985). The most important factors influencing the future of work and the workforce are demographic, economic, technological, social and cultural developments (WRR, 1988).

These topics are also discussed in international studies about the future of work. Examples include 'Work in America; the decade ahead' (Kerr & Rosow, 1979), 'The changing composition of the workforce: implications for future research and its applications' (Glickman, 1982), 'Sleepers, wake! Technology and the future of work' (Jones, 1982), 'Education, unemployment and the future of work' (Watts, 1983), 'The future of work' (Handy, 1985), 'Fabrik 2000; alternative Entwicklungspfade in die Zukunft der Fabrik' (Brödner, 1985), 'Work in Europe, five possible scenarios' (Van der Werf, 1987), 'Projections 2000' (Bureau of Labor Statistics, 1987), 'Quitting time: the end of work' (Macarov, 1988), 'The changing workplace' (McDaniels, 1989) and 'Future Work, seven critical forces reshaping work and the work force in North America' (Coates et al, 1990).

In the field of work *and* health in the future, the only publication that has appeared in the American literature is, as far as we know, the book 'The future of work and health' (Bezold et al, 1986). Future developments in work are examined by these authors in terms of demographic, economic, technological, social and cultural developments. Future developments in health and health care are also examined, but are not explicitly related to work.

'Work and Health' as an interrelated topic has never before been the theme for an exploration of the future. The present future scenario study, carried out at the request of the Steering Committee on Future Health Scenarios in the Netherlands (STG), is the first study in the Netherlands on that subject and may also be so internationally. We have, we hope, given enough arguments for the relevance of such a study.

1.2 How should the future be studied?

The methods used to gain an insight into the future have changed considerably since the Oracle of Delphi; modern research on the future adopts a scientific approach (Becker & Dewulf, 1990). This modern approach was developed during and after World War II and was directed primarily to military strategy. In the 1960s and 1970s long-range research was carried out by government and industry. Dutch government bodies that are or have been concerned with such research include the Central Planning Office (CPB) (for economic predictions), the Social and Cultural Planning Office (SCPB) (for explorations in the social and cultural sphere), the Central Bureau of Statistics (CBS) (for population projections) and the Scientific Council for Government Policy (WRR) (for general and policy-oriented explorations on the future). In industry, Shell and Philips are examples of companies that have conducted future studies.

The predictive value of various future studies was evaluated at the end of the 1970. The general conclusion was that their predictive value was too limited, and that uncertainties were not sufficiently taken into account. As a result, research on the future took a new course. Instead of one future, a number of possible alternatives were sketched, and the so-called scenario method was born (STG, 1986).

Scenarios may be defined as: 'descriptions of the current situation in society (or part thereof), of potential and desirable future situations and of series of events which could lead from the former to the latter, with the purpose of obtaining a better insight into the underlying mechanisms and the possibilities of influencing them' (STG, 1986). In a scenario study a number of possible representations of the future are developed with the aid of scenarios. In short, a scenario study does not forecast, but explores possible futures.

In the literature on this subject, distinctions are made between various types of scenario. These are classified and named differently by various authors (see, for example, STG, 1986 and Bezold, 1991). In this report we distinguish between different sorts of scenarios. Firstly there are exploratory scenarios, which, starting from a consideration of the present situation, hypothesize a number of possible future developments. These scenarios can be further subdivided into autonomous scenarios, which examine the influence of more or less autonomous factors, and policy scenarios, which describe the future situations that may result from policy intervention. Secondly, there are scenarios that set targets. In these scenarios, effective strategies are sought for achieving a desirable future situation.

Future developments can be explored on the basis of the expectations of experts and on the basis of extrapolations. Both methods are used in this scenario study.

1.3 Aim of this study

The ultimate aim of the future scenario study Work and Health is to stimulate public discussion about the future of work and health and to give a better foundation for policy proposals. In the light of this, two questions are formulated which need to be answered in this study:

1. What are the present factors in the work situation that can adversely affect the health, safety and well-being of the workforce, and what is the prevalence of those factors (for the groups at risk) in the working population of the Netherlands?
2. How will the prevalence of the relevant risk factors in the work situation (together with the accompanying health effects) change in the period up to the year 2010, as a consequence of both 'autonomous' developments and policy measures?

The first question will be answered in Chapters 2 -7 of this report, in which a description is provided of the developments in the recent past and present in the field of work and health. The second question is dealt with in Chapters 8 - 11, where the second phase of the research, directed to the future of health and work, is described. A summary and some final reflections on the future of work and health will be given in Chapter 12.

1.4 First phase: description of the recent past and present situation

First the scope of the field of work and health will be demarcated and the concepts defined. At the same time a simple model will be constructed, incorporating the most important elements and their interrelations, namely 'the macro-determinants of the quality of working life', 'the quality of working life', 'the working capacity of the workforce' and 'the health and well-being of the workforce'. The framework of the scenario study is set up on this basis.

The review then describes trends in these elements from the past to the present and also examines the groups of employees at risk. The review can be considered as the starting point from which the future can be explored.

1.4.1 Data sources used

A great many data sources were used for the description of the field of work and health from the past to the present. These do not, however, give a complete picture of the situation in the Netherlands. Zielhuis and Van Dijk (1989) name as limiting factors the fact that information on occupation is lacking in hospital and death records and that the present registration of occupational diseases is incomplete in quality and coverage.

In order to give the most accurate possible picture of the present situation, numerous statistical sources, including those of the Central Bureau of Statistics (CBS) and the social security authorities, were consulted and relevant quantitative data gathered from the literature. The main criteria for selection of these data were that they should relate to different moments in time, be reasonably representative samples of the working population and be collected in a standardized way. The most important sources will be briefly discussed below.

Life Situation Surveys (LSS) of the CBS

During the period 1974-1986 the Central Bureau of Statistics commissioned a life situation survey every three years on a representative sample of about 4,000 people drawn from the Dutch population of 18 years and older. Each reference year a new cross-sectional sample was drawn, so that the data always relate to different people. The survey is based on interviews conducted in people's own homes.

Table 5.1 in Chapter 5 shows the size of each sample, and the proportion of working people of 18 years and older within each sample. On average

this was 49% per year. All the data to be presented relate to this group. For the sake of completeness it should be mentioned that comparisons with other CBS data show that the sample of working people aged 18 years and over may be regarded as representative of the working population in the Netherlands (Bloemhoff & Smulders, 1991). The Life Situation Survey gives information about the opinions of working people on certain aspects of their work and health.

Data on the composition of the Dutch working population

The Labour Force Sample Survey (in Dutch AKT) of the CBS gives information about the size and composition of the Dutch labour force and general population. These surveys (for which the data were also collected on the basis of interviews) were held every two years in the period 1973-1985. Before that period a population census was conducted by the CBS in 1960 and 1971, which also contained information about the (working) population. The definitions used in the population census with respect to the total labour force, the people actually employed and the levels of education differ somewhat from those used in the Labour Force Sample Survey. This is also the case with the Labour Force Survey (in Dutch EBB), the yearly enumerations which were conducted by the CBS from 1987 onwards as a replacement for the Labour Force Sample Surveys. General trends and developments in the size and composition of the labour force in the Netherlands in the period 1960-1987 can be illustrated, however, by a combination of the data from the population census, the Labour Force Sample Survey and the Labour Force Survey.

Data on sickness absence and long-term employment disability

Several institutions provide data on sickness absence in the Netherlands.

- Within the context of the Sickness Benefit Act to be described below, the Social Security Council (SVr) reports on sickness absence in all firms that are members of an industrial association (i.e. roughly 90% of all employees, excluding civil servants). The data are published in their yearly report approximately two years after the reporting period.
- The TNO Institute of Preventive Health Care (NIPG/TNO) regularly publishes information about the participants in its own statistics on sickness absence (200 firms with approximately 200,000 employees) via the CBS and its own publications. This survey mainly covers large firms and not all industries are equally as well represented.
- The Netherlands Institute for Working Conditions (NIA) reports yearly about the participants in its own information system on sickness absence (with a working population of circa 80,000). Not all industrial

branches are equally represented in this sample and medium-sized firms are overrepresented.

As a result there are no statistics in the Netherlands which are completely representative of sickness absence in the country as a whole. The data from the Social Security Council (SVr) provides the most representative picture, although neither civil servants nor self-employed persons are included in the survey. Unfortunately these statistics have a long lag-time in comparison with the others. In this study, therefore, statistics will be used from all three sources mentioned above.

The Joint Medical Service (GMD) and the Disability Insurance Funds (AAf/Aof) publish statistical information about long-term employment disability. The data from the Disability Insurance Funds relate to all benefits, divided into four population categories, namely: (1) wage earners (insured via the WAO), (2) civil servants, members of the armed forces and the employees of the Dutch railways (insured by the ABP), (3) the self-employed and members of their family who participate in their work (insured via the AAW only) and (4) persons handicapped before starting work and others (also only insured through the AAW). The second category (civil servants, forces and employees of the Dutch railways) is not included in the statistics of the Joint Medical Service (GMD).

Both sets of statistics (GMD and AAf/Aof) go back as far as 1967, when the Disability Insurance Act came into force. The AAW came into force in 1976, and the number of long-term disabled consequently increased considerably in that year. In this report statistics will be cited from both sources.

1.4.2 The social security system in the Netherlands

For a proper understanding of the situation in the Netherlands a short explanation of the Sickness Benefit Act (ZW) and the Disability Insurance Act (WAO) will be given. The passage below has been adapted from the article 'Health care facilities and work incapacity: a comparison of the situation in the Netherlands with that in six other West European Countries' by Soeters and Prins (1985) and from the dissertation 'Economic aspects of disability behaviour' by Aarts & De Jong (1990).

Since 1967, no important distinctions have been drawn between the causes of employment disability within the social security system in the Netherlands; the same Sickness Benefit and Disability Insurance Act apply, irrespective of the causes of temporary or permanent incapacity.

The Sickness Benefit Act provides income replacement in cases of temporary incapacity for work lasting up to a maximum of 12 months. The level of benefits currently comprises 70% of gross pay, with a fixed maximum. Most collective labour agreements provide a 100% replacement. The authenticity of work incapacity is assessed by a social insurance physician. Non-medical employees of the industrial associations may visit the sick person in the first few days of absence, to act as a deterrent against malingering and to make selections for medical control. General practitioners play no role in sickness certification in the Netherlands.

Sickness absence is a complex phenomenon, whose operational definition includes any (accepted) claim under the Sickness Benefit Act. In practice, this means that almost any case of reported incapacity for work due to ill health may be considered as sickness absence. The scope of this definition is very wide and includes both illness and less serious conditions, as well as industrial accidents and maternity leave (12 weeks; since 1990, 16 weeks). The differentiation between certified and uncertified sickness absence, which is made in various countries, does not exist in the Netherlands.

Whereas the maximum duration of a spell of sickness absence is one calendar year, the definition of employment disability in the Netherlands includes permanent incapacity for work (after one year of sickness absence), again irrespective of cause.

After the mandatory waiting period of 12 months under the Sickness Benefit Act, one can apply for Disability Insurance benefits (DI-benefits, in Dutch AAW/WAO). The risk covered by the DI-programme, however, is more stringently defined as the income lost due to an individual's incapacity to perform his or her current work. Dutch law provides the following definition of employment disability: 'A person is partly or fully disabled for work if, as a consequence of illness or injury, he is no longer able to earn with his own labour that which healthy people with the same education and experience working in the same place (or in the close vicinity) usually earn.' As a consequence, qualification for disablement