

Sickness Absence – Causes, Consequences, and Practices

The SBU report, “Sickness Absence – Causes, Consequences, and Practices”, is based on a systematic and critical review of the scientific literature. It is one of a series of scientific reports published by SBU (The Swedish Council on Technology Assessment in Health Care).

The Summary and Conclusions of the report, presented in this booklet, have been approved by the SBU Board of Directors and the SBU Scientific Advisory Committee.

Sickness Absence – Causes, Consequences, and Practices

A Systematic Review

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Summary and Conclusions of the SBU Report on:

Sickness Absence – Causes, Consequences, and Practices

A Systematic Review

January 2004

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Report: Sickness Absence – Causes, Consequences, and Practices
Type: A Systematic Review • ISBN: 91-87890-89-5
Report no: 167 • Publication year: 2004



SBU Summary and Conclusions

Background and Purpose

Prescribing sick leave is a common practice in health care. However, this practice is being questioned since it is suspected that sick leave may have negative effects for patients. The dramatic increase in sickness absence in Sweden in recent years, and the subsequent increase in cost, has also focused attention on the issue of sick leave.

Sickness-benefit insurance is intended to protect people against the loss of income and offer economic security if one cannot work due to disease or injury. Statistics also show that there are large differences in sick leave and disability pension with age, gender, ethnicity, income, profession, employer, and geographic region.

The aim of this report was to:

- assess the scientific evidence about the positive and negative consequences of being sickness absent
- review the research on sick leave, current knowledge of its causes, and physician sickness-certification practices
- identify areas where further research is needed.

The aim was not to review studies regarding practices of sickness benefits in other organizations (eg, social insurance offices or employers) nor to explain the increasing rate of sick leave in recent years in Sweden. Studies published in the scientific literature provide the foundation for SBU reports and the conclusions drawn by SBU. Agency reports and similar publications do not always meet the scientific criteria applied by SBU. Therefore, such reports are not used as a basis for conclusions in this document. The stan-

dards required for scientific publication enhance the likelihood that a study's results can be used to draw reliable conclusions. One disadvantage with this procedure, however, is the time lag involved, leading to an absence of studies reflecting recent trends.

Methods

The results and conclusions presented by the SBU project group in this report are based on a systematic search and assessment of scientifically published studies. The project group was comprised of a multidisciplinary, 11-member team. The search for studies was broad, using literature databases (Medline, PsycINFO, SSCI), reference lists, and personal contacts. The quality of studies found to be relevant, were analysed according to criteria established for this. Results from studies with sufficient quality were compiled to provide a basis for conclusions. The evidence rating scale presented below is based on the number of studies (several studies need to show the same outcome for the results to provide evidence), the assessed quality of the studies, as well as consistency in the findings.

- Evidence Grade 1 (Strong level of scientific evidence)
- Evidence Grade 2 (Moderate level of scientific evidence)
- Evidence Grade 3 (Limited level of scientific evidence)
- No Evidence (Insufficient scientific evidence)

Evidence Grade 1 requires at least two randomized controlled studies (RCT) of high quality, or meta-analysis of several RCTs. So far few studies of this type address sick leave. Hence, moderate level of evidence is the highest evidence grade achieved in the review of sick-leave research presented here.

The concept of sick leave in this report also includes more permanent types of sickness-insurance benefits, eg, temporary or permanent disability pension.

Studies addressing the following seven topics have been reviewed:

- General reasons for sick leave
- Causes of sickness absence due to back or neck problems
- Sick leave and psychiatric diagnoses
- Sick leave following stroke, myocardial infarction, and certain heart procedures
- Consequences of sick leave
- "Sickness presence"
- Sickness certification practices of physicians.

In addition to reviewing these topics, methodological problems in this research are reported, as well as various explanatory models for sick leave and its variations over time.



Perspectives in the Studies Assessed

The studies have been carried out from different perspectives, including that of society at large, the employer, the insurer, the physician, and the insured (Table 1). Earlier research has often taken the perspective of the employer. Usually, that research does not distinguish sick leave from other types of absenteeism, eg, shirking or unauthorized leave, and focuses on short-term absenteeism that usually leads to greater production problems for employers than long-term absenteeism does. Only a few studies address how the insured, or those on sick leave, view their situation themselves, and what influences it. Most of the scientific literature has been published in the fields of medicine, sociology, or economics. Medical aspects – for instance the sick-leave diagnoses – are seldom addressed. Internationally, most published studies come from Northern Europe, primarily Norway, Sweden, and Great Britain.

Table 1 Categories used to classify studies on sick leave.

Perspective of the study	Scientific discipline	Focus of the study	Structural level ¹⁾
<ul style="list-style-type: none"> • National • Local • Insurance office/company • Health services • Employer • Lay person/sick listed 	<ul style="list-style-type: none"> • Medicine • Sociology • Psychology • Economics • Law • History • Philosophy • Anthropology • Sociology of law • Organizational psychology (management) 	<ul style="list-style-type: none"> • Risk factors for sick leave • Physicians' sickness certification practices • Consequences of sick leave • Methodological studies 	<ul style="list-style-type: none"> • Individual level (physical, psychological, social) • Family • Workplace • Local level • National level • International level

¹⁾ The structural level represented by the factors studied.

Most studies on sick leave focus on the causes of sick leave. A few studies focus on physicians' sickness-certification practices. Very few studies address the consequences for those on sick leave. Sick leave is influenced by factors at different structural levels, but published studies have mainly addressed factors at the individual or workplace levels. However, the possible interaction between factors at different structural levels is hardly studied at all. Studies on sick leave and disability pension are carried out in several different scientific disciplines based on different theories and explanatory models. Many different outcome measures are used, and the terminology is not standardized. These factors, plus variations in insurance regulations among nations and over time, make it difficult to compare the results from different studies.

Results of the Literature Review

Given the major impact of sick leave and the frequency of sick certification in large segments of health care, the number of studies is very low, and few studies are of high quality. Many of the studies do, furthermore, not address the disease or injury aspects of sickness absence.

Causes of Sick Leave and Disability Pension

A problem in this area of research concerns the difficulty in distinguishing the causes of disease from the causes of sick leave. Most people having a diagnosed disease are not on sick leave. One is eligible for sick leave only if the disease or injury impairs the ability to work as measured against the demands of the work of that person.

General

A wealth of official statistics and descriptive studies address the association between sick leave and factors such as age, female gender, lower socioeconomic status, and, to some extent, place of

residence. Only a few studies analyze these associations in a way that enables one to draw conclusions about the impact of these factors on sick leave. Age and gender distribution are often dealt with as confounders without attempting to explain or analyze how they relate. Studies that attempt to explain demographic differences seldom have the quality that permits conclusions to be drawn. As mentioned earlier, most studies on sick leave have focused on the impact of factors at the individual and workplace levels.

Moderate level of evidence suggests that people who have the opportunity to influence their working situations also have a lower risk for sick leave (Evidence Grade 2).

There is also moderate level of evidence showing that the design of the insurance system (eg, number of waiting days before one is eligible for sick pay, and how long one may remain on sick leave) influences sick leave (Evidence Grade 2). However, there are too few studies to permit conclusions to be drawn about the scope of the change needed to observe an effect.

People having a lower socioeconomic status have higher risk for disability pension (Evidence Grade 2).

There is limited evidence for that divorce increases the risk of sickness absence (Evidence Grade 3). Conflicting findings from studies render it impossible to draw conclusions about the association between sick leave and marital status or children living at home.

Also, there is limited evidence for that individuals with physically heavy work have a higher risk for sick leave (Evidence Grade 3).

Regarding the labor-market situation, there is limited evidence for an inverse correlation between unemployment levels and sick leave, ie, that sick leave declines as unemployment rises, and vice versa (Evidence Grade 3). However, studies do not show the extent to which this is due to unemployment itself, to selection (eg, that more people with poorer health are without work when unemployment is high), to the structure of society, or to general changes in the economy.

Only a few studies have scientifically tested different ways to prevent or reduce sick leave at the workplace. The studies which have been done usually monitor the results for only short periods, often less than a few years. There are too few studies to provide a basis for conclusions.

Diagnostic Categories Reviewed

This report focuses particularly on studies addressing the three diagnostic categories primarily responsible for sick leave and disability pension, ie, back/neck problems, psychiatric problems, and cardiovascular problems. Findings of strong level of evidence were not identified – not because of conflicting results in studies, but mainly because studies have not been conducted or because the data quality is poor.

Back and Neck Diagnoses

Combined, back and neck diagnoses comprise the largest diagnostic group underlying sick leave and disability pension in Sweden and internationally.

Moderate level of scientific evidence suggests that low-level work satisfaction increases the risk for sick leave due to acute back problems (Evidence Grade 2).

There is limited evidence that the risk for disability pension due to back problems is greater in women and in older age groups (Evidence Grade 3).

There is limited evidence that heavy physical workloads and low-level work satisfaction increase the risk for short-term and long-term sick leave due to back or neck diagnoses (Evidence Grade 3).

Also, there is limited evidence for that previous back problems and some back diagnoses (eg, sciatica, low back pain) increase the risk for sick leave (Evidence Grade 3).

There is limited evidence that it is more common for employees with a shorter period of employment to have prolonged sick leave due to back or neck problems (Evidence Grade 3).

Generalizability of the findings is limited since most of the subjects have been men employed by manufacturing industries. Women, salaried employees, and public-sector employees (health care, schools, social services) are underrepresented in the studies.

Psychiatric Diagnoses

Psychiatric disorders comprise the second largest diagnostic group responsible for sick leave and disability pension. Cases of prolonged sick leave have increased substantially in women with psychiatric symptoms in recent years, and early retirement is increasing in both genders. Mental illness, psychiatric problems, and alcohol problems are common in the population, and are often more common than other diseases in younger people.

Studies have addressed the following as factors that can possibly influence sick leave and disability pension with psychiatric diagnoses:

- Demographic factors: gender, age, marital status, socioeconomic group
- Work-related factors: occupation, female- or male-dominated occupation, official standing, social support, demands, opportunities to make decisions, and stimulus
- Factors related to family and social network outside of work: social support from family and friends, material problems, and divorce
- Psychosocial factors during childhood and adolescence: hazardous consumption of alcohol, unemployment, psychiatric diagnosis on admission, poor emotional control, poor self-rated health, smoking, contact with police or social agencies, truancy, low scores on intelligence tests.

Most of these factors are found in only one or a few studies of low quality. Hence, there is no substantial evidence. However, there is limited evidence that women have a higher incidence of sickness absence due to psychiatric disorders than men do (Evidence Grade 3).

Conflicting findings have been presented on the association between gender and the duration of sick leave. The association between alcohol consumption, or being diagnosed as having alcohol problems, and sick leave was investigated in several of the studies assessed. However, different standards for defining high alcohol consumption, and somewhat contradictory findings, do not allow evidence-based conclusions to be drawn.

Stroke and Myocardial Infarction

Disorders of the circulatory system are the third most common cause for disability pension. There is limited evidence that most people of working age return to work following stroke, myocardial infarction, or heart surgery (Evidence Grade 3).

However, no evidence identifies interventions that can shorten the length of a sick-leave spell. The reasons for the relatively long periods of sick leave that are common in Sweden, eg, after myocardial infarction, are not known.

Consequences of Sick Leave

Sickness certification is a common practice in health care. Nevertheless, scientific knowledge about the consequences of being on sick leave – medical, psychosocial, and economic – is limited. This lack of knowledge is remarkable given the major economic cost to society resulting from sick leave and disability pension.

Sick leave can influence an individual's life both positively and negatively. The potential negative consequences include prolonged sickness absence or disability pension and the onset of other disorders, eg, depression. Other conceivable consequences involve the impact on career opportunities, personal economy, lifestyle (smoking, alcohol consumption, exercise), and social relationships. These are important aspects for physicians and patients to address when considering sick leave. The few studies that have addressed the consequences of sick leave suggest that such effects do exist, but that they vary among individuals. However, there are

too few studies in each of these areas to provide evidence for conclusions. More detailed knowledge is required, eg, regarding specific diagnoses.

“Sickness presence”

Some studies suggest that so-called “sickness presence” (ie, those who continue to work despite impaired work capacity due to disease) may be more common in groups with high morbidity (eg, migraine), high rates of sick leave, and among some professions; health care, education, and social services. No studies were found on the consequences of sickness presenteeism on the individual, although some were found addressing the consequences from the employer’s perspective, eg, impact on productivity. However, there are too few studies to provide a basis for evidence.

Physicians’ Sickness-Certification Practice

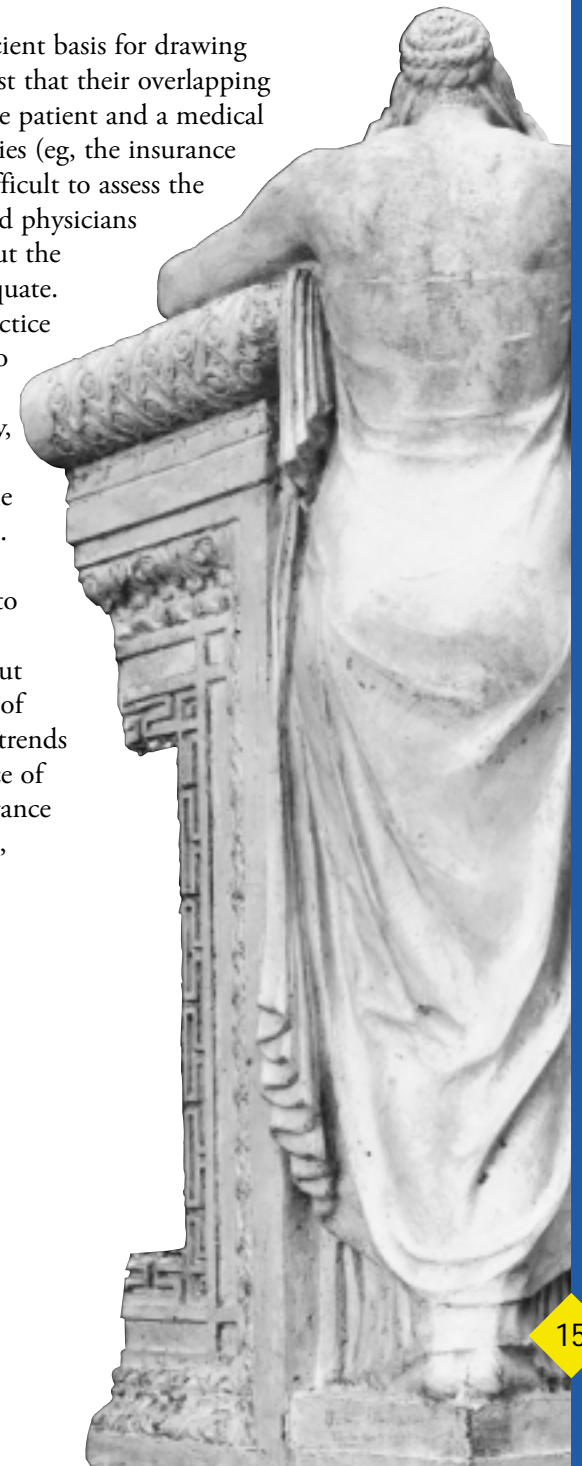
Although many physicians must make decisions concerning sickness certification, few studies have addressed physicians’ practices in this area. The physician’s work in determining the need for sick leave involves establishing a diagnosis, assessing work capacity, discussing the pros and cons of sick leave with the patient, full-time or part-time sick leave and its duration, determining what should be done during sick leave (including treatment and rehabilitation), and as the medical expert fill out a sickness certificate to be used by the social insurance office as a basis to determine the right to sickness benefit.

There is limited evidence that physicians view the work involved with sick leave (eg, medical and insurance issues) to be difficult or problematic (Evidence Grade 3).

There is also limited evidence that the sickness certificates written by the physicians are often incomplete, rendering it more difficult for the insurance office to decide on compensation (Evidence Grade 3).

In isolated studies (ie, insufficient basis for drawing conclusions) physicians suggest that their overlapping roles as a representative for the patient and a medical consultant for public authorities (eg, the insurance office) is problematic. It is difficult to assess the patient’s working capacity, and physicians perceive their knowledge about the insurance system to be inadequate. Scientific evidence on the practice of prescribing sick leave is also deficient in other respects (eg, studies are of poor quality, too few, or show conflicting results), which does not enable one to draw valid conclusions. Likewise, there is insufficient evidence on the criteria used to assess work capacity.

Knowledge is lacking about the influence which practices of physicians have on sick leave trends in comparison to the influence of others, eg, staff in social insurance or employment service offices, and employers.



More, and Better, Research Needed

Despite the scope of sickness absence and its heavy impact on society and the individual, there is limited knowledge about the causes and consequences of sick leave and how they can be influenced. This field of research is underdeveloped in terms of theory, methodology, and concepts. Several of the research questions explored are general in nature. Many of the questions that decision makers may ask about sick leave cannot be answered based on current scientific knowledge. This applies both to those who make decisions at the individual, workplace, and community levels. There are surprisingly few studies about the causes of sick leave and the consequences of physicians' sickness certification practices, and even fewer studies of high methodological quality. There are even fewer intervention studies, and the results are too general for practical application in the health-care system. Further development is necessary.

Scientific evidence is not available to support several of the different hypotheses concerning sick leave and disability pension that have been presented. Health services need better information about the positive and negative consequences of being sickness absent in different situations, and how quickly any potentially negative effects might be expected, identified, and counteracted. Instruments for assessing work capacity also need to be developed and tested. A standard terminology is essential, eg, regarding measurements applied to sick leave. Longitudinal studies over several years, studies with relevant control groups, studies that focus on women, studies at the diagnostic level to determine appropriate sick-leave periods are needed as a basis for physician's practices. Studies about educational and organizational changes are also needed. Simply producing more studies is, however, not enough. The methodological quality must be higher, and this requires resources in terms of, eg, financing, expertise, and good data.

Only a limited number of studies address the essential aspects of sick leave, and SBU recognizes the need for qualitatively better

research (such as longitudinal studies and intervention studies at the individual and group levels, eg, at workplaces).

Knowledge based on scientific studies is necessary, primarily regarding:

- why some people are sick listed while others are not
- why some people on sick leave return to work more quickly than others do
- how to identify the individuals who need early intervention to avoid long-term sick leave
- positive and negative consequences of sick leave or disability pension for the individual, in general and for specific diagnoses
- how to detect and prevent the negative consequences of sick leave
- the consequences of "sickness presence", for the individual and for the employer, colleagues, and possible customers/clients
- what factors influence physicians' sickness certification practices, and practices at the workplaces, by insurers, the employment office, and others involved
- the influence of socioeconomic conditions
- attitudes and knowledge among the public, patients, physicians, and the insurance office, and the potential impact on sick leave
- types of beneficial collaboration with various interested parties in the sickness-insurance field
- international comparisons.

Table 2 Weight of the evidence concerning the factors studied.

Factors	Level of evidence ¹⁾
(The type of studies – RCT – represented by this category are so far largely absent in the research on sick leave)	1
<p><i>General</i></p> <ul style="list-style-type: none"> that individuals having the opportunity to influence their working situation have lower risk of sick leave that the design of the sickness insurance system influences the level of sickness absence that members of lower socioeconomic groups have a higher risk for disability pension <p><i>Back and Neck Diagnosis</i></p> <ul style="list-style-type: none"> that poor work satisfaction increases the risk for sick leave due to acute back problems 	2

¹⁾ 1 = Strong level of scientific evidence 2 = Moderate level of scientific evidence
 3 = Limited level of scientific evidence 0 = Insufficient scientific evidence

<p><i>General</i></p> <ul style="list-style-type: none"> that divorce increases the risk for sick leave that physical stress at work is associated with higher rates of sick leave <p><i>Back and Neck Diagnosis</i></p> <ul style="list-style-type: none"> that heavy labor increases the risk for sick leave or prolonged sick leave that earlier back or neck problems, as well as a specific diagnosis (eg, sciatica, low back pain), increases the risk for sick leave that the risk for long-term sick leave and disability pension is higher in women and older age groups that a shorter period of employment increases the risk for prolonged sick leave for acute problems <p><i>Psychiatric Diagnosis</i></p> <ul style="list-style-type: none"> that women have a higher rate of sickness absence due to psychiatric diagnoses <p><i>Stroke and Myocardial Infarction</i></p> <ul style="list-style-type: none"> that most people of working age return to work following stroke, myocardial infarction, or heart surgery <p><i>Physicians' Sickness Certification Practice</i></p> <ul style="list-style-type: none"> that physicians view the work related to sick leave as being problematic that sickness certificates often are of poor quality 	3
Other factors	0

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- SBU's assessments shall cover the medical aspects and the ethical, social, and economic consequences of disseminating and applying medical and dental technologies.
- SBU's assessments shall be compiled, presented, and disseminated in such a way that all affected parties have access to the information.
- SBU shall contribute, through informational and educational initiatives, toward ensuring that the knowledge gained is used to rationally utilize available resources in health care.
- SBU shall draw on national and international experience and research findings in the field and shall serve as a focal point for health technology assessment in Sweden. This effort shall be managed in a way that secures success and respect for the organization, both domestically and internationally.