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# The Sick Leave Process

## Sick Leave Guidelines, Sickness Certificates, and Experiences of Professionals

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*To Andreas & Lucas*

*If one is truly to succeed in leading a person to a specific place, one must first and foremost take care to find him where he is and begin there.*

*Sören Kierkegaard, En Ligefrem Meddelelse, 1859*



# CONTENTS

<b>ABSTRACT .....</b>	<b>1</b>
<b>LIST OF PAPERS .....</b>	<b>3</b>
<b>ABBREVIATIONS.....</b>	<b>5</b>
<b>DEFINITIONS.....</b>	<b>7</b>
<b>BACKGROUND.....</b>	<b>9</b>
<b>Sick leave .....</b>	<b>9</b>
Early assessments of work disability, risk factors, and needs .....	10
<b>Entitlement to sickness benefits .....</b>	<b>10</b>
The concept of work ability .....	11
International Classification of Functioning, Disability, and Health .....	12
Work ability assessments.....	14
<b>Physicians' sickness certification practice .....</b>	<b>15</b>
Physicians' problems concerning sickness certification .....	16
Quality of sickness certificates .....	17
<b>Changes within the sickness insurance system.....</b>	<b>19</b>
Guidelines for management of sick leave .....	20
<b>Rationale for the thesis .....</b>	<b>22</b>
<b>AIMS OF THE THESIS.....</b>	<b>24</b>
<b>General aim .....</b>	<b>24</b>
<b>Specific aims .....</b>	<b>24</b>
<b>MATERIAL AND METHODS .....</b>	<b>25</b>
<b>Design .....</b>	<b>25</b>
<b>Setting .....</b>	<b>26</b>
<b>Data collection .....</b>	<b>26</b>
Studies I and II. The studies based on sickness certificates.....	26
Study III. The focus group study .....	27

<b>Data analysis</b> .....	<b>29</b>
Content analysis .....	29
Studies I and II. The studies based on sickness certificates .....	31
Statistical analysis .....	32
Study III. The focus group study .....	33
<b>Ethical considerations</b> .....	<b>33</b>
<b>RESULTS</b> .....	<b>35</b>
<b>Content of sickness certificates (studies I and II)</b> .....	<b>35</b>
Descriptions of functioning (study I) .....	36
Interventions prescribed (study I) .....	37
Sick leave: part-time and length (studies I and II) .....	38
Quality of sickness certificates (study II) .....	39
<b>Primary health care professionals' experiences with the sick leave process (study III)</b> .....	<b>40</b>
<b>DISCUSSION</b> .....	<b>42</b>
<b>Discussion of the results</b> .....	<b>42</b>
<b>Methodological considerations</b> .....	<b>53</b>
The studies based on sickness certificates .....	53
The focus group study .....	55
<b>Clinical implications</b> .....	<b>55</b>
<b>Future research</b> .....	<b>56</b>
<b>CONCLUSIONS</b> .....	<b>58</b>
<b>SUMMARY IN SWEDISH</b> .....	<b>60</b>
<b>ACKNOWLEDGEMENTS</b> .....	<b>62</b>
<b>REFERENCES</b> .....	<b>65</b>

# ABSTRACT

## *The Sick Leave Process – Sick Leave Guidelines, Sickness Certificates, and Experiences of professionals*

Decisions on entitlement to sickness benefits and return to work interventions have substantial impact on individuals' lives and on society. In most Western European countries, such decisions are based on sickness certificates, which should provide information on how a disease or injury reduces the individual's work ability. These are challenging and complex assessments. In 2008, guidelines for the management of sick leave were implemented in Sweden, emphasizing early assessments of work ability and return to work, and increasing the quality demands of sickness certificates by underscoring descriptions of activity limitations related to work.

The overall aim of this thesis was to provide deeper knowledge of the sick leave process with special emphasis on the content of sickness certificates and primary health care (PHC) professionals' experiences with the process. Specific aims were to compare the quality of sickness certificates regarding descriptions of functioning by the use of WHO's International Classification of Functioning, disability, and health (ICF), as well as the prescribed interventions before versus after implementation of the Swedish sick leave guidelines.

The thesis comprises three studies. A cross-sectional design was used in studies I and II, which included 475 and 501 new sickness certificates consecutively collected in Östergötland County, Sweden, in 2007 and 2009, respectively. Text on functioning was analysed with a deductive content analysis using the ICF. Study III was an exploratory study using data from four semi-structured focus group discussions with a purposeful sample of PHC professionals (n=18) in Östergötland County. Content analysis with an inductive approach was used in this study.

Sickness certificates were mainly issued for musculoskeletal diseases (MSD) and mental disorders (MD). In 2007, 65% of the sickness certificates provided a description of how the disease limited the patient's ability/activity that was classifiable into at least one of the ICF components: body 58%; activity 26%; and participation 7%. Activity limitations and participation restrictions were most common in certificates issued for MSD and MD, and in those issued by PHC physicians. Early rehabilitation was prescribed in 27% of

all certificates, most frequently in certificates issued for MSD and MD, for younger patients or in certificates issued by PHC physicians. In 2009, after the implementation of the Swedish sick leave guidelines, a greater proportion of sickness certificates (78%) provided information on functioning that was classifiable into the components of ICF than in 2007 (65%). Still, body impairments dominated the description of patient functioning. The proportion of descriptions of activity limitations and prescriptions of early rehabilitation increased from approximately one-fourth of sickness certificates in 2007 to one-third in 2009.

The findings from the focus group study highlight the challenges physicians and other health care professionals face when assessing the need for sick leave, especially when encountering patients with symptom-based diagnoses. Collaboration was considered important but difficult to achieve and all the competencies available at the PHC centre were not used for work ability assessments. Knowledge of the patients' work demands was insufficient, contact with employer or the occupational health services (OHS) was rare, and the strained relationship with the social insurance officers affected the collaboration.

An overall conclusion drawn from this thesis is that patient functioning and needs might not be adequately communicated in the sick leave process. Despite the implementation of sick leave guidelines, this information is limited in sickness certificates and the collaboration is poor among the involved stakeholders, i.e., health care, the social insurance office, the employers, and the OHS. A clinical implication is that the basis for decisions about entitlement to sickness benefits could be improved by including a description of the patients' activity limitations or participation restrictions related to work demands. One way to enhance the decision basis might be to use the available team competencies at the PHC.

*Keywords:* sick leave, guidelines, work ability, International Classification Functioning, Disability and Health, musculoskeletal diseases, mental disorders, physicians, physical therapist, occupational therapist, Sweden.

## LIST OF PAPERS

This thesis is based on three studies reported in the following four papers, which are referred to in the text using Roman numerals (I-IV).

I **Emma Nilsing**, Helena Normelli, Elsy Söderberg, Birgitta Öberg. "Description of functioning in sickness certificates". *Scand J Public Health* 2011;39:508-516.

II **Emma Nilsing**, Elsy Söderberg, Birgitta Öberg. "Sickness certificates: what information do they provide about rehabilitation?" *Submitted*.

III **Emma Nilsing**, Elsy Söderberg, Birgitta Öberg. "Sickness certificates in Sweden: did the new guidelines improve their quality?" *BMC Public Health* 2012;12:907

IV **Emma Nilsing**, Elsy Söderberg, Carina Berterö, Birgitta Öberg. "Primary health care professionals' experiences of the sick leave process. A focus group study in Sweden." *J Occup Rehabil* 2013; DOI 10.1007/s10926-013-9418-0

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# **ABBREVIATIONS**

<b>ICD-10</b>	International Statistical Classification of Diseases and Related Health Problems 10th Revision
<b>ICF</b>	International Classification of Functioning, Disability, and Health
<b>MD</b>	Mental disorders
<b>MSD</b>	Musculoskeletal diseases/disorders
<b>OHS</b>	Occupational health services
<b>PHC</b>	Primary health care
<b>WHO</b>	World Health Organization



## DEFINITIONS

*Collaboration*: when people communicate within or between organizations with the aim of achieving common goals [1].

*Disability*: umbrella term for impairments, activity limitations or participation restrictions for a person in a given health condition [2].

*Functioning*: umbrella term encompassing all body functions, activities and participation for a person in a given health condition [2].

*Rehabilitation*: interventions aimed at helping individuals with health problems to overcome biopsychosocial obstacles to recovery and return to work [3].

*Return-to-work measures*: refers to the question on sickness certificates regarding specific measures coordinated by the Swedish social insurance office. Return to work interventions is used in a broader sense.

*Sickness benefit*: cash benefit granted as stipulated by the Swedish National Insurance Act when a person's ability to work is reduced because of disease or injury. Can also be granted for medical treatment or rehabilitation or to prevent future sick leave.

*Sickness certificate*: a document issued by a physician to ascertain that a person has reduced work ability because of disease or injury.

*Sick leave and sickness absence*: terms used for granted health related absence from work because of disease or injury certified by a physician.

*Sick leave period*: a continuous period of sick leave days for which a sickness certificate is issued.

*Work ability*: Individual work ability is a process of human resources in relation to work [4].



# BACKGROUND

In this thesis, the sick leave process is defined as starting with an individual's experiencing illness and seeking health care because of difficulties meeting work demands and includes the assessments and sickness certificates required for entitlement to sickness benefits; interventions facilitating the goal of a healthy and sustained return to work; and the actions and relationships among stakeholders involved. The process corresponds primarily to the off-work and re-entry phases, the first two phases in the developmental nature of return to work presented by Young and colleagues [5]. The sick leave process will be explored from the health care perspective, revealing several challenges. This thesis was written in a time when the Swedish sickness insurance system went through radical changes that led to lively discussions in the political, media, and public arenas, as well as among researchers.

## Sick leave

Although sick leave can be necessary, promoting rest and recovery from a health problem, it can also have negative consequences [6]. Especially, long-term sick leave may increase the risk for poor health [6, 7], including consequences for an individual's psychological well-being, social activities [8], and work situation [7, 9]. Long-term sick leave is high in Sweden, and in many other Western countries and contributes to significant societal and economic costs [10-12]. Approximately 504,000 Swedish citizens received sickness benefits at some time in the year 2012, which corresponds to 9% of all insured individuals between ages 16 and 64 years with an annual benefit-qualifying income (unpublished data from the social insurance agency). Sick leave rates vary considerably over time [10, 11, 13] and older individuals, women, blue collar workers, or those working in the public sector have higher sick leave rates [10, 13-16]. Musculoskeletal (MSD) and mental disorders (MD) are common health problems affecting many people in their working lives [17-19], but they also account for the vast majority of sick leave, particularly long-term sick leave [10, 19].

## **Early assessments of work disability, risk factors, and needs**

Approximately three quarters of sick-listed patients with MSD or MD return to work within three months [20], but those who do not may have a worse prognosis. The broad consensus is that the longer a patient is on sick leave, the lower the chances of returning to work [10, 21, 22]. It is also widely recognized that work disability converges on a multifactorial aetiology and can be understood and managed only according to a biopsychosocial model that includes biological, psychological, and social dimensions [23, 24]. A variety of both medical and non-medical factors influence maintenance of sick leave. Certain risk factors are related to the person (age, previous sick leave, socio-economic status, recovery expectations), health status (mental, physical, and social functioning, work ability), and work (work demands, job control, support, adjustment or modification possibilities), which are suggested to predict long-term sick leave and disability [25-30]. Understanding these factors, and in particular those that are amenable to change through any intervention program, may help with the development of effective intervention strategies to shorten the duration of disability and facilitate return to work. A Swedish governmental investigation has recently led to a recommendation for identification of early signs of work disability in order to act fast and promote cooperation between the actors involved [31]. Assessments of patient functioning and work ability at an early stage with structured risk factor screening and questions that include working conditions and possible work modifications are suggested to help health care professionals plan individually tailored interventions and a return to work [31-33]. These recommendations are included in clinical guidelines for the management of long-term sick leave [34] and low back pain [35].

## **Entitlement to sickness benefits**

Sickness insurance systems generally aim to provide financial security during illness. Countries differ in several ways, however, with regard to sickness insurance systems, which need to be considered when interpreting sick leave rates. In many Western countries, including Sweden, an individual is entitled to sickness benefits if a disease or injury reduces his or her work ability [10, 36, 37]. The reduced work ability shall be based on medical grounds (i.e., an

underlying health condition such as disease or injury), and the consequences of the health condition on functioning must be related to the patient's actual work or possibility of working. In Denmark, however, an individual may be entitled to sickness benefits without having a disease, since the focus is shifted from a medically diagnosed disease towards accentuating the individual's actual ability to work [38]. The Danish legislation differs in that sense from the Swedish one, which instead emphasizes the medical cause, stating that in the assessment no regard shall be given to labour market, economic, social, or similar circumstances (SFS 2010:110 chapter 27, paragraphs 2-4). After a period of self-certification, ranging from no day in Denmark and Germany to seven days in Sweden and the UK, the reduced work ability needs to be confirmed by a physician in a sickness certificate which is sent to the employer or the social insurance office. In Sweden, the employer has to pay wages the first 14 days of an employee's sick leave, except for a first qualifying day. Thereafter, or by the second day if the individual is unemployed or self-employed, the social insurance office makes the decision about entitlement to sickness benefits [10, 37]. This decision is based primarily on the information given in the sickness certificate. In the Netherlands, however, the employer pays wages for two years when an employee cannot work because of disability. Occupational physicians are responsible for assessing work disability during these two years and there are no requirements for sickness certificates [10, 39]. The maximum duration of sick leave also varies across countries [10]. Until 2008, Sweden was the only Western European country with no maximum time limits for sick leave. Sickness benefits can now be provided only for a maximum of 550 days, although some exceptions can be made [40]. If a patient is dissatisfied with the decision made by the Swedish social insurance office, the patient can request reconsideration and then appeal to the administrative court of appeal (SFS 2010:110, chapter 113, 7§-10§).

## **The concept of work ability**

Perceptions and applications of the concept of work ability differ depending on the context [41]. In sickness insurance systems, work ability is central for entitlement to sickness, but Swedish law (SFS 2010:110 chapter 27) provides no clear definition of the concept [41, 42]. The scientific literature offers no consensus on a definition, either [43]. Fadyl et al. reviewed factors contributing to work ability and identified that they are related to many different domains of functioning, comprising the following categories:

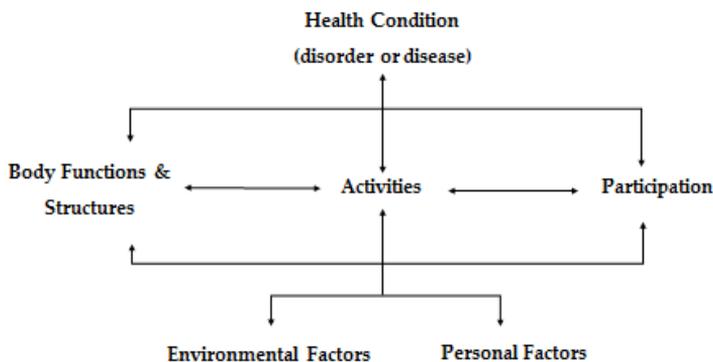
physical, psychological, cognitive, social/behavioural, workplace factors, and factors outside the workplace [43]. A well-known model is the holistic model of work ability developed by Ilmarinen and colleagues in 2001, emphasizing that individual work ability is a process of human resources in relation to work [4]. Human resources are described by (1) health and functional capacities (physical, mental, social), (2) education and competence, (3) values and attitudes, and (4) motivation. When this comprehensive set of individual factors is related to (5) work demands (physical, mental), (6) work community and management, and (7) work environment, the outcome can be called work ability. Work ability is acknowledged as a dynamic process that changes greatly for several reasons throughout an individual's work life [4]. In the Illness flexibility model, Johansson and Lundberg agree with Ilmarinen that conditions such as health, functional capabilities, education and competence are central components of work ability and should be related to work. However, instead of work demands, the authors describe work by the opportunities an individual has to adjust work to capacity and propose "adjustment latitude" as a relevant work component determining work ability [44]. This model considers sick leave as an action. When feeling ill, people may either report sick or attend work, but conditions inside and outside work limit the choices people have [44].

## **International Classification of Functioning, Disability, and Health**

One important factor contributing to work ability is the individual's functioning, also conceptualized as functional capabilities or capacity [4, 43, 44]. In this thesis, the concept functioning will be used in line with WHO's International classification of functioning, disability and health (ICF) and when an individual's functioning is related to work demands or the opportunities to adjust work; work ability can be described.

WHO endorsed the ICF in 2001, it is intended to complement purely health condition-related information (disease, disorder, injury) provided by WHO's aetiological International Classification of Diseases (ICD-10) with information on functioning and disability associated with health conditions. Using ICF and ICD-10 together creates a broader and more complete picture of the experience of health by individuals and populations [2]. The ICF provides both a conceptual framework for understanding the experience of functioning and

disability and a hierarchical classification system that allows for the coding of all components of health and functioning [2]. The ICF encompasses functioning as a universal human experience that can be conceptualized and classified from the perspectives of the body, the individual, and the society by means of a list of body functions and structures and a list of activity and participation. Functioning refers to all body functions, structures, activities and participation, and disability is similarly an umbrella term for body impairments, activity limitations and participation restrictions. Impairments are defined as problems in body functions or structures such as significant deviation or loss; activity limitations are the difficulties an individual may have in executing activities; and participation restrictions are problems an individual may experience in life situations [2]. ICF is based on a biopsychosocial model acknowledging that an individual's functioning and disability arise from the reciprocal interactions between a health condition and the contextual factors (figure 1). The contextual factors include external environmental factors (societal attitudes, legal and social structures, climate) and internal personal factors (age, gender, coping styles, social background), which can influence how an individual experiences disability. Personal factors are defined as the "particular background of an individual's life and living, and comprise features of the individual that are not part of a health condition or health state", but personal factors are not classified in ICF [2].



*Figure 1. The model of disability in ICF, illustrating that disability and functioning are viewed as the outcome of reciprocal interactions between a health condition and contextual factors [2]*

More than a decade after its publication, ICF is now a widely accepted framework and classification that is used across disciplines, health conditions, sectors and settings [45, 46]. ICF is considered useful in disability evaluations [2] and is suggested to allow descriptions of work disability as a biopsychosocial phenomenon and not only as a biomedical phenomenon [47]. In 2008, the ICF was adopted within the context of social security and consensus was reached about selections of categories of the ICF (i.e., core sets) that are relevant for disability evaluation [48].

## **Work ability assessments**

Thus far, no single measurement covers all the aspects of work ability identified in the review by Fadyl et al. [43]. Work ability assessments can be used for several purposes and as a consequence, various measurements assess different aspects of work ability [43]. In line with Ilmarinen's definition of work ability [4], these measurements can be summarized in assessments of an individual's resources, demands at work, and how the individual's resources can be related to the demands at work [49]. Individual's resources are most often assessed with self-reported measurements, physical capacity tests, observations, or interviews. Work demands can be described by the use of records or observations at work. The relationship between the individual and the demands at work can be assessed with interviews, sometimes in combination with physical capacity tests, and are mainly performed within the occupational health service or the social insurance office [49].

In the Swedish sickness insurance system, assessments of work ability for the eligibility for sickness benefits should be related to the patient's work tasks and demands (ordinary or other available work tasks at the workplace), or in case of long-term sick leave or unemployment, in relation to available jobs in the labour market. In many Western countries, governments have provided standardized methods for the assessment of functioning or work ability as the basis for decisions on entitlement to benefits, primarily disability pensions [50]. Recently, efforts have been made to shift the focus from disability assessments to exploiting the remaining capacity [11]. So far, there is no official method or consensus on how to assess patients' functioning and work ability in the Swedish sickness insurance system, but a new method for long-term sick leave exceeding 180 days is near implementation [51].

## Physicians' sickness certification practice

The health care system has an important role in the sick leave process by encountering the individual early and being responsible for medical investigations, interventions, and sickness certifications [10, 52]. Especially, the physician's role is important; however, there is limited research concerning physicians' sickness certification practice [10, 53]. Sickness certification practice is described as the clinical practice of physicians when considering issuing a sickness certificate to a patient, as well as all aspects and behaviours related to this process [54]. Previous research has shown that sickness certification is a common work task among physicians in many Western countries [55-58]. In Sweden, nearly all physicians have consultations involving sickness certification at least a few times a year [55]. Almost 80% of physicians in orthopaedic and occupational health services have sickness-certification consultations at least five times a week, which are higher rates than those in primary health care (PHC) (43%) [55]. The sickness certification involves several different tasks, as summarized in the seven items [59] in table 1.

**Table 1.** Physicians' sickness certification tasks

- 
- Determine if a disease or injury is present.
  - Ascertain whether the disease or injury impairs the patient's functioning to the extent that work ability is also reduced in relation to the demands at the patient's current work or in case of long-term sick leave, to other available jobs at the labour market. Specify the work tasks the patient cannot perform.
  - Together with the patient, consider the advantages and disadvantages of sick leave.
  - Determine the degree and duration of the sick leave and what medical investigations, treatments or other interventions such as rehabilitation are needed during the sick-leave period, and also make a plan of action.
  - Determine the need to contact other specialists, the social insurance office, occupational health services, employers, or other actors, and in such cases, collaborate with these actors within or outside the health care system.
  - Issue a sickness certificate that provides the social insurance officers with sufficient information to decide whether a patient is entitled to sickness benefits and the possible need for return-to-work measures.
  - Document decisions, measures, and plans in the patient's medical record.
-

## Physicians' problems concerning sickness certification

Sickness certification tasks require physicians to fulfil dual roles. The first is the usual role as the patient's physician, with the intention to diagnose, cure, treat, or relieve symptoms. In the literature, this role is often denoted as "patient advocate" to describe when the physician represents the patient in contact with other actors. The second role is that of a medical expert, which means to objectively certify the medical situation of the patient to other authorities like a social insurance office or employer [53, 59].

Evidence from studies conducted in several countries shows that physicians, especially those in PHC practice, consider sickness certification problematic [55, 58, 60-67], or even as a work environment problem [68, 69]. One of the problems related to sickness certification is the difficulty in handling the dual roles of patient advocate and medical expert to other authorities when the responsibility to the patient often outweighs that of the medical expert role [62-64, 66, 68, 70-72].

The second item in physicians' sickness certification tasks described above concerns ascertaining whether the disease or injury impairs the patient's functioning to the extent that work ability is also reduced in relation to the demands at the patient's current work, or in case of long-term sick leave, to other available jobs on the labour market [59]. This assessment of the patient's work ability is crucial for decisions about entitlement to sickness benefits [10, 36, 37]. However, physicians have reported assessments of functioning, work ability, and the need for sick leave as being very problematic [55, 58, 64, 72, 73], especially when the patient describes symptoms that are difficult to diagnose and clinical findings are lacking [60, 63, 67, 70, 74]. This issue concerns primarily patients with MSD or MD. The sickness certification is then based on the patient's description of his or her symptoms and work situation [56, 75, 76]. The challenges physicians face in sickness certifications are suggested to come from insufficient competence to assess work ability [61, 65, 67, 77] as well as from scarce knowledge about workplaces, the labour market, and the social security system [56, 63, 73, 78]. Consensus is lacking on how functioning and work ability should be assessed [59], as is scientific knowledge about which aspects physicians actually consider when assessing patient functioning and work ability in sickness certification practice [79-81].

Another item of physicians' sickness certification practice concerns determining the need for rehabilitation interventions [59]. The few studies investigating the physician's role in rehabilitation indicate that physicians have difficulties in suggesting a plan of action during the sick leave [58] and knowing when the ideal time is to start rehabilitation [78]. Rehabilitation interventions suggested to advance return to work are often multifaceted, including collaboration among different health care professionals and contact with the workplace [34, 82-84]. The timing is considered important, and early rehabilitation interventions may be most effective in supporting a return to work [20, 34, 82]. Studies are limited investigating the interventions that patients are prescribed during their sick leave and what they actually receive [20].

The sickness certification tasks also include interactions with other stakeholders [59], but physicians have reported problems in collaborating with actors within or outside the health care system [56, 61, 63, 75, 78]. The stakeholders comprise the health care, legal (social insurance office), workplace (employer or employment agency), and personal systems (the patient) [52]. Within the health care system, many different health care professionals are involved in supporting the sick-listed patient, including physicians, psychologists or counsellors, nurses, physiotherapists, and occupational therapists. Previous research has shown that physicians believe that the sick leave process would benefit from the involvement of other health care professions [62, 65, 67, 75, 85] and that physiotherapists [85, 86] and occupational therapists [87] feel they have the competence to participate in work ability assessments. The few studies investigating team members' roles indicate, however, an ambiguity in the team about whether other health care professionals are supposed to work with work ability assessments [88].

## **Quality of sickness certificates**

The sixth item in table 1 is one of a physician's most important tasks within the sickness certification practice, namely to issue a sickness certificate that provides the social insurance officers with sufficient information to decide whether a patient is entitled to sickness benefits and return-to-work measures [59]. Thus, the quality of sickness certificates is important for ascertaining appropriate actions by social insurance officers and ensuring the rights of patients. Incomplete certificates may lead to entitlement or withdrawing

sickness benefits on inappropriate grounds or denying necessary return-to-work measures [59]. For many years in Sweden, a physician's assessment of a patient's work ability was accepted unconditionally by the social insurance office. In the 1990s, when the costs of sick leave rates increased rapidly, regulations were introduced to improve the decision basis for the assessment of work ability and entitlement to sickness benefits [89]. From being accepted with only a signature, more or less, sickness certificates are now required to include much more information [42]. A sickness certificate form includes approximately 17 fields. Most important for the decision about entitlement to sickness benefits is the main diagnosis as the cause of the sick leave, work tasks or work demands and a description of the consequences of the disease on functioning in relation to the work tasks or work demands. The presence of this information often indicates the quality of sickness certificates [42, 59, 90]. The quality demands have further increased after the implementation of the Swedish sick leave guidelines, as described in the next section.

The laws and regulations regarding what the physician as a medical expert should consider when writing a certificate concern the following: to issue the certificate with accuracy and concern (Patientsäkerhetslag 2010:659); have the required competence; be objective; generally perform a personal investigation of the patient before issuing the certificate; write in a way that is comprehensible for the patient and the certificate recipient; and be aware of the legal importance of the certificate and therefore describe only those circumstances about which he or she has sufficient knowledge (SOSFS 2005:29) [91]. A sickness certificate shall include information on the reduced work ability caused by a disease (SFS 2010:110 chapter 27), but statements regarding to what degree the patient cannot or should not perform work tasks because of the disease, prognosis and necessary measures for return to work are also required [10]. Thus, sickness certificates are not only important for decisions on entitlement to sickness benefits but also for communicating the need for rehabilitation and return-to-work interventions conveyed among the health care, employers, and social insurance office.

Despite the striking significance of information from physicians in sickness certificates, few studies have investigated the quality of sickness certificates in the context of their purpose [53, 59]. Two reviews found evidence of deficiencies in completing the required information in sickness certificates and a certificate quality was often insufficient as a basis for decisions on entitlement to sickness benefits and return-to-work measures [53, 59]. Studies

reaching these conclusions were conducted in different countries such as Slovenia [92], Norway [93] and Sweden [89, 90]. Söderberg and Alexanderson analysed information in sickness certificates issued in 2002 and found that basic information about type of disease and occupation but mainly regarding how the disease limits a patient's functioning, was often missing [90]. Information from sickness certificates is also ineffective in detecting cases in which modified working conditions may reduce the sick leave [93]. Previous studies have focused mainly on whether required information is given in sickness certificates or not. There is a need for greater knowledge about how to improve the quality of sickness certificates as a basis for decisions about entitlement to sickness benefits and return-to-work measures communicated among health care representatives, the social insurance office, and employers. A more systematic approach to analysing the content of sickness certificates might form an adequate basis for further quality improvements.

## **Changes within the sickness insurance system**

In several European countries, efforts have recently been undertaken to get more people back to work by changes in gatekeeping and by providing security for those who cannot work while providing work supports for those who can [11, 12, 40, 94].

Because of the consequences of long-term sick leave on different structural levels [10] and the strong criticism of how the sick leave process has been conducted in Sweden [95], the Swedish government introduced several changes within the sickness insurance system to standardize the sick leave process and promote an early return to work [96]. Since 2006, financial incentives have been offered annually to county councils for prioritizing the sick leave process, and since 2010, these incentives have also included quality improvement of sickness certificates. In 2008, time limits for the review of eligibility and maximum length of sick leave within the rehabilitation chain, guidelines for the management of sick leave (i.e., sick leave guidelines), and a new sickness certification form were implemented [40]. The rehabilitation chain focuses on early assessments of work ability and entitlement to sickness benefits at fixed time schedules. Within the first 90 days, the work ability is assessed in relation to ordinary work; after 90 days, in relation to any available job for the same employer; and after 180 days, in relation to any job in the labour market. Among the stakeholders involved; the patient, the health care

representatives, the social insurance office and the employer, the employment agency becomes now an important stakeholder instead of the employer, focusing on labour market reintegration rather than return to work. The end-point of eligibility for sickness benefits is set to a maximum of 550 days, although some special exceptions can be made [96]. A rehabilitation guarantee was introduced in 2009, aimed at securing for patients with MSD or MD evidence-based interventions preventing sick leave or facilitating a return to work [96]. The recent changes in the Swedish sickness insurance system are presented here in a time line, including the studies in this thesis (figure 2).



*Figure 2. Overview of the changes in the Swedish sickness insurance system during the years 2006-2012 and the studies in this thesis in relation to these changes*

## Guidelines for management of sick leave

Implementing guidelines is one way to improve support for returning to work by giving guidance for management of sick leave [34, 40]. In 2008, the Swedish Board of Health and Welfare introduced guidelines for management of sick leave in the health care and social security systems [40]. The aim of the guidelines is to facilitate the management of sick leave cases, provide a structure for collaboration between health care and social insurance office, and facilitate encounters with patients. Emphasis is on the notion that certifying sick leave is an active intervention requiring the same high quality standards as other health care activities. The guidelines comprise general principles

regarding the management of sick leave [40] and specific recommendations for sick leave, length, and grade according to diagnoses [97]. The general principles include recommendations regarding required documentation in sickness certificates, the assessment of work ability as a tool for intervention, patient participation, early commitment, contact with the workplace, assessment of functioning, and assessment of work ability related to work demands and possible work modifications [40]. The purpose of the specific recommendations is to support the physician in performing these tasks and to communicate with the patient and other stakeholders, by giving time lines for recovery, interventions, and sick leave length corresponding to specific diagnoses and work categories [97]. These specific guidelines were primarily based on consensus discussions among medical experts within different specialties [40]. The quality demands include accurate sickness certificates with assessments of functioning clearly documented. The patient's functioning should explicitly be expressed in terms of what the patient is expected to be or not to be capable of performing at the workplace [40]. This requirement is in line with the activity or participation component in the ICF [2]. The use of ICF in sickness certification practice is further stressed by a governmental investigation, suggesting that the assessment of a patient's work ability should be based on a description of the causal chain that links disease, body impairment, and activity limitations, in which the activity limitations are related to work [98]. This chain is adopted by the Swedish social insurance office, and the current sickness certificate form requires a description of this chain [99]. Thus, after the implementation of the sick leave guidelines in 2008, the quality demands for sickness certificates were further increased by the emphasis on descriptions of activity limitations related to work and the social insurance officers' stricter application of laws and regulations. So far, the ICF has not been used for structuring information provided in sickness certificates. Doing so would be a new way of applying the ICF, allowing greater insight into the quality of sickness certificates.

### *Implementation of guidelines*

The Swedish sick leave guidelines were disseminated with different approaches emphasizing information and education but also including financial incentives for health care to perform the implementation [100]. The strategies for the implementation involved the actors, health care sector, and social security system, which were responsible for leaderships and systems regarding professional competence, quality improvements and evaluations of

the sick leave process at their local levels. The implementation strategies focused on information delivery to and education of managers and those employees involved in sickness certifications [100]. One year after the implementation of the guidelines, a majority of the general practitioners reported using them and considered them useful, primarily in contacts with patients [101]. Awareness and use of guidelines is, however, difficult to achieve, as acknowledged in a study from the UK [77]. The ultimate aim of implementing guidelines is to improve patient care, but this process is slow and unpredictable [102, 103], and many potential factors may influence the change process [103]. The following factors, also called determinants, re-emerge in several theories and frameworks: the characteristics of the implementation object, the strategies for the implementation, the internal and external context, and the characteristics of the target group [103-106]. Thus far, no peer-reviewed studies have investigated the influence of Swedish sick leave guidelines on quality of sickness certificates or how health care professionals experience a reformed sick leave process that puts more emphasis on early assessments of work ability.

## **Rationale for the thesis**

Quality of sickness certificates is important for decisions about entitlement to sickness benefits and return to work interventions communicated among the health care professionals, the social insurance office, and employers. Previously, quality has been defined in terms of whether required information is given in sickness certificates or not. The implementation of the sick leave guidelines in 2008 increased the quality demands of sickness certificates by emphasizing descriptions of activity limitations related to work. These demands were not present in 2007. The use of ICF in structuring information provided in sickness certificates would be a new way of applying ICF, which might form the basis for further quality improvements.

Recommendations are to identify early signs of work disability, including risk factors, to act fast, and to collaborate with the actors involved. Many physicians in PHC face challenges in collaboration and sickness certifications, especially regarding assessments of functioning and work ability. It might be within scope to include other health care professionals in the sick leave process, which now puts more emphasis on early assessments of work ability and return to work than before. This shift results in the need to explore the

professional's experiences of the sick leave process as a starting point to further develop it in PHC.

# AIMS OF THE THESIS

## General aim

The overall aim of the thesis is to provide deeper knowledge of the sick leave process with special emphasis on the content of sickness certificates and PHC professionals' experiences with the process.

## Specific aims

More specifically, the thesis focuses on the following aims:

- To analyse how patients' functioning is described in sickness certificates by using the ICF
- To describe rehabilitation interventions prescribed during a sick leave period
- To compare the quality of sickness certificates regarding descriptions of functioning and prescribed interventions, before and after implementation of the Swedish sick leave guidelines
- To explore PHC professionals' experiences with the sick leave process

# MATERIAL AND METHODS

## Design

The thesis consists of three studies, with results presented in four papers: two cross-sectional studies based on sickness certificates collected before and after implementation of the Swedish sick leave guidelines (papers I-III) and one qualitative study involving focus group discussions including PHC professionals (paper IV). An overview of the three studies is given in table 2.

*Table 2. Overview of the studies I-III*

	Study I	Study II	Study III	Study III
	<b>Paper I</b>	<b>Paper II</b>	<b>Paper III</b>	<b>Paper IV</b>
<b>Aim</b>	Investigate the description of functioning according to ICF and describe the influence of patient age and sex, diagnostic group, and physician affiliation	Investigate whether patients are prescribed rehabilitation early in the sick leave, and which factors are associated with the prescription	Compare quality of sickness certificates between 2007 and 2009	Explore PHC professionals' experiences with the sick leave process
<b>Study design</b>	Cross-sectional	Cross-sectional	Cross-sectional, comparative analysis	Qualitative, focus groups
<b>Study population</b>	Sickness certificates	Sickness certificates	Sickness certificates	PHC professionals
<b>Data collection (year)</b>	2007	2007	2007 and 2009	2012
<b>Method</b>	Content analysis and deductive category approach using ICF, descriptive statistics	Descriptive statistics	Content analysis and deductive category approach using ICF, descriptive statistics	Qualitative content analysis and inductive category approach

ICF, International classification of functioning, disability, and health; PHC, primary health care

## Setting

All studies were conducted in Östergötland County, Sweden. Östergötland County is the fourth largest county in Sweden with three major hospitals, 43 PHC centres, and a population of approximately 430,000 inhabitants [107]. The distribution of age and sex in Östergötland County is similar to the Swedish population, as well as the number of days with sickness, disability, or other sickness insurance benefits [107].

## Data collection

### Studies I and II. The studies based on sickness certificates

Studies I and II included all the new sickness certificates arriving at the social insurance office in Östergötland County, Sweden, during two weeks in 2007 (n=497) and four weeks in 2009 (n=508). Both samples were collected in October. In the sample from 2007, 22 certificates were excluded because of not certifying a new sick leave period (n=16), death (n=4) or an incorrect personal identity number (n=2). In 2009, seven certificates were excluded because of death (n=6) or having an infectious disease monitored by the Communicable Diseases Act (n=1). A total of 475 and 501 new sickness certificates were included for the samples in 2007 and 2009, respectively. Any incoming sickness certificate prolonging the sick leave was collected until the current sick leave period was ended or up to one year. A total of 1,311 sickness certificates were included in the analysis for the sample in 2007 and 1,201 for 2009. The samples do not include patient's self-certification or the first two weeks of sick pay from the employer. By the time of the data collection in 2007, there were no time limits for review of eligibility or maximum length of sick leave in Sweden. These were first set in 2008 [40].

In these studies, information collected from the initial sickness certificate included the following aspects: affiliation of the certifying physician (PHC, occupational health service [OHS], hospital, or private clinic), patient age (mean and age intervals  $\leq 24$ , 25–34, 35–44, 45–54,  $\geq 55$ ), patient sex, main diagnosis in an ICD-10 code resulting in a sick leave, and description of

functioning classified according to ICF. The method used to analyse information on functioning is described in the section for data analysis. The ICD-10 codes were categorized as follows: mental and behaviour disorders (F00-F99) into mental disorders (MD); diseases of the musculoskeletal and connective tissue (M00-M99) into musculoskeletal diseases (MSD); diseases of the circulatory system (I00-I99); and diseases of the respiratory system (J00-J99) into circulatory and respiratory diseases (CR), and the remaining codes (A-E, G, H, K-N, O-Z) into the group “other diagnoses”.

Information on sick leave length, prescribed interventions, and return-to-work measures was accumulated from the total collection of certificates. Sick leave length was defined as the number of days in the current sick leave. Information on sick leave length per patient was based on a calculation of the number of sick leave days certified in the first certificate plus all additional prolonging certificates. Days of partial absence were combined (e.g., two days of 50% sick leave were calculated as one day).

The prescription “interventions essential for recovery of ability” in the sickness certificate includes free text, which was categorized as rehabilitation, medical intervention, or no intervention. Rehabilitation comprised physiotherapy, counselling, occupational therapy, or a referral to a rehabilitation clinic or OHS. In these studies, rehabilitation prescribed in the first certificate or within 28 days of sick leave was categorized as early rehabilitation. This cut-off point was based on the common division of back pain into acute (<4 weeks), sub-acute (4-12 weeks), and chronic pain (>12 weeks) [108]. Prescriptions for medicine or advice were defined as medical interventions, and no intervention refers to certificates without any information about interventions. The question in the certificate “Is return-to-work measure needed”, has four alternative answers: no, cannot be assessed now, yes, or in need of OHS. The two former answers were categorized into “no”, and the two latter into “yes”.

An empty sickness certificate from 2007 is provided in appendix 1.

### **Study III. The focus group study**

Study III is an exploratory study using data from focus group discussions with PHC professionals. Focus group discussions were chosen because the

interaction facilitates participants' ability to speak more freely and express and clarify their beliefs, attitudes, and experiences, as well as uncovers more or less unconscious beliefs and understanding. The interaction may also weed out extreme or false views; all these kinds of information can be more difficult to achieve with individual interviews [109].

The managers of three PHC centres, one urban and two suburban, and the manager of the rehabilitation centre corresponding with the large urban PHC centre, in the eastern part of Östergötland County were contacted. Two of these PHC centres and the rehabilitation centre had signed up for implementation of local guidelines, including a decision basis for sickness certification complementing physicians' base for certification of sick leave. The managers distributed the study invitation to health care professionals who were eligible. A purposeful sampling procedure was conducted, aimed at recruiting health care professionals with experiences with the sick leave process because they were considered as having the richest information. To facilitate the group discussions [109], a heterogeneous sampling was carried out of different health care professionals, i.e., physicians, physiotherapists, occupational therapists, and counsellors, all from the same PHC centre. The counsellor could be a psychologist or a nurse with specialist competence in psychiatrics or cognitive behaviour therapy. The group discussions were held between February and May 2012 at each centre during working hours. In total, four focus group discussions were conducted with three to six participants per group, for a total of 18 participants. An overview of the participants is provided in table 3.

*Table 3. Overview of the participants in the focus groups A–D (n=4)*

Focus group	Total	Sex, M/W	Age, range	Physicians	Other professionals	Years of experience, range
A	6	2/4	35–53	1	1 PT, 1 OT, 3 C	5–32
B	4	4/0	28–60	2	1 PT, 1 OT	1–38
C	3	1/2	38–66	1	1 OT, 1 C	5–20
D	5	2/3	33–63	2	1 PT, 1 OT, 1 C	8–37

PT, physiotherapist; OT, occupational therapist; C, counsellor or nurse with specialist competence in psychiatrics or cognitive behaviour therapy.

Years of experience, i.e., years in their profession

Before the start of each discussion, the participants were informed about the study, and after they gave informed consent, the audio-recorded discussions commenced. The discussions were moderated by this author, and a second researcher observed the atmosphere, interactions, and conversation flows and took field notes. The discussions were semi-structured following an interview guide (table 4), based on literature research and developed through individual interviews, discussions with other PHC professionals, other researchers and the research team [110]. The discussions were free-flowing in a friendly atmosphere. Each discussion lasted between 60-105 minutes and was verbatim transcribed, resulting in a total of 95 single-spaced pages.

*Table 4. The interview guide used in the semi-structured focus group discussions*

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#### **Main questions**

Please, tell us who you are and which challenges you think the PHC system faces today?

If I say the phrase 'sick leave', what comes into your mind?

Describe how you evaluate a patient's need for sick leave.

How do you assess the patient's work ability?

What is the goal of sick leave?

-How is the goal evaluated?

What happens during the sick leave?

What do you do when the patient does not return to work as planned?

#### **Probing questions**

Can you tell us more? Can you explain that? What do you mean?

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## **Data analysis**

### **Content analysis**

The main method used in this thesis is content analysis. This method is common in health services research; however, there are different approaches to it [111-116]. Because an understanding of the concepts of content analysis is fundamental to this thesis, an overview of the method is given in this section.

Contemporary content analysis is defined by Krippendorff (2012, page 24) as *“a research technique for making replicable and valid inferences from texts (or other meaningful matters) to the contexts of their use”* [111]. It is an empirical grounded theory, exploratory in process, and predictive or inferential in intent [111], which means that content analysis is not interpretive or explanatory, but instead aims for descriptive or exploratory issues. Content analysis is described as a method of evaluating written, verbal, or visual communication messages to understand what they mean to people, what they enable or prevent, and what the information they convey does [111]. Written material, but also works of art, symbols, images, maps, or sounds, may be included as data and considered as texts, provided that they are meaningful to others. The recognition of meanings is important because all texts are produced and read by others and are expected to be significant to them, not only to the analyst. Furthermore, meanings of texts are relative to different contexts, and a content analyst must explicate the chosen context in which the particular texts make sense and answer the research questions. [111]. Among the advantages of content analysis are its content-sensitive method and flexibility in terms of different research designs [111, 115].

Content analysis generally includes the following key features: selecting the unit of analysis, obtaining a sense of the data by reading the text several times, creating categories, and assessing reliability and validity [111, 112, 115]. These features are only general rules and procedures, and several authors have elaborated different analytic approaches to category development within content analysis, which can be summarized as inductive, deductive or a combination of inductive and deductive (also denoted “abductive”) [111, 112, 114]. These approaches are also defined as conventional, directed, or summative [113]. The choice of analytic approach is determined by the purpose of the study. If there are no studies or theories about a phenomenon, or if the knowledge is fragmented, the inductive category approach is recommended, and the categories will be derived from the data [113, 117]. This approach was used in the focus group study and will be further elaborated in the corresponding method section. The deductive category development approach can be used when an existing theory or prior research exists about a phenomenon that is incomplete, would benefit from further description, or will be tested in a new context [113, 117]. A categorization matrix is developed based on earlier research, theories, models, mind maps, or literature reviews, and the data are reviewed for content and coded for correspondence with identified categories. Depending on the research question, different strategies

for coding can be chosen [113, 117]. The coding in studies I and II on sickness certificates started immediately with predetermined categories according to ICF [2] and texts corresponding to these categories were coded. The findings were presented by offering comparisons of frequency of categories [113, 115].

## **Studies I and II. The studies based on sickness certificates**

### *The International Classification of Functioning, Disability and Health*

The studies based on sickness certificates regard primarily texts on how a disease or injury limits a patient's ability/activity, which constitutes the most important basis for decisions on entitlement to sickness benefits, but text written in response to a patient history (anamnesis) and clinical findings are also included. In these studies, the focus of interest is the specific text's substantial content and the ICF was considered useful for that purpose. A content analysis [111] and a deductive category development approach were used in the analysis [113, 115] with ICF as a theoretical framework and classification [2]. The text was read, and meaningful concepts were identified and classified into the different components of ICF: body functions and structures, activities, participation, and environmental factors. An operational distinction between activity and participation was performed: The domains "major life areas" and "community, social, and civic life" were designated as participation and the remaining domains as activity. Categories are presented on the ICF's first hierarchical level, i.e., the components. Insufficient text, such as "rest", "operated", "cannot work", or no information at all, was assigned to a separate category, "no description". Table 5 provides an overview of the analysis. For the certificates issued in 2007, the analysis was conducted by two independent researchers. The percentage of agreement between the researchers was 78%, and all disagreements were solved in consensus discussions in the research group. Statistical analysis was performed on groups of categories (body functions and structure, activity, participation, and no description) to offer comparisons of frequency of categories [113, 115]; see under statistical analysis.

**Table 5.** Overview of the analysis in studies I and II with some examples of quotations in sickness certificates classified into the different components of ICF

Quotation	Meaning unit	Body	Activity	Participation	No description
Anxiety, difficulties with concentration and sleep, which generate daytime tiredness	Anxiety, concentration, sleep disturbance, tired	b152, Emotional functions; b140, Attention functions; b134, Sleep functions; b130, Energy and drive functions			
Patient has difficulty sitting for a long time. Work as a driver. Cannot load in or out the car because of pain and stiffness.	Prolonged sitting, works as a driver, loading, pain, stiffness	b280, Sensation of pain; b780, Sensations related to muscles and movement functions	d4103, Maintaining a sitting position; d430, Lifting and carrying objects	d850, Remunerative employment	
Because of the side effects of the treatment, not able to work.					Neither the side effects nor the effect on functioning are described.

## Statistical analysis

Descriptive analyses are presented using proportions or means with standard deviations (SD). Sick leave length was complemented with median. The Chi-squared test was used for group comparisons of categorical variables. Continuous variables were analysed with independent-sample t-tests or analyses of variance (one-way ANOVA) with the Bonferroni post-hoc test. In

study I, multiple logistic regression analyses were conducted to evaluate the relationship between a binary outcome and a number of independent variables. The variable “activity component” was chosen as the dependent variable in paper I and “early rehabilitation” in paper II. A Forced Entry Method was used in both logistic regression analyses. Results are presented with odds ratio (OR) and 95% confidence interval (CI). All tests were two-sided with a significance level of  $p < 0.05$ . Statistical analyses were calculated in studies I and II using SPSS (version 14.0-19.0; SPSS Inc., Chicago, IL).

### **Study III. The focus group study**

Data were analysed after all focus group discussions were carried out. Two independent researchers analysed the data using the content analysis described for focus group discussions with an inductive category development approach [109, 118]. The transcripts were read several times to provide a comprehensive picture. Quotes were categorized based on their content and directed by the aim of the study. Comparisons were constantly made between the categories and the text as a whole. The categories were labelled as similar to the words in the original text as possible, and these labels as well as the written summary, convey the meaning of each category. Quotes illustrating interactions and what was said in the group discussions were selected. Consensus discussions within the research group were continuously held during the analysis until a shared understanding of all emerging categories, written summaries, and selected quotes was achieved. The findings were finally discussed with other health care professionals and researchers in the field and during the referee process.

### **Ethical considerations**

All data collected for this thesis were de-identified and handled with confidentiality in line with the Helsinki declaration of ethical principles for medical research involving human subjects, including research on identifiable human material and data [119]. The results from the studies based on sickness certificates are presented on a group level with no possibility of identifying individuals or infringe one’s personal integrity and there was no risk of harm to individuals. The sickness certification had already been approved by the social insurance office and the study did not influence decisions made by

health care providers or social insurance officers. By studying quality in sickness certificates, the information basis for decisions on sickness benefits may become more transparent and fair, which in turn could improve the trustworthiness of the social security system and secure patient' rights.

The participating health care professionals in the focus groups provided informed consent after receiving written and verbal information about the study, including aspects of voluntary participation and the possibility of withdrawing at any time without explaining why. The interview topics were not sensitive or personal, even though an interview with a professional peer regarding professional work may be perceived as a test [120]. The responses were handled confidentially and presented anonymously. The interviews were not intended to influence the participants and there was no risk of harm. The benefits of elucidating PHC professionals' experiences of the sick leave process may help to further develop the handling of the sick leave process. All studies were approved by the local Research Ethics Committee of the Faculty of Health Sciences of Linköping University, Sweden (studies I and II, Dnr M130-07; study III, Dnr 2011/496-31).

## RESULTS

The main findings of the three studies are presented below and in table 9. Additional findings are reported in the four separate papers.

### Content of sickness certificates (studies I and II)

A total of 475 and 501 sickness certificates issued in 2007 and 2009, respectively, were included in the studies based on sickness certificates (studies I and II).

*Table 6. Descriptive information provided in sickness certificates issued in 2007 and 2009*

Variable	2007 N=475		2009 N=501		<i>p</i>
	%	n	%	n	
<b>Sex</b>					
Male	38	182	34	171	0.174
Female	62	293	66	330	
<b>Age average</b>					
mean, SD	45	12	45	12	0.566
<b>Age interval</b>					
≤24	6	26	7	33	0.871
25–34	19	90	17	86	
35–44	23	108	23	116	
45–54	24	112	25	125	
≥55	29	139	28	141	
<b>Diagnostic group</b>					
MD	17	80	21	105	0.166
MSD	29	137	28	138	
CR	9	42	11	55	
Other	45	211	40	196	
<b>Physician affiliation</b>					
PHC	43	201	42	210	0.591
OHS	5	24	4	19	
Private	8	39	10	51	
Hospital	44	206	44	219	

CR, circulatory-respiratory diseases; MD, mental disorders; MSD, musculoskeletal diseases; PHC, primary health care; OHS, occupational health service

A total of 1,311 certificates were issued for the sample in 2007 and 1,201 for 2009. Information on main diagnosis as cause of the sick leave and physician affiliation was given in 99% of all collected sickness certificates. The majority of the certificates were issued for MSD, followed by MD and CR. The other diagnoses covered a wide range; most common among them were injuries. Mean age of the patients was 45 years, and the majority of the certificates were issued for women. Physicians at hospitals and in PHC issued more certificates than those in OHS or private clinics (table 6). Certificates citing MSD and MD were primarily issued from PHC. Women were mainly certified for sick leave from PHC, and men from hospitals.

## **Descriptions of functioning (study I)**

The analysed texts in the sickness certificates included a variety of words, from short phrases to several sentences. In 2007, 311 certificates (65%) provided a description of “how the disease limits the patient’s ability/activity” applicable to the ICF and could be classified into at least one of the components: body functions/structures 58%, activity 26%, and participation 7%. Environmental factors were cited only in a few certificates and not included in the analysis. When information from patient history (anamnesis) and clinical findings were integrated into the analysis, the distribution of components increased: body functions/structures, 92%; activity, 35%; and participation, 12%. Pain, sleep, anxiety, and attention are typical examples of meaning units classified into body components. Handling stress, standing, lifting, and carrying are common examples classified into activity; and remunerative employment is an example of classification as participation.

Descriptions of functioning differed with regard to diagnostic group and physician affiliation, but not to age or sex. When analysing text on “how the disease limits the patient’s ability/activity”, activity limitations and participation restrictions were more common in certificates issued for MSD (43% and 12%, respectively) and MD (43% and 11%, respectively) than in certificates issued for other diagnostic groups (CR 5% and 0%, respectively; Other Diagnoses 14% and 3%, respectively). Certificates issued by PHC physicians provided more frequent descriptions of activity limitations and participation restrictions (37% and 10%, respectively) than those from physicians at hospitals (17% and 2%). These differences remained when

including text from patient history and clinical findings in the analysis. A multiple regression analysis was performed and showed a significant association among MD, MSD, physician affiliation and a description of activity limitation (table 7). Activity was chosen due to its central importance in sickness certificates.

**Table 7.** Logistic regression analysis with the dependent variable description of functioning in sickness certificates issued in 2007 classified according to the ICF component activity

Independent variable	OR (CI)	<i>p</i>
<b>Sex</b>		
Female	1.5 (0.9–2.3)	
<b>Age</b>		
≤ 24	1.5 (0.6–4.1)	
25–34	0.4 (0.2–0.8)	0.008
35–44	0.7 (0.4–1.3)	
45–54	0.6 (0.3–1.0)	
≥55	1	
<b>Physician affiliation</b>		
PHC	2.4 (1.4–3.9)	0.001
OHS	1.6 (0.6–4.3)	
Private	0.6 (0.3–1.6)	
Hospital	1	
<b>Diagnostic group</b>		
MD	5.7 (3.1–10.6)	<0.001
MSD	3.8 (2.2–6.5)	<0.001
CR	0.4 (0.1–1.1)	
Other	1	

N=465. Nagelkerke's R Squared=29%. Overall percentage correct predicted 73.5. Information on functioning was collected from patient history, clinical findings, and responses to the question, "How does the disease limit the patient's ability/activity". PHC, primary health care; OHS, occupational health service; MD, mental disorders; MSD, musculoskeletal diseases; CR, circulatory-respiratory diseases.

## Interventions prescribed (study I)

"Return-to-work measure" was proposed in 13% of the certificates during the total sick leave period. Rehabilitation (i.e., physiotherapy, occupational therapy, counselling, or a referral to OHS or rehabilitation clinic) was prescribed in the first certificate or within 28 days of sick leave in 27% of all

certificates (i.e., early rehabilitation). Rehabilitation was prescribed later in the sick leave in additional 8%. Medical intervention as the only mode of intervention was prescribed in the first certificate or within 28 days of sick leave in 39% of the certificates. A multiple regression analysis was performed, showing that certificates issued for patients of a younger age (OR 5.5, 95% CI 2.0-15.3), for MSD (OR 4.5, 95% CI 2.5-8.3) and MD (OR 4.4, 95% CI 2.2-8.7), and by PHC physicians (OR 2.6, 95% CI 1.5-4.5) were associated with a prescription of early rehabilitation.

Separate analyses for ICD-10 diagnoses within MSD and MD were conducted. The sexes did not differ regarding diagnosis or age. Different diagnoses were represented in different age intervals, and the prescribed interventions differed regarding type of diagnosis. Arthritis was more common among older patients and soft tissue disorders among younger. Early rehabilitation was primarily prescribed in certificates issued for back pain, which was the most common diagnosis, and soft tissue disorders. Depressive disorder was the most frequent diagnosis within MD. Anxiety was common among younger patients and reaction to stress in older patients. Certificates issued for stress disorders were prescribed early rehabilitation to a greater extent than those issued for other MD (see additional information in the manuscript for paper II).

## **Sick leave: part-time and length (studies I and II)**

In 2007, mean certified sick leave length was 94 days (SD 139; median 36), with no differences between the sexes, age intervals or physician affiliation. Sick leave was longer in certificates issued for MD (mean, 126 days; SD 165) than for the diagnostic group Other Diagnoses (mean, 73 days; SD 116;  $p<0.001$ ). Part time sick leave was certified to a varying extent during the whole sick leave period. In 13% of certificates, part-time sick leave was issued in the first certificate, and the majority of those were issued for women (16%, and 8% for men,  $p=0.011$ ). PHC physicians certified part-time sick leave to a greater extent than those at hospitals (19% and 6%, respectively,  $p<0.001$ ).

The certified sick leave length was shorter in certificates issued in 2009 than in 2007 ( $p<0.001$ ). The mean prescribed sick leave length was 94 days (SD 139, median 36 days) in 2007 and 65 days (SD 87, median 32 days) in 2009.

## Quality of sickness certificates (study II)

An improvement in the quality between sickness certificates issued in 2007 and 2009 was demonstrated. The certificates issued in 2009 provided more often the patient's type of work compared with those issued in 2007 (95% and 78%, respectively). The requested information concerns actual work tasks, not type of work, but in both samples, work tasks were only occasionally described. Text on "how the disease limits the patient's ability/activity" could be classified into the components of ICF in 65% and 78% of the certificates issued in 2007 and 2009, respectively. Descriptions according to body functions such as "sensations of pain" or "emotional functions" were given in 58% of the certificates from 2007 and in 65% from 2009. The activity component, for example, "walking" or "handling stress", was more frequent in certificates issued in 2009 compared with 2007 (33% versus 26%). (Table 8).

*Table 8. Descriptions of functioning in different parts of sickness certificates and classified into ICF components*

	2007 N=475 % (n)	2009 N =501 % (n)	<i>p</i>
<b>Patient history</b>			
Body	82 (387)	80 (402)	
Activity	15 (73)	12 (62)	
Participation	7 (33)	4 (19)	0.028
<b>Clinical findings</b>			
Body	75 (355)	75 (376)	
Activity	6 (26)	5 (26)	
Participation	0.6 (3)	0.2 (1)	
<b>How the disease limits ability/activity</b>			
Body	58 (276)	65 (325)	0.03
Activity	26 (125)	33 (164)	0.028
Participation	6.5 (31)	8 (39)	
<b>All parts*</b>			
Body	92 (438)	94 (472)	
Activity	35 (168)	39 (197)	
Participation	12 (59)	11 (56)	
<b>Information on work</b>			
Yes	78 (370)	95 (477)	<0.001

Column sum is not equal to 100% because some certificates provided information on functioning classified into more than one component, in others a description was lacking.

<sup>a</sup> Fisher's exact test, 2-sided.\* All parts, information on functioning collected from patient history, clinical findings and the question "how does the disease limit the patient's ability/activity".

Participation restrictions, such as remunerative employment, were still scarce. Prescriptions of early rehabilitation interventions increased from 27% in 2007 to 35% in 2009, primarily because of more counselling prescribed for the increasing numbers of patients diagnosed with MD. An exception from the pattern with more information provided in certificates from 2009 was that return-to-work measures were less frequently requested in certificates issued in 2009 than in those issued in 2007 (during the total sick leave, 8% and 13%, respectively).

## **Primary health care professionals' experiences with the sick leave process (study III)**

Four key themes emerged from the analysis of the focus group discussions: the priority of the sick leave process, handling sickness certifications, collaboration within PHC and with other stakeholders, and work ability assessments. The challenges within PHC concerned increasing demands from inpatient care, a growing number of older patients, patients having more severe diagnoses, and the need to fulfil the goal of accessibility to health care. As a consequence, the sick leave process was not prioritized. Physicians and other health care professionals faced challenges when handling the need for sick leave, especially when encountering patients with symptom-based diagnoses and the influence of non-medical factors. The knowledge required to detect patients at risk for long-term sick leave at the first encounter was based on previous experiences; however, strategies or tools to identify and tailor interventions according to these needs were not implemented.

Collaboration within PHC and with other stakeholders was considered important but also difficult to achieve. Despite insufficient knowledge of patients' work demands, direct contact with employers was rare. A conflict in role responsibility between patient advocacy and medical expert for the social insurance office and employer was identified, and the professionals considered themselves to primarily represent the patient. The very strained relationship with the social insurance officers affected the collaboration, especially concerning patients with symptom-based diagnoses and a complex need for sick leave.

Sickness certification cases were handled from each professional group's perspective, and all the competencies available at the PHC centre were not used for work ability assessments. Physicians' assessments of patients' work ability and need for sick leave were based on a feeling of trust in the patient and the patient's story, described as very arbitrary or like a guessing game. Other professionals, although first disclaiming their responsibility, applied a broader perspective of work ability by assessing functional impairments and activities in daily work but felt that their competencies were rarely requested.

*Table 9. Summary of main findings in studies I-III*

	Study I		Study II	Study III
	Paper I	Paper II	Paper III	Paper IV
<b>Main findings</b>	In 65% of the certificates issued in 2007, a description of functioning could be classified into ICF: 58% body; 26% activity; 7% participation. Activity/participation was more frequent in certificates issued for MD, MSD, or by PHC physicians.	Rehabilitation was prescribed early in the sick leave period in 27% of the certificates issued in 2007. Early rehabilitation was associated with MD and MSD, younger patients, and PHC physicians.	Text on functioning was classified into ICF in 65% and 78% of certificates issued in 2007 and 2009, respectively. Descriptions according to the body increased from 58% to 65%; activity from 26% to 33%; and prescriptions of early rehabilitation from 27% to 35%.	Four key themes: priority of the sick leave process, handling sickness certifications, collaboration within PHC and with other stakeholders, and work ability assessments. Hindrances to good practice were increased demands, poor collaboration and role responsibility.

Functioning refers in this table only to the question "How does the disease limit the patient's ability/activity". MD, mental disorders; MSD, musculoskeletal disorders; PHC, primary health care; ICF, international classification of functioning, disability, and health.

# DISCUSSION

In this chapter, the main findings of the three studies are discussed in relation to previous research and some theoretical and clinical implications of the findings are addressed. The chapter concludes with methodological considerations of the research, clinical implications and future research.

## Discussion of the results

### *The content of sickness certificates*

Sickness certificates should provide a description of the patient's activity limitations, but one main finding of this research is that sickness certificates include limited information about activity limitations. Instead, body impairments dominate the descriptions of functioning. The description of body impairments may, however, not sufficiently describe the consequences of the disease or injury. For example, writing that a patient cannot work because of pain in the lower back does not describe any consequences of the diagnosis of low back pain. A quality improvement was detected in sickness certificates issued in 2009, which in comparison to those issued in 2007 encompassed more frequent information on activity limitations. Still, body impairments dominated; activity limitations were described only in approximately one third of the certificates, and one fourth of the certificates lacked information that could be classified into the ICF. With respect to the implementation of sick leave guidelines, including the new sickness certification form emphasizing a description of activity [40] and the high awareness and use of the guidelines among Swedish physicians [101] better results could have been expected by the social insurance office.

By issuing a sickness certificate, the physician confirms the patient's work disability due to disease or injury. For a decision on entitlement to sickness benefits, the social insurance officer needs information about how the disease limits the patient's functioning to the extent that work ability is also reduced in relation to work, information that is mainly provided in the sickness certificate [59]. The quality demands for sickness certificates have increased

substantially since the 1980s, especially after implementation of the Swedish sick leave guidelines in 2008 and the social insurance officers now provide a much stricter application of laws and regulations [42]. Since 2009, sickness certificates are supposed to include information according to the causal chain: disease, impairment, and activity limitation, in which the patient's activity limitations related to work demands are stressed [98]. The information on functioning in sickness certificates was analysed with the ICF, which was a new way of applying it. Lately, Morgell and colleagues confirmed the usefulness of ICF for classifying text on functioning in sickness certificates, noting that the most frequent component was body functions [121]. The ICF enabled greater insight into the quality of sickness certificates than the previous focus on whether required information is given in sickness certificates or not. Earlier studies have shown deficiencies in completing the required information on sickness certificates such as disease, functioning, and type of employment, and that the quality of certificates often was insufficient as a basis for decisions on entitlement to sickness benefits and return-to-work measures [89, 90, 92, 93]. Despite sparse descriptions of activity limitations found in the present studies, the findings indicate that the quality of sickness certificates has indeed improved, not only after implementation of sick leave guidelines but also during the last decades [42, 90]. When the findings are compared with an earlier study by Söderberg and Alexanderson [90], the quality improvement regards primarily the provision of required basic information on disease and employment. Still, descriptions of how the disease limits the patient's functioning remain a weakness in sickness certificates, at least when it concerns activity limitations. Describing activity limitations related to work enables a broader and more complete picture of the patient's health problem, which is crucial for decisions and actions taken by the social insurance office and employers.

Quality of sickness certificates is important to ascertain appropriate actions by social insurance officers, and to ensure the rights of patients. Incomplete certificates may lead to entitlement or withdrawing of sickness benefits on inappropriate grounds or denying necessary return-to-work measures [59]. If a certificate is incomplete, the social insurance officer can use other resources such as medical records, or the officer can require a complement from the physician. This requirement may in turn lead to an increased work load for the social insurance officer and the physician, as well as distress, delayed return-to-work measures, or workplace modifications and prolonged sick leave for the patient [122]. In total, 3% of sickness benefits claims are being denied, 2%

withdrawn [123] and a complementary request is sent to the physician in 9-14% of the cases, which is considered sparse because many more certificates do not meet the quality demands set by the Swedish social insurance office [122, 124]. A patient dissatisfied with the social insurance office decision can request reconsideration and then appeal to the administrative court of appeal. Mannelqvist and colleagues [42] analysed the quality of the sickness certificates constituting the basis for decisions made by the administrative court and how the court assessed the quality during the years 2004-2008. The present focus group study showed that there are difficulties inherent in assessments of patients with symptom-based diagnoses, and that sickness certificates issued for these patients are more often questioned by the social insurance office than other diagnoses. In line with this finding, the court study included only MSD because of the lack of cases with myocardial infarction. Quality was evaluated on a scale ranging from 1-7 regarding information about how the disease reduces the patient's functioning, the patient's work demands or work tasks, and how the reduced functioning leads to work disability in relation to the patient's demands at work or work tasks. A description of the relationship between functioning and work was missing in the vast majority. Good quality was found in certificates written by physiotherapists, occupational therapists, or teams, but there was no association between the quality of the certificate and the court's decision. The decisions were referred to the physician's competence (i.e., insurance physician) and not the content of the certificate [42]. The authors suggest that the legal requirements of sickness certificates may not always be realized by physicians. Also in this study based on court decisions, it was shown that sickness certificates often lack the required information and that the quality is low [42]. Accordingly, because physicians in Sweden do not provide sufficient descriptions of how the reduced functioning leads to work disability in relation to the patient's work tasks or work demands, this important task might be better fulfilled in team collaboration. The exact wording in sickness certificates has varied over the years, however, sickness certificates provide opportunities to include information on: disease or injury (diagnosis); body impairments and structures (patient history and clinical findings); activity limitations ("How does the disease limit the patient's ability/activity"); and work tasks (appendix 1). If the sickness certificates would include a specification of what ordinary work tasks the patient cannot perform because of the activity limitations, a better picture of the patient's work ability would be achieved. The most difficult part is when the work ability needs to be

assessed in relation to the whole labour market; this was perceived as almost impossible among the professionals in the focus groups study.

### *The conflict in role responsibility*

Traditionally, the social insurance office has accepted almost all issued sickness certificates and entitled sickness benefits to those applying [54]. The physician's role as a medical expert presumes that the physician will provide information on which the employer and the social insurance office can base their decisions [59]. Because almost all certificates are accepted, the physician's role has been that of a decision maker rather than a certifier. However, the implementation of the sick leave guidelines and the social insurance officers' stricter applications of laws and regulations, including more frequent requests for a complement, and the introduction of electronic sickness certificates [123], may have put more emphasis on the formal role of physicians as medical experts certifying sick leave. This observation was a new finding from the focus group study. In line with previous studies including only physicians [63, 71, 75] or recently also physiotherapists [86], this study revealed that the different health care professionals experienced a conflict in role responsibility between patient advocacy and medical expert, and primarily considered themselves as representing the patient. Importantly, making assessments in the role as medical expert for the social insurance office is difficult to maintain, which supports previous findings [63, 71]. As reported in these studies, PHC physicians may use different strategies to handle sickness certifications, ranging from a pragmatic and passive strategy of acquiescence to every patient, to strategies for challenging patients or extensive negotiations strategies [63, 71]. Swartling and colleagues [71] questioned how physicians can be accepted to function as gatekeepers in the social security system if they see their sickness certification commission to come solely from the patient. Similar conclusions were drawn by Hussey et al. [63]. The new finding from the present focus group study is that even though different strategies are present to handle the role conflict, the health care professionals' perception of their role responsibility of medical expert is more evident, probably due to the strengthening of the social insurance officers as gatekeepers. This was acknowledged in the health care professionals' strong concern for the social insurance officers' much stricter application of regulations and that their decisions about patient need for sick leave would be questioned. They described difficulties communicating to the social insurance officers when a patient with subjective symptoms had a more complex need for sick leave,

because a certificate with such information would not be accepted. This pattern might be mirrored in sickness certificates issued for MSD and MD, because these included more frequent information on activity and participation than those issued for other diagnostic groups. One potential explanation may be that many of these diagnoses are based on subjective symptoms, which are more often questioned by the social insurance officers than diagnoses such as cancer or myocardial infarction [10, 42, 122]. The health care professionals in the focus group study described having to give a more comprehensive description of the patient's functioning; otherwise, the request might be rejected by the social insurance officer. This finding is in agreement with Hussey et al. [63], suggesting that the sickness certification practice fails to address complex, chronic or doubtful cases. The lack of trust and confidence in each other affecting the collaboration between the social insurance office and the health care professionals has been described as a conflict explained by their different perspectives on disease and work ability, reductionist versus holistic [88, 125]. The view of what constitutes work disability highlights the discrepancy between the strict legal perspective and the medical perspective, which is more in line with holistic models such as Ilmarinen's model of work ability [4] or the illness flexibility model of Johansson and Lundberg [44]. The findings from the present focus group study, suggest that there might be a conflict between the narrow view of disease and work ability applied by the social insurance office, and the complexity of patient problems causing work disability. It may be unrealistic to harmonize the different paradigms of employer, health care, patient and social insurance office to the point that a common view is shared by all stakeholders. Instead, Franche et al. [126] proposed that the stakeholders' tolerance to the dissonance in paradigms could be increased by establishing clear parameters of optimal level of involvement of the stakeholders, increasing communication among stakeholders, decreasing sources of miscommunication and misinformation, and increasing awareness of other stakeholders' paradigms. As the health care professionals in the focus group study described, stakeholder communication is often lacking, but when the involved stakeholders, including the patient, agree on a common goal shared decisions on rehabilitation interventions and return work can be achieved.

### *The challenges in handling the need for sick leave*

Another main finding of this research is that many health care professionals face challenges when handling the need for sick leave in PHC, not only

physicians, who have been the main focus in previous studies [62-64, 68, 127]. The challenges concerned primarily patients with subjective symptoms such as pain, tiredness, or anxiety and lack of clinical findings. The patient's ability to evoke empathy and describe his or her symptoms and working conditions played an important role in obtaining the sickness certification, and maybe also for which information would be provided in the sickness certificate. This relevance can be interpreted as a consequence of the previously reported finding that many physicians base their assessments of work ability on a feeling of trust in the patient and the patient's story [74, 75, 78]. It may also imply that patients with subjective symptoms who cannot verbally express their disability or working conditions sufficiently are encountered and handled differently within the sick leave process. This possibility may concern patients with language difficulties or lower education level. Importantly, the ways individuals are encountered may also be explained by theories of gender and power, as shown in interviews with patients participating in a physiotherapy intervention. Some of those patients who did not complete the intervention, all of them sick listed women, experienced powerlessness due to being treated with distrust, an inability to express their disability, and that important decisions were taken by others [128]. Subsequently, these patients' needs are most probably not met, and they might be less participatory in their return to work process. Socioeconomic differences are also found in access to rehabilitation interventions [20, 129], which indicate that the social gradient is important to consider, both with regards to entitlement to sickness benefits as well as to access to rehabilitation interventions and work modifications. These findings emphasise the importance of professional and emphatic encounters and to empower patients experiencing powerlessness, as well as to further investigate whether there are structural barriers to a good and equal sick leave process.

Some of the professionals in the present focus group study described that they sometimes felt uncertain about what the patient expects and a lack of trust in the information given by patients, which made some physicians compare the work ability assessment with a guessing game. Because few physicians report difficulties with filling out sickness certificates [58], the quality of sickness certificates might be enhanced by better assessments of functioning and work ability, which are shown to be particularly challenging tasks for physicians in several countries [55, 58, 64, 72, 73], especially when the patient describes symptoms that are difficult to diagnose and clinical findings are missing [60, 63, 67, 70, 74]. Earlier research has suggested that physicians have insufficient

competence to assess work ability [61, 65, 67] and scarce knowledge about workplaces, the labour market, and the social security system [56, 63, 78]. The health care professionals in the focus group study described sparse knowledge of work demands and in line with previous findings, they seldom contacted the employer [56, 78, 130], mostly because the prerequisites for contacting employers were insufficient and unclear. This finding underscores the importance of making further inquiries into the patients' working conditions [33] but also of increasing the collaboration with OHS [31, 131]. More attention to work-related factors is warranted not only for work ability assessments but also to identify obstacles at work and the need for work modifications or adjustments [44, 132].

Some new results not previously reported were found in the focus group study. Patients' need for sick leave was handled from each professional group's perspective and the available competencies at the PHC centre were not used for work ability assessments. As reported in earlier studies, physicians believe that sickness certifications would benefit from involvement of other health care professionals [62, 65, 75, 85]. The present study indicates that other health care professionals may have the competence to assess different aspects of work ability, but that this competence was not used in sickness certifications or communicated in PHC. The physiotherapists reported assessing body impairments and activity limitations and the occupational therapists assessed activities in daily life; however, neither they nor the counsellors felt that their competence was requested. Similar conclusions were drawn in two Swedish studies with occupational therapists and physicians [87] and physiotherapists [86]. In the present study, this finding was strengthened by being discussed in the whole PHC team, not only among the same professionals. In the UK, sharing the sickness certification responsibility is part of the fitness-for-work initiative, which aims to develop the roles of the key members of the PHC team [12] and the guidance on long-term sick leave provides opportunities for other health care professionals to assist in early return to work [34]. In the present focus groups study, the health care professionals described non-medical factors such as lack of motivation, family problems, or conflicts at the workplace or with other authorities as risk factors for long-term sick leave. However, strategies for mapping working conditions or screening for risk factors were so far not implemented. Despite the presence of various methods for assessing different aspects of work ability [49], they were not used in relation to sick leave in PHC. Work ability assessments were described as complex and difficult to perform, especially in

a demanding and stressful daily work, but also complicated by organization prerequisites and uncertainty in role expectations. It might not always be clear when (in what stage) to involve physiotherapist, occupational therapist and counsellor/psychologist. Previously, experience and education in insurance medicine has been suggested to enable other health care professionals to further engage in work ability assessments [86, 88]. However, the focus group study pointed out the importance of having structured ways of collaborating as a team, which was facilitated by the organization of the PHC centre when all professionals were gathered at the same centre. It may be more challenging to achieve good team collaboration when the team is not located in the same building. The assessments of work ability in PHC could be facilitated by developing the roles of the key members in PHC and by providing structures for collaboration and use of available competence, primarily regarding symptom-based diagnoses. Work-related factors need to be addressed early. Besides improving the communication with employer and OHS, work-related factors can be addressed early by asking the patient about his or her expectations, working conditions (tasks, demands) and if there is anything at work that could be modified or adjusted according to the patient's functioning in order to remain at work or return to work. Individuals who has MSD with worse prognosis and need for multidisciplinary rehabilitation can be identified early with structured risk factor screening such as the Örebro Musculoskeletal Pain Questionnaire [133, 134]. Furthermore, the assessments made by the physiotherapists and occupational therapists could be complemented using self-reports of work ability [135], health [136], psychosocial risk factors [133, 134], physical functioning [137, 138] or self-efficacy [139] as well as tests of functioning [140, 141] or interviews [142]. Including physiotherapists and occupational therapists early in the sick leave process for assessing different aspects of work ability according to the biopsychosocial model might be beneficial for the decision basis about entitlement to sickness benefits and return-to-work interventions, especially for patients with poor prognosis.

### *Prescriptions for early interventions*

Information in sickness certificates should give an indication of the patient's needs or which interventions the patient receives in the health care system. All of this information does not have to be stated on the certificate but might be beneficial for the social insurance officers and the employer to act as they should [59], especially because they lack medical competence. From a patient perspective, this information is important to ensure that the patient's needs

really are met. All the health care professionals in the focus group study experienced poor collaboration among the stakeholders involved. When collaboration is poor, the importance of the sickness certificate as a communication tool conveyed among physicians, the social insurance office, and employers may increase. More responsibility might also be placed on the sick-listed patient, who will have to communicate and argue with the different stakeholders [56, 93] but who may also lack the strength and knowledge to understand and navigate through the system [143]. This gap highlights the need for the stakeholders involved to better understand the patient's individual need for support in the return-to-work process [126, 128, 144].

Rehabilitation interventions were prescribed early in approximately one third of the sickness certificates after implementation of the sick leave guidelines. Certificates issued to younger patients, for MD or MSD, or by PHC physicians most frequently provided information on early rehabilitation. Previous evaluations of which rehabilitation interventions patients actually receive confirm the differences based on patient diagnosis, sex, or age [20, 145, 146]. Even though certificates issued in 2009 more often provided prescriptions of early rehabilitation than those issued in 2007, the proportion of sick-listed patients being prescribed early rehabilitation interventions can still be considered low. The findings are supported by a concurrent study in the same county council, which included patients with MSD and MD who were certified for sick leave by PHC or OHS [20]. Wåhlin et al. observed that within three months, 45% of these patients reportedly had received a combination of medical and rehabilitative intervention modalities, and 31% had also received work-related interventions [20]. When only MD and MSD were included in the current analysis, early rehabilitation was prescribed in 45% of the certificates issued for these two diagnostic groups. A small number of the sample of sickness certificates issued in 2009 (n=38) were included in the study by Wåhlin and colleagues [20]. Prescriptions of early rehabilitation were compared with information on given rehabilitation interventions written in medical records for these patients. The preliminary analysis indicated that approximately 70% of those with a prescription of early rehabilitation had also received a rehabilitation intervention according to medical records. Of those, 59% had received rehabilitation during their sick leave period. The finding indicates that the validity might be acceptable, and the modest prescription of early rehabilitation may reflect behaviour in practice. However, time to providing a rehabilitation intervention varied for many of these patients, despite their being prescribed an intervention early (unpublished data).

Accordingly, there is a risk that patients may not receive interventions according to their needs. Because administrative delays [147] and delays in waiting time for treatment limit the possibility of returning to work from sick leave [148], it is important to have early and coordinated care. The significance of acting early is further stressed by the findings that many patients have had their problems for a long time before being sick listed [149]. When applied to the conceptual model of return to work by Young and colleagues [5], the off-work and re-entry phases (here defined as the sick leave process) include at least partial physical or mental recovery before work entry can be attempted; or when modifications at work can increase the ability to work despite reduced functioning, work entry can also be considered.

A return to work is suggested to be facilitated by rehabilitation interventions being multifaceted, including cooperation among different health care professionals and contact with the workplace [34, 82-84] and some studies support an early intervention [20, 34, 82]. The time frames constituting “early” vary in studies, however. Still, it remains a challenge to understand who needs what type of intervention [20]. Promising results have been shown by identifying subgroups of patients based on risk factors as one way to determine whether interventions can be more tailored to individual needs and thereby improve return-to-work outcomes [32, 150, 151]. These studies provide some distinction among patients with workplace barriers, those with marked activity limitations and those reporting severe emotional distress. The findings of this thesis emphasise identification of patients’ needs early in the sick leave process and to coordinate care more efficiently.

## *Implementation*

The findings from this thesis, comprising two different samples of sickness certificates collected before versus after implementation of the Swedish sick leave guidelines, imply that there might be a gap between the recommendations of the guidelines [40] and sickness certification practice. This concerns primarily descriptions of activity limitations, which are still limited in sickness certificates. The frequency of prescriptions of early rehabilitation and return-to-work measures appeared also to be low, indicating that early interventions and contact with work may not be performed as recommended by the guidelines [40]. In addition, the focus group study revealed that the notion of sick leave as an active intervention facing the same high quality standards as other health care activities may not

be fully implemented. In general, insufficient adherence to guidelines is attributed to characteristics of the guideline, effectiveness of the chosen implementation strategies, and contextual factors that impact the implementation process and outcomes [103].

The implementation object, i.e., the guidelines, may be characterized as having relative advantage and utility since there was a need for more knowledge and skills in sickness certification practice before the implementation [152], and afterwards a majority of PHC physicians reported usefulness of the guidelines [101]. The guidelines were primarily based on consensus discussions with medical experts [40], but adherence to the guidelines might depend more on the involved physicians' perceptions of the guideline legitimacy, then if they are based on scientific evidence or not. The findings from this thesis indicate that the guidelines may not have sufficiently responded to the actors' need for guidance in sickness certifications, primarily not regarding assessments of functioning and work ability in patients with subjective symptoms or comorbidity, or how to make assessments related to the whole labour market.

The guidelines emphasized the use of ICF in sickness certification practice, but whether the ICF contains relevant aspects from a physician perspective was not studied in this thesis. However, the results indicate that physicians may not be trained to express disability or they may have insufficient knowledge about the ICF to use it properly. ICF core sets for functional assessments in relation to sick leave is yet to be developed, but core sets for disability claims have been proposed [48]. The core set included 20 categories: 25% from body functions and 75% from activity and participation. These proportions are in contrast with the findings from the present studies based on sickness certificates. In 2009, body functions still dominated the descriptions of functioning comprising 65% of the categories, meanwhile only 33% of the descriptions were categorized into activity. Interview studies have concluded that insurance physicians consider information on disease and impairments, but also activity limitations and participation restrictions as important aspects for assessing work ability in relation to disability benefits [80, 153]. It may, however, be a difference between intentions and practice, as indicated in a Norwegian focus group study in which PHC physicians conceptualized functioning as physical, mental and social ability, but in clinical practice they emphasized physical ability [79]. These findings suggest that the shift from disease and impairments towards activity is not fully implemented in sickness certification practice. The Swedish sick leave guidelines were implemented

with a top down approach. The core component of the implementation strategies was information and education, which may simply have been insufficient to change practice and existing habits, at least in the short-term. Maybe, the quality improvement would have been greater if more attention had been directed at contextual factors such as organizational structures for collaboration and use of available competence as well as the target groups' attitudes and habits in handing sickness certifications.

## **Methodological considerations**

### **The studies based on sickness certificates**

The first two studies included all the new sickness certificates that the social insurance office in Östergötland County, Sweden, received during the study periods. The sample sizes were expected because of the decreasing new sick leave periods [154] and the distribution of diagnostic groups was considered to be representative regarding causes of sick leave [10, 90, 154]. A similar categorization of ICD-10 codes has been used previously [10, 89, 90]. The two samples were considered comparable because they were collected during the same period of the year and showed no differences in distribution of diagnoses, physician affiliation or other descriptive variables (age, sex). Because of the design involving two consecutive samples of sickness certificates, a causal relationship between the implementation of the sick leave guidelines and the quality improvement is difficult to establish. The guideline implementation was considered the most important change in between the two study periods, but there were other concomitant factors that may have influenced the results. First, political discussions, public debates, and the focus in media may have increased awareness of the guideline and thereby facilitated the implementation. Second, the introduction of time limits for the review of eligibility and maximum length of sick leave within the rehabilitation chain could have influenced the structure of the work ability assessments in the health care sector and social security system. Also, the rehabilitation chain may have influenced the physicians to write more comprehensive certificates to avoid complementary requests or refusals from the social insurance office. Finally, the certificate used in 2009 required explicit descriptions of functioning according to activity limitations, and when a certified sick leave length exceeds the recommendations in the guidelines, an

explanation for this is to be stated in the certificate. All of these factors may have to various extents contributed to the increased use of activity limitations when describing functioning and prescribing early rehabilitation in sickness certificates.

Sickness certificates constitute the primary basis for decisions in the sickness insurance system. In these studies, written information on sickness certificates was used as an empirical basis for gaining greater understanding about the quality of sickness certificates in the context in which these are used. Thus, the findings are based on information provided in sickness certificates, which also has previously been done [89, 90, 92, 93]. Consequently, the analyses are restricted to this information. The social insurance officers may use other resources for their decision basis, such as medical records or extended certificates but these were not included because the research question regarded content in sickness certificates and not specifically whether the social insurance officers have sufficient information for their decision.

The framework and classification of the ICF was used, which enabled a systematic evaluation and description of the data. This choice limits, however, the evaluation of how functioning is conceptualised in the ICF. Because approximately one fourth of the sickness certificates issued in 2009 still provided insufficient information for a classification in the ICF, the relevance of the ICF framework for sickness certificates might be questioned. This insufficient information included mainly empty lines or quotes such as "cannot work" or "no work ability" which were deemed to be too shallow for an inductive analytic approach. The majority of the certificates provided information that was relative easy to classify into ICF, and the few disagreements in the classification were solved in consensus discussions. The findings of this thesis have shown that ICF can be used to structure information on functioning and work ability in sickness certificates and raise questions of quality beyond whether information is given or not. The Swedish sick leave guidelines [40] as well as the new sickness certification form clearly emphasize the use of ICF when describing patient functioning in sickness certificates. Despite the limitations of ICF in work ability assessments [47, 155], the ICF creates a common language that can be useful in social security systems [48].

## The focus group study

Focus group discussions were chosen because the method enables coverage of a relevant range of topics and encourages the informants to speak from their experiences of the sick leave process, and we were able to reach both wide and deep and also minimize the public voice [109, 118]. The group discussions were lively, and the interactions were facilitated by the group composition of different professionals but from the same PHC centre. The moderator's role was to promote group interactions and conversations among the informants. The data were analysed systematically and independently by two researchers with different theoretical and practical perspectives with content analysis using an inductive category development. The issue of sample size was considered to be reached because the fourth group did not come up with new information. The small group size may have facilitated the informants' ability to speak more freely and reach greater depths [109]. Consensus discussions were continuously held in the entire research group and the findings were finally discussed with other health care professionals and researchers in the field and during the referee process. Quotations from group discussions, capturing the essence of what was said, were selected to illustrate the different categories, the interactions, and the informants' reality. Data were considered to be rich because new aspects not previously published emerged from the analysis. The participants were selected only from Östergötland County, but it is plausible that the results could be transferred to a similar setting within the Swedish PHC. The findings may serve as a starting point for further investigations of how the sick leave process might be developed in PHC.

## Clinical implications

The findings of this thesis imply that the recommendations in the Swedish sick leave guidelines regarding assessments of patient functioning may not be fully implemented, or may not have provided the required support. The low use of activity limitations, when describing patient functioning in sickness certificates underscores the need to improve the basis for decisions about entitlement to sickness benefits. The decision basis could be improved by including descriptions of patient activity limitations or participation restrictions related to the demands at work. This choice requires increased knowledge of the role responsibility as a medical expert to other authorities, but also knowledge

about consequences of diseases on patient functioning and how to assess different aspects of work ability. The use of available team competencies at the PHC centre might be one way to improve the basis for decision about entitlement to sickness benefits.

Rehabilitation and return-to-work measures were seldom prescribed in sickness certificates. This finding can only be interpreted as an indication of what interventions patients actually receive. However, as a communication tool, this scarce information might have implications for the patient regarding return-to-work measures coordinated by the social insurance office or work modifications made by the employer.

There is team competence at PHC centres for handling the sick leave process, but structures for effective use of available competence are needed, and the collaboration among PHC, social insurance office, OHS, and employers should to be promoted. Strategies to identify risk factors, act early and match patient needs to tailored interventions are not yet implemented.

## **Future research**

The findings from this thesis provide new knowledge about the quality of sickness certificates. Further research is needed to develop strategies for enhancing the quality of sickness certificates and implement evidence-based practice, which could improve the foundation for decisions about entitlement to sickness benefits and about return-to-work measures and work modifications.

Many physicians face well-established challenges in the assessment of whether a symptom-based diagnosis impairs patient functioning to the extent that work ability is also reduced in relation to work demands or other available jobs in the labour market. These challenges may be one explanation to the low quality of sickness certificates. The legal difficulty to interpret symptom-based diagnoses in court is another strong argument for the need to enhance the quality of sickness certificates. Thus, research is needed on whether the involvement of physiotherapists and occupational therapists would improve the decision basis for entitlement to sickness benefits by providing assessments of different aspects of work ability. Whether the involvement of these professionals early in the sick leave process would increase the patient's

probability of receiving interventions tailored to his or her needs and goals should also be investigated. Importantly, more knowledge is needed about how to develop structures for effective use of available competence in PHC.

The lack of trust in other stakeholders, primarily the social insurance office, impairs the collaboration with potential negative consequences for the patient, and future research is needed on how to promote early and effective collaboration with the stakeholders involved. There are few prerequisites in the Swedish PHC system for communicating with employers, and the workplace cannot be visited. It is therefore important to enhance the collaboration with the OHS. It would also be beneficial to investigate how the patient's description of his or her functioning and needs in relation to the working condition could be better used in a shared decision making. Thus, both assessing work ability and matching a relevant intervention would require a more detailed inquiry into working conditions.

## CONCLUSIONS

A major conclusion drawn from this thesis is that patient functioning and needs might not be adequately communicated in the sick leave process. Despite the implementation of sick leave guidelines, this information is limited in sickness certificates and the collaboration between the involved actors, i.e., health care professionals, the social insurance office, the employers, and OHS is poor. The PHC professionals showed difficulties in managing their sick leave commission, both individually and as a team.

- Sickness certificates provided limited information about patients' functioning, and the information was mainly body-oriented. The ICF framework was applicable for analysing information on patient functioning written in sickness certificates.
- There was a modest prescription of rehabilitation interventions during a sick leave period. Early rehabilitation was primarily prescribed to patients with MD and MSD, younger patients, or by PHC physicians. Return-to-work measures were seldom proposed.
- A quality improvement of sickness certificates was demonstrated after implementation of the Swedish sick leave guidelines. The certificates from 2009 provided more information applicable to the ICF and incorporated an increased use of activity limitations when describing patients' functioning. Still, activity limitations and prescriptions for early rehabilitation were present only in one-third of the sickness certificates.
- The sick leave process in PHC was hindered by increased medical and societal demands; poor collaboration within PHC and with other stakeholders primarily the social insurance officers, employers, and OHS; and the conflict in the role responsibility between being the patient's advocate and the medical expert for the social insurance office.
- Physicians and other PHC professionals faced challenges in handling the need for sick leave, especially when encountering patients with symptom-based diagnoses, and the influence of non-medical factors.

- Sickness certification cases were handled from each professional group's perspective, and the available team competence was not used for work ability assessments.

## SUMMARY IN SWEDISH

### *Sjukskrivningsprocessen – Försäkringsmedicinskt beslutsstöd, Läkarintyg och Primärvårdspersonals erfarenheter*

Beslut om rätt till sjukpenning och åtgärder för återgång i arbete har stor betydelse för den enskilda individens liv, men också för samhället. I många Västeuropeiska länder är dessa beslut baserade på läkarintyg, vilka ska innehålla information om hur en sjukdom eller skada sätter ned individens arbetsförmåga. Detta är svåra och komplexa bedömningar. Det Försäkringsmedicinska beslutsstödet, en vägledning för sjukskrivning, implementerades i Försäkringskassans och Hälso- och sjukvårdens organisationer år 2008. Beslutsstödet betonar tidiga bedömningar av arbetsförmåga och återgång i arbete och ställer ökade kvalitetskrav på läkarintyg genom att framhålla aktivitetsbegränsningar i relation till arbetets krav.

Det övergripande syftet med avhandlingen var att öka kunskapen om sjukskrivningsprocessen med betoning på innehåll i läkarintyg och primärvårdspersonals erfarenheter av sjukskrivningsprocessen. Specifika syften var att jämföra skillnaden i kvalitet i läkarintyg vad gäller beskrivning av funktionstillstånd genom att använda WHO's Internationella klassifikation av funktionstillstånd, funktionshinder och hälsa (ICF), såväl som förskrivning av åtgärder, före respektive efter införandet av det Försäkringsmedicinska beslutsstödet.

Avhandlingen består av tre delstudier. En tvärsnittsdesign användes för studie I och II, vilka inkluderade 475 och 501 nya läkarintyg som insamlats konsekutivt i Östergötlands län, Sverige, år 2007 respektive 2009. Text om patientens funktionstillstånd analyserades med deduktiv innehållsanalys och ICF som referensram. Studie III var en utforskande studie baserad på data från fyra semistrukturerade fokusgruppsdiskussioner med ett ändamålsenligt urval av primärvårdspersonal (läkare, sjukgymnast, arbetsterapeut, psykolog/kurator eller sjuksköterska med specialistkompetens) från Östergötlands län. I denna studie användes innehållsanalys med en induktiv ansats.

De största diagnosgrupperna i läkarintygen var muskuloskeletala och psykiska sjukdomar. 65 % av läkarintygen från år 2007 innehöll en beskrivning

av patientens funktionstillstånd klassificerbar enligt minst en av ICFs komponenter: kroppsfunktioner 58 %, aktivitet 26 %, och delaktighet 7 %.

Aktivitetsbegränsning och delaktighetsinskränkningar förekom framför allt i läkarintyg skrivna för muskuloskeletala och psykiska sjukdomar, och i intyg skrivna av läkare från primärvård. Rehabiliteringsåtgärder var förskrivna i det första intyget eller inom 28 dagars sjukskrivning (dvs. tidig rehabilitering) i 27 % av läkarintygen, mest frekvent i intyg skrivna för muskuloskeletala och psykiska sjukdomar, yngre patienter och i intyg skrivna av läkare från primärvård. 2009, efter införandet av det försäkringsmedicinska beslutsstödet, innehöll en större andel av läkarintygen (78 %) information klassificerbar enligt ICF än 2007 (65 %). Kroppsfunktioner dominerade fortfarande beskrivningarna av patientens funktionstillstånd. Proportionen av beskrivningar av aktivitetsbegränsning och förskrivningar av tidig rehabilitering ökade från en fjärdedel i läkarintyg insamlade 2007 till en tredjedel i läkarintyg från 2009.

Resultaten från fokusgruppsstudien visar på de utmaningar som läkare och andra vårdprofessioner upplever i bedömning av behov av sjukskrivning, framför allt i bemötandet av patienter med symtombaserade diagnoser. Samverkan var viktig men svår att uppnå och den samlade kompetensen på vårdcentralen användes inte för bedömning av arbetsförmåga. Kunskap om patientens arbetskrav var bristfällig, kontakt med arbetsgivare eller företagshälsovård initierades sällan och den ansträngda relationen till försäkringskassan påverkade samverkan.

En övergripande konklusion från denna avhandling är att patientens funktionstillstånd och rehabiliteringsbehov inte kommuniceras adekvat i sjukskrivningsprocessen. Trots införandet av det Försäkringsmedicinska beslutsstödet, ger läkarintyg bristande information om funktionstillstånd och behov, och samverkan med involverade aktörer, dvs. hälso- och sjukvård, försäkringskassa, arbetsgivare och företagshälsovård är bristfällig. En klinisk implikation är att underlaget för beslut om rätt till sjukpenning och åtgärder för återgång i arbete kan förbättras genom att tydligare beskriva patientens aktivitetsbegränsningar eller delaktighetsinskränkningar i relation till arbetets krav. Ett sätt att förbättra beslutsunderlaget kan vara att använda den tillgängliga kompetensen på vårdcentralen.

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Patientens namn

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#### Läkarintyg enligt 3 kap. 8§ lagen om allmän försäkring.

Du kan även använda blanketten för avstängning enligt smittskyddslagen (SmL)

Om patienten inte är känd ska identiteten styrkas genom legitimationshandling med foto (SOSFS 1981:25)

1

Avstängning enligt SmL på grund av smitta (fortsätt till punkt 8)

#### Medicinsk bedömning

Vid bedömningen ska du bortse från arbetsmarknadsmässiga, ekonomiska, sociala och liknande förhållanden.

2 Diagnos/-er eller symtom till grund för den nedsatta förmågan/aktivitetsbegränsningen

Diagnoskod enl ICD 10  
(huvuddiagnos)

minst tre positioner

| | | | |

3 Anamnes (aktuell sjukdom)

4 Status, objektiva undersökningsfynd

Uppgifterna baserade på datum

Personlig kontakt \_\_\_\_\_

Telefonkontakt \_\_\_\_\_

Journaluppgifter \_\_\_\_\_

Annat (ange vad under punkt 13) \_\_\_\_\_

5 Hur begränsar sjukdomen patientens förmåga/aktivitet?

6 Föreskrift - behandling eller åtgärd som är nödvändig för att förmågan ska kunna återställas

Följa given ordination (ange vilken) \_\_\_\_\_

Fortsatt poliklinisk kontakt \_\_\_\_\_

Undvika viss belastning (ange vilken) \_\_\_\_\_

Besöka arbetsplatsen \_\_\_\_\_

Väntar på åtgärd inom sjukvården (ange vilken) \_\_\_\_\_

Väntar på annan åtgärd (ange vilken) \_\_\_\_\_

Övrigt (ange vad) \_\_\_\_\_

72631101



7 Är arbetslivsriktad rehabilitering aktuell?

Ja  Nej  Kan inte bedömas för närvarande  Behov av kontakt med företagshälsovård

8 Medicinsk bedömning av i vilken grad funktionsnedsättningen begränsar patientens förmåga

att utföra sina vanliga arbetsuppgifter (ange arbetsuppgifternas art): \_\_\_\_\_

om patienten är arbetslös; att söka/kunna utföra arbete som är normalt förekommande på arbetsmarknaden

om patienten är föräldraledig med föräldrapenning; att vårda sitt barn

Arbetsförmågan bedöms \_\_\_\_\_

fr.o.m. (år, mån, dag)

längst t.o.m. (år, mån, dag)

delvis nedsatt med 1/4

fr.o.m. (år, mån, dag)

längst t.o.m. (år, mån, dag)

delvis nedsatt med 1/2

fr.o.m. (år, mån, dag)

längst t.o.m. (år, mån, dag)

delvis nedsatt med 3/4

fr.o.m. (år, mån, dag)

längst t.o.m. (år, mån, dag)

helt nedsatt \_\_\_\_\_

**(om helt nedsatt, besvara frågorna nedan)**

- Kan deltid vara olämplig av psykosociala skäl?

Ja  Nej

- Kan anpassade arbetsuppgifter möjliggöra sysselsättning på deltid/heltid?

Ja  Nej

- Kan deltid vara skadlig för sjukdomens förlopp?

Ja  Nej

- Kan deltid i nuvarande sysselsättning vara möjlig med hänsyn till symtom?

Ja  Nej

- Kan deltid förbättra prognosen för återgång i arbete?

Ja  Nej

- Kan deltidarbete på annat sätt vara skadligt?

Ja  Nej

9 Prognos - bedöms patienten kunna få tillbaka sin förmåga till arbete/aktivitet?

Ja, helt

Ja, delvis

Nej

10 Kan resor till och från arbetet med annat färdsmitt än det patienten normalt använder göra det möjligt att återgå i arbete?

Ja  Nej

11

Önskar kontakt med Försäkringskassan

Ja  Nej

12

Önskar avstämningsmöte

Ja  Nej

13 Övriga upplysningar

72631201

RFV 7263 Formulär fastställt av RFV  
i samråd med Socialstyrelsen 03.06

**Underskrift**

14 Datum (år, mån, dag)

16 Namn, mottagningens adress, telefonnummer (även riktnr) i klartext (om ej ovan)

15 Läkarens namnteckning

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